



European CO₂ Capture and Storage (CCS) Demonstration Project Network

Information and experience gathering form

European CO₂ Capture and Storage (CCS) Demonstration Project Network Information and experience gathering

Purpose

The purpose of the information and experience gathering may be seen from the following excerpts from the Knowledge Sharing Protocol¹:

“By providing updates on progress against the schedules submitted upon application to the Network, projects ensure that knowledge-sharing can be targeted to their needs and provides an additional basis for identification of good practices. Provision of updates is integrated into the process of completion of the regular knowledge-sharing form.”

“An annual update of progress and findings by Network members will be published via the public website. The preparation, review and release of this document is undertaken in collaboration with members. In addition, reports on specific knowledge-sharing categories will be prepared by the Network team in collaboration with members. These will disseminate aggregated information from the detailed information provided by projects in the categories described in Section 4 of the Knowledge Sharing Protocol. These reports will be aimed at the wider CCS community to help guide further research and development.”

Principles of use

- Projects to upload required information to a secure webform.
- Security measures will be commensurate with normal business practice and feature:
 - Physical security of webserver in data center
 - Encryption of data transfer
 - Dynamic password protection (passwords issued to a legitimate corporate e-mail account)
 - Password expiry
 - Session time-outs
 - Users are:
 - Those authorised at any given time by designated project contacts
 - Named Network team members
 - Technical system manager (Internet service supplier) under NDA
- Within the Network the data submitted will be shared in tabular form across the projects. This holds for all Level 1 and Level 2 sharing items in the tables below. Member projects have read-only, on-screen access to all level-1 and level-2 information submitted, be it their own information or other members' information (i.e. data can be read, but not downloaded).
- Beyond the Network the data submitted will be made available on the Network's public website, in aggregated form. This would typically be in terms of average values and/or value ranges for quantitative items, and in terms of Network level report for qualitative items. This holds for all Level 2 sharing items in the tables below. This report is subject to the Network's Publication Procedure and is designed to present

¹ European CO₂ Capture and Storage (CCS) Demonstration Project Network – Knowledge Sharing Protocol, available from www.ccsnetwork.eu.

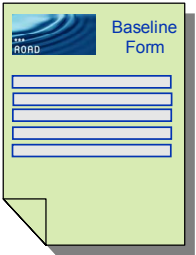
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data in a format that places it in the context of a first-of-a-kind demonstration project, thus making it usable and able to be interpreted in view of the available relevant scientific knowledge.

- A few items will be collected for exclusive use by the EC. These are marked as level 0 sharing items, and may be shared at levels 1 and 2 only after being made anonymous.
- Aggregation and inclusion in reports is done by the Network team.
- For definition, description and purpose of the sharing levels please refer to the Knowledge Sharing Protocol, Section 4.
- The Network Team will undertake analysis of the submitted data and present it to the Network in a dashboard fashion whereby the sharing items are grouped into categories. Within each category the Network Team will endeavour to identify areas of good practices as well as learning opportunities.
- Information gathering takes place twice a year, cut-off to be at the end of each half-year. The webform will be open for uploading during a period of time before and after the cut-off date, e.g.; a total of four weeks.
- On opening a new information gathering form, all values of the previous form will be offered as defaults. In addition all previous data submitted by the project will be available for comparison.
- In addition to the factual information fields exhibited below there will be fields for capture of qualitative information (e.g.; lessons learnt). These will typically include the items listed in the Project Management category of the Knowledge Sharing Protocol. The Network Team may conduct telephone interviews with the projects on the basis of the submitted information in order to enhance the value of the submitted information.
- “Planned” values shall be planned or budget values according to baseline plans approved by project top management or project sponsor for use in the project and valid at the time of analysis/reporting (period cut-off). These values are expected to be semi-static. The date of the current baseline in e.g. line 1.28 enables the Network Team’s analysis to take into account the stage of the project when the planned value was frozen
- “Current forecast total” or “Current forecast completion” is the project management’s best estimate, at the time of analysis/reporting (period cut-off), of what the actual value will be once the activity is completed or milestone actually passed.
- “Actual” reflects the final as-achieved value upon activity completion or milestone passed.
- In the information gathering form “Current forecast” and “Actual” dates will share a value field. A date in the future denotes “Current forecast” whereas a date in the past denotes “Actual”. Once a date in the past has been entered the field will change appearance and the line will no longer be required to be filled in/confirmed/OK’ed.
- Network team to provide template/guidance for reporting and lessons learned descriptions.
- The form will be available in downloadable form for use by the projects, e.g.; for project internal approval processes.

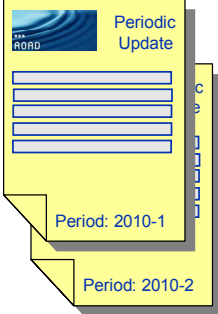
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Webform logic



Baseline Form

ROBO



Periodic Update

ROBO

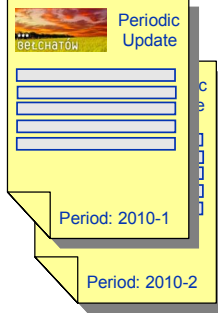
Period: 2010-1

Period: 2010-2



Baseline Form

BECSHATON

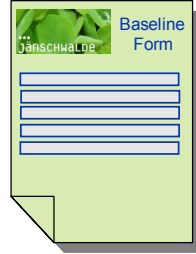


Periodic Update

BECSHATON

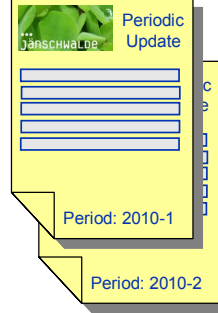
Period: 2010-1

Period: 2010-2



Baseline Form

JANSCHNA.DE



Periodic Update

JANSCHNA.DE

Period: 2010-1

Period: 2010-2

The current implementation model foreseen is:

Each project completes a **baseline form** or **start form**, i.e. the first time that they add content to the information and experience gathering application. The form aims to capture all planned figures in the category 'project progress' and other data that are unlikely to change much over the course of reporting.

Thereafter, a **periodic update form** is completed, according to the tables in this document. This continues for each reporting period (projects will be able to access information submitted for previous periods, but will not be able to change them).

The system will provide the Network Team with some tools for generating graphs and overviews per item on the form with which to illustrate reports. We have chosen not to have report-generation functionality, aiming to prevent uncontrolled dissemination of detailed information.

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Structure of the tables

The tables presented below contain the following columns:

- **ID:** unique identifier for the sharing item (each item is grouped into a main, sub- and subsubcategory)
- **Level:** designation of the sharing level of the item (level 0: to be shared with the European Commission only, level 1: to be shared within the Network membership, level 2: to be shared beyond the Network membership)
- **Item Description:** description of the item as it will be used in the online form
- **Q1:** question as it will appear on the online form (Q1 typically seeks information regarding planned values in a certain area)
- **Value1:** the value the respondent enters against Q1.
- **Unit1:** the unit of Value1. Unit1 will be shown on the form to aid completion.
- **Q2:** question as it will appear on the online form (Q2 typically seeks information regarding actual or forecasted values in a certain area). Where Q2 is empty, no Q2 is envisaged (nor Value2 and Unit2)
- **Value2:** the value the respondent enters against Q2.
- **Unit2:** the unit of Value2. Unit2 will be shown on the form to aid completion.
- **Baseline:** this column identifies whether or not an item is part of the baseline form (and is to be submitted once, during first use of the tool).
- **Within the Network:** this column describes what information will be shared within the Network
- **Beyond the Network:** this column identifies what information will be shared beyond the Network for this item, as part of reports prepared by the Network Team.

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1. Technical set-up and performance

ID	Level	Item Description	Q1	Value1	Unit1	Q2	Value2	Unit2	Base Line?	Within the Network	Beyond the Network
		Power Plant The items in this section are valid also for industrial plants as far as they are applicable									
1.1		Fuel Type									
1.1.1	2	Fuel used in power plant to which CCS is applied	Fuel type used in power plant	<fuel type>					y	Full, not anonymised	Full, not anonymised
1.2		Carbon content in fuel									
1.2.1	2	Carbon content in fuel used				Percent of carbon in fuel	%			Full, not anonymised	Full, not anonymised
1.3		Electricity production									
1.3.1	2	Electricity production from power plant without CCS	Planned for last 6 month period, annualised		MWh/yr	Actual over last 6 month period, annualised		MWh/yr		Full, not anonymised	Full, not anonymised
1.3.2	2	Electricity production from power plant with CCS	Planned for last 6 month period, annualised		MWh/yr	Actual over last 6 month period, annualised		MWh/yr		Full, not anonymised	Full, not anonymised
1.4		Availability, operating hours and shutdowns									
1.4.1	2	Availability of the power plant, for operation with CCS, relative to wall-clock time	Planned availability for the last 6 month period		%	Actual availability for the last 6 month period		%		Full, not anonymised	Full, not anonymised
1.4.2	2	Operating hours of the power plant (including both with and without CCS)	Planned operating hours for the last 6 month period		hrs	Actual operating hours in last 6 months		Hrs		Full, not anonymised	Full, not anonymised
1.4.3	1	Number of unintended/unplanned shut downs				Number of unintended/unplanned shut downs in last 6	<no>			Full, not anonymised	Full, not anonymised

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						month period					
1.5		Process efficiency									
1.5.1	2	Net efficiency of the power plant without CCS	Planned net efficiency of the power plant for the last 6 month period, full load value		%	Actual net efficiency of the power plant for the last 6 month period, full load value		%		Full, not anonymised	Full, not anonymised
1.5.2	2		Planned net efficiency of the power plant for the last 6 month period, average value		%	Actual net efficiency of the power plant for the last 6 month period, average value		%		Full, not anonymised	Full, not anonymised
1.5.3	2	Net efficiency of the power plant with CCS	Planned net efficiency of the power plant for the last 6 month period, full load value		%	Actual net efficiency of the power plant for the last 6 month period, full load value		%		Full, not anonymised	Full, not anonymised
1.5.4	2		Planned net efficiency of the power plant for the last 6 month period, average value		%	Actual net efficiency of the power plant for the last 6 month period, average value		%		Full, not anonymised	Full, not anonymised
		Capture									
1.6		Increase in fuel consumption									
1.6.1	2	Percentage increase in fuel consumption due to implementation of capture, i.e. the part of the power plant with CCS, including compression. The consumption of secondary energy inputs	Planned for last 6 month period		%	Actual for last 6 month period	%			Full, not anonymised	Full, not anonymised

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		shall be included as equivalents to the primary fuel.									
1.7		Capture performance									
1.7.1	2	Average rate of CO ₂ capture	Planned average capture rate for last 6 month period		%	Actual average capture rate over last 6 month period		%		Full, not anonymised	Full, not anonymised
1.7.2			Planned full load capture rate for last 6 month period		%	Actual full load capture rate in last 6 months		%			
1.8		Capture energy requirement									
1.8.1	2	Total energy requirement for capturing CO ₂ (energy consumption of all elements associated with capture, excluding compression)	Planned average energy requirement for last 6 month period		MWh/tCO ₂ captured	Actual average energy requirement in last 6 month period		MWh/ tCO ₂ captured		Full, not anonymised	Full, not anonymised
1.9		Heat demand									
1.9.1	1	Heat demand of the capture system	Planned heat demand for the last 6 month period		MWh/tCO ₂ captured	Actual heat demand in last 6 month period		MWh/ tCO ₂ captured		Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
1.10		Cooling demand									
1.10.1	1	Cooling demand of the capture system	Planned cooling demand for the last 6 month		MWh/tCO ₂ captured	Actual cooling demand in last 6 month period		MWh/tCO ₂ captured		Full, not anonymised	Ranges and averages for planned and

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			period								actual and deltas between the two
1.11		Compression energy requirement									
1.11.1	2	Total energy requirement for compressing CO ₂ (energy consumption of all elements associated with compression)	Planned average energy requirement for last 6 month period		MWh/tCO ₂ compressed	Actual average energy requirement in last 6 month period		MWh/tCO ₂ compressed		Full, not anonymised	Full, not anonymised
1.12		Availability, operating hours and shutdowns									
1.12.1	2	Availability of capture system, relative to wall-clock time	Planned availability for the last 6 month period		%	Actual availability for the last 6 month period		%		Full, not anonymised	Full, not anonymised
1.12.2	2	Operating hours of capture system	Planned operating hours for last 6 month period		hrs	Actual operating hours in last 6 months		hrs		Full, not anonymised	Full, not anonymised
1.12.3	1	Number of unintended/unplanned shut downs				Number of unintended/unplanned shut downs in last 6 month period	<no>			Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
1.13		CO₂ captured									
1.13.1	2	Amount of CO ₂ captured annually	Planned CO ₂ captured for last 6 months,		tCO ₂ /yr	Actual CO ₂ captured in last 6 months, annualised		tCO ₂ /yr		Full, not anonymised	Full, not anonymised

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			annualised								
1.14		Composition of CO2 stream									
1.14.1	2	Composition of the CO2 stream before transportation with concentrations	List the most relevant components in the CO2 stream before transportation, with concentrations (ppm).	<list>	ppm					Full, not anonymised	Full, not anonymised
		Transport (pipeline)									
1.15		Flow rates									
1.15.1	1	Maximum flow rate (transient)	Planned maximum flow rate for last 6 month period		kg/sec	Actual maximum flow rate in last 6 month period		kg/sec		Full, not anonymised	Ranges and averages for planned and actual and deltas between the two
1.15.2	1	Average flow rate (transient)	Planned average flow rate for last 6 month period		kg/sec	Actual average flow rate in last 6 months		kg/sec		Full, not anonymised	Ranges and averages for planned and actual and deltas between the two
1.16		Inlet pressure									
1.16.1	1	Inlet operating pressure (absolute)	Planned inlet operating pressure for last 6 month period		bara	Actual (average) inlet operating pressure in last 6 month period		bara		Full, not anonymised	Ranges and averages for planned and actual and deltas

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											between the two
1.17		Inlet temperature									
1.17.1	1	Maximum inlet temperature	Planned maximum inlet temperature for last 6 month period		°C	Actual maximum inlet temperature in last 6 month period		°C		Full, not anonymised	Ranges and averages for planned and actual and deltas between the two
1.18		Water dew point									
1.18.1	1	Water dew point	Planned maximum water dew point for last 6 month period		ppm	Actual maximum water dew point in last 6 month period		ppm		Full, not anonymised	Ranges and averages for planned and actual and deltas between the two
1.19		Transport energy requirement									
1.19.1	2	Total energy requirement for transporting CO ₂ (energy consumption of all elements associated with transport)	Planned average energy requirement for last 6 month period		MWh/tCO ₂ transported	Actual average energy requirement in last 6 month period		MWh/tCO ₂ transported		Full, not anonymised	Full, not anonymised
1.20		Availability, operating hours and shutdowns									
1.20.1	2	Availability of transport system, relative to wall-clock time	Planned availability for the last 6 month period		%	Actual availability for the last 6 month period		%		Full, not anonymised	Full, not anonymised
1.20.2	2	Operating hours of transport system	Planned operating hours for last 6 month period		hrs	Actual operating hours in last 6 months		hrs		Full, not anonymised	Full, not anonymised

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1.20.3	1	Number of unintended/unplanned shut downs				Number of unintended/unplanned shut downs in last 6 month period	<no>			Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Storage									
1.21		Average injection rate									
1.21.1	2	Average injection rate	Planned average injection rate for last 6 month period		kg/sec	Actual average injection rate in last 6 month period		kg/sec		Full, not anonymised	Full, not anonymised
1.22		Maximum injection rate									
1.22.1	2	Maximum injection rate	Planned maximum injection rate for last 6 month period		kg/sec	Actual maximum injection rate in last 6 month period		kg/sec		Full, not anonymised	Full, not anonymised
1.23		Mass of CO₂ injected									
1.23.1	2	Mass of CO ₂ injected	Planned mass injection for last 6 month period, annualised		tCO ₂ /yr	Average actual mass injected over last 12 month period, annualised		tCO ₂ /yr		Full, not anonymised	Full, not anonymised
1.24		Storage energy requirement									
1.24.1	2	Total energy requirement for storing CO ₂ (energy consumption of all elements associated with storage)	Planned average energy requirement for last 6 month period		MWh/tCO ₂ stored	Actual average energy requirement in last 6 month period		MWh/tCO ₂ transported		Full, not anonymised	Full, not anonymised

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1.25		Availability, operating hours and shutdowns									
1.25.1	2	Availability of storage system, relative to wall-clock time	Planned availability for the last 6 month period		%	Actual availability for the last 6 month period		%		Full, not anonymised	Full, not anonymised
1.25.2	2	Operating hours of the storage facility	Planned operating hours for last 6 month period		hrs	Actual operating hours in last 6 month period		hrs		Full, not anonymised	Full, not anonymised
1.25.3	1	Number of unintended/unplanned shut downs				Number of unintended/unplanned shut downs in last 6 month period	<no>			Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
1.26		Injection pressure									
1.26.1	2	Injection pressure, at bottom hole	Planned average injection pressure for last 6 month period		bara	Actual average injection pressure for last 6 month period		bara		Full, not anonymised	Full, not anonymised
1.27		Reservoir pressure									
1.27.1	2	Reservoir pressure, at bottom hole	Planned average reservoir pressure for last 6 month period		bara	Actual average reservoir pressure for last 6 month period		bara		Full, not anonymised	Full, not anonymised
		Value Chain									
1.26		Transient performance									
1.26.1	1	Start-up and shut-down	Planned start-up		hrs	Actual start-up time of		hrs		Full, not anonymised	Ranges and

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		times	time of value chain (duration)			value chain (duration) in last 6 month period					averages for planned and actual and deltas between the two
1.26.2	1		Planned shut-down time of value chain (duration)		hrs	Actual shut-down time of value chain (duration) in last 6 month period		hrs		Full, not anonymised	Ranges and averages for planned and actual and deltas between the two
1.27		Further research									
1.27.1	2	Identified research needs within CCS technologies.	Have you identified any areas or issues that need more research?	<text>						Full, not anonymised	Full, not anonymised
1.28		Date of baseline									
1.28.1	2	Date of the technical baseline, i.e. date of planned/budget values	Date of baseline for planned values in this section 1	<date>					y	Full, not anonymised	Full, not anonymised

NOTE: All planned values to be according to the project's currently valid baseline

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2. Cost levels

ID no.	Level	Item Description	Q1	Value1	Unit1	Q2	Value2	Unit2	Baseline	Within the Network	Beyond the Network
		Capture									
2.1		Additional investment costs due to application of CO₂ capture									
2.1.1	0	CAPEX for the capture system, incl compressing	Planned total CAPEX		€	Current forecast for actual total CAPEX		€	y (for planned)	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
2.2		Additional operating costs due to application of CO₂ capture									
2.2.1	0	OPEX for the capture system, incl compression	Planned OPEX (fixed and variable) for last 6 month period per tCO ₂ captured		€/tCO ₂	Actual OPEX (fixed and variable) in last 6 month period per tCO ₂ captured		€/tCO ₂		Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Transport									
2.3		Additional investment costs due to CO₂ transport									
2.3.1	0	CAPEX for the transport system	Planned total CAPEX		€	Current forecast for actual total CAPEX (€)		€	y (for planned)	Aggregated, e.g. ranges and averages for planned and actual and deltas between the	Aggregated, e.g. ranges and averages for planned and actual and deltas between the

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										two, and with comments as appropriate	two, and with comments as appropriate
2.4		Additional operating costs due to CO₂ transport									
2.4.1	0	OPEX for the transport system	Planned OPEX (fixed and variable) for last 6 month period per tCO ₂ transported		€/tCO ₂	Actual OPEX (fixed and variable) in last 6 months per tCO ₂ transported		€/tCO ₂		Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Storage									
2.5		Additional investment costs due to CO₂ storage									
2.5.1	0	CAPEX for the storage system	Planned total CAPEX		€	Current forecast for actual total CAPEX (€)		€	y (for planned)	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
2.6		Additional operating costs due to CO₂ storage									
2.6.1	0	OPEX for the transport system	Planned OPEX (fixed and variable) for last 6 month period per tCO ₂ stored		€/tCO ₂	Actual OPEX (fixed and variable) in last 6 months per tCO ₂ stored		€/tCO ₂		Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate

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		Value chain									
2.7		Design life									
2.7.1	0	Design life of the CCS installation used for cost calculations.	Design life of the CCS installation used for cost calculations above.		yrs				Y	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
2.8		Date of baseline									
2.8.1	0	Date of the cost baseline, i.e. date of planned/budget values	Date of the cost baseline for planned values in this section 2	<date>					Y	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate

NOTE: All planned values to be according to the project's currently valid baseline

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3. Project progress

ID no.	Level	Item Description	Q1	Value1	Unit1	Q2	Value2	Unit2	Baseline	Within the Network	Beyond the Network
		Capture									
3.1		Main milestone dates capture plant									
3.1.1	1	Detail Design	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.1.2	1	Fabrication	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.1.3	1	Installation	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.1.4	1	Commissioning	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas

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											between the two, and with comments as appropriate
3.1.5	1	Operation	Planned start date	<date>		Current forecast / actual start date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.2		Other milestone dates									
3.2.1	2	Permit(s) issued	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Full, not anonymised
3.2.2	1	Environment Impact Assessment	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Transport									
3.3		Main milestone dates transport system									
3.3.1	1	Detail Design	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate

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3.3.2	1	Fabrication	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.3.3	1	Installation	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.3.4	1	Commissioning	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.3.5	1	Operation	Planned start date	<date>		Current forecast / actual start date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.4		Other milestone dates									
3.4.1	2	Permit(s) issued	Planned completion date	<date>		Current forecast / actual completion	<date>		y (for planned)	Full, not anonymised	Full, not anonymised

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3.4.2	1	Environment Impact Assessment	Planned completion date	<date>		date Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.4.3	1	Definition of routing	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.4.4	1	Permissions from landowners/acquisition of land	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.5											
Transport concept											
3.5.1	2	Transport concept	Type of concept(s)	Pipeline/ Ship/Other					Y	Full, not anonymised	Non-anonymised point values
3.5.2			-if OTHER, describe	<text>							
3.5.3	1	Selection of concept	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate

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3.6		CO2 stream composition specification									
3.6.1	1	Development of the specification of CO2 stream composition	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.7		Transport concept ship									
3.7.1	1	A suitable fleet of ships is secured	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Storage									
3.8		Main milestone dates storage									
3.8.1	1	Concept selection	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.8.2	1	Final well design	Planned completion date	<date>		Current forecast / actual completion	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for

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						date					planned and actual and deltas between the two, and with comments as appropriate
3.8.3	1	Drilling and well completion	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.8.4	1	Commissioning	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.8.5	1	Begin injection	Planned start date	<date>		Current forecast / actual start date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.9		Other milestone dates									
3.9.1	2	Storage permit(s) issued	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Full, not anonymised
3.9.2	1	Environment Impact Assessment	Planned completion date	<date>		Current forecast / actual	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and

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						completion date					averages for planned and actual and deltas between the two, and with comments as appropriate
3.10		Screening									
3.10.1	1	Screening (no exploration permit required)	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.10.2	2		Number of potential storage locations screened	<no>						Full, not anonymised	Full, not anonymised
3.10.3	1		Number of potential storage locations taken forwards into site characterization	<no>						Full, not anonymised	Anonymised point values
3.11		Site characterization									
3.11.1	1	Site characterization (exploration permit typically required) completed	Planned completion date when storage concept selection can be made	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.11.2	1		Type of exploration/characterization undertaken (seismic, exploration drilling, appraisal drilling, well tests, etc)	<text>						Full, not anonymised	Anonymised summary
3.11.3	1		Brief description of the static and dynamic models used for defining the storage complex	<text>						Full, not anonymised	Anonymised summary

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			and well engineering solution								
3.12		Storage solution									
3.12.1	1	Storage complex and well engineering solution defined for primary storage location	Storage complex and well engineering solution defined for primary storage location	Y/N						Full, not anonymised	Percentage of projects that answer Y
3.12.2	1	Final choice of storage complex and well engineering solution made	Final choice of storage complex and well engineering solution made	Y/N						Full, not anonymised	Percentage of projects that answer Y
3.12.3	2		Modelled capacity of the storage complex over the project lifetime using the defined injection and operating plan		MtCO ₂					Full, not anonymised	Full, not anonymised
3.12.4	1	Flowline and surface/sub-sea infrastructure concept selected for developing the site	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.13		Monitoring									
3.13.1	1	Baseline monitoring initiated	Planned start date	<date>		Current forecast / actual start date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.13.2	1	Preliminary monitoring plan submitted to regulator	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas

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											between the two, and with comments as appropriate
3.13.3	1	Risk levels and performance targets defined and agreed with regulator	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.13.4	1	Plan for the following activities produced: 1) monitoring of the storage site 2) verification of the monitoring 3) accounting of emissions reductions 4) reporting of each and all of the above items of 3.13.4	Planned completion date	<date>		Current forecast / actual completion date	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
		Value chain									
3.14		Overall Project progress									
3.14.1	1	Progress against project plan at time of reporting	Planned aggregated total progress		%	Actual aggregated total progress		%	y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
3.15		Overall milestone dates									
3.15.1	1	FEED study for the full project	Planned completion date	<date>		Current forecast /	<date>		y (for planned)	Full, not anonymised	Anonymised dates Aggregated info, e.g. ranges and

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						actual completion date					averages for planned and actual and deltas between the two, and with comments as appropriate
3.15.2	2	Start-up of operation of the integrated (full value chain) CCS system	Planned start date	<date>		Current forecast / actual start date	<date>		y (for planned)	Full, not anonymised	
3.16		Date of baseline									
3.16.1	2	Date of the time baseline, i.e. date of planned/budget values	Date of the time baseline for planned values in this section 3	<date>					y	Full, not anonymised	Full, not anonymised

NOTE: All planned values to be according to the project's currently valid baseline

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4. Environment

ID no.	Level	Item Description	Q1	Value1	Unit1	Q2	Value2	Unit2	Baseline	Within the Network	Beyond the Network
4.1		Chemicals									
4.1.1	2	Decision on solvent taken	Planned completion date	<date>		Current forecast / actual completion date	<date>			Full, not anonymised	Full, not anonymised
4.1.2	2	Solvent volumes etc	Type/category of solvent	<text>							
4.1.3	2		Volume of solvent (m3) in use during the capture process		m ³				Y (for planned)	Full, not anonymised	Full, not anonymised
4.1.4	1	Turnover of solvent	Planned turnover of solvent for last 6 month period, annualised		% per yr	Actual turnover of solvent in last 6 month period, annualised		% per yr		Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
4.1.5	2		Planned recycling rate		%	Actual recycling rate in last 6 month period		%	Y (for planned)	Full, not anonymised	Full, not anonymised
4.2		Emissions to air									
4.2.1	1	Gaseous emissions (other than CO ₂), as fractions of the CO ₂ stream	Planned emission of H ₂ O, H ₂ S, SO _x , NO _x , H ₂ , O ₂ , other for last 6 month period	<list>	% (ppmv)	Actual emission in the last 6 months of H ₂ O, H ₂ S, SO _x , NO _x , H ₂ , O ₂ , other	<list>	%		Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
4.3		Consumables									
4.3.1	1	Consumption of water due to CO ₂ capture	Planned consumption of water for last 6 month period	<list>	kg/MWh	Actual consumption in last 6 months of water	<list>	kg/MWh		Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual

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											and deltas between the two, and with comments as appropriate
4.3.2	2	Consumption of solvents due to CO ₂ capture	Planned consumption of solvents for last 6 month period	<list>	kg/MWh	Actual consumption in last 6 months of solvents	<list>	kg/MWh		Full, not anonymised	Full, not anonymised
4.4		CO₂ loss/leakage									
4.4.1	1	Losses and leakages of CO ₂ throughout capture operations	Losses and leakages in last 6 months from capture, annualised		tCO ₂ /yr					Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
4.4.2	1	Losses and leakages of CO ₂ throughout transport operations	Losses and leakages in last 6 months from transport, annualised		tCO ₂ /yr					Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
4.4.3	1	Losses and leakages of CO ₂ throughout storage operations	Losses and leakages in last 6 months from storage, annualised		tCO ₂ /yr					Full, not anonymised	Aggregated, e.g. ranges and averages for planned and actual and deltas between the two, and with comments as appropriate
4.5		Plot sizes									
4.5.1	2	Plot size required for capture, transport and storage.	Planned plot size used for the facilities in each step of the value chain for previous 6 months	<list>	m ²	Actual/forecasted plot size for the facilities in each step of the value chain for previous 6 months	<list>	m ²		Full, not anonymised	Full, not anonymised

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4.6		Storage monitoring results									
4.6.1	2	Report the main results from the baseline monitoring results from the storage complex	Main results from baseline monitoring	<report>						Full, not anonymised	Full, not anonymised
4.6.2	2	Results from monitoring of the storage site and assessment of the results.	Results from monitoring of the storage site and assessment of the results, in the last 6 month period.	<report>						Full, not anonymised	Full, not anonymised
4.7		CO2 migration									
4.7.1	2	Report and assess/interpret development in CO2 plume and displacement of brine. Contamination of soil or freshwater?	How does CO2 migrate in the storage site?	<report>						Full, not anonymised	Full, not anonymised
4.8		Observed storage site development vs simulations									
4.8.1	2	Report lessons learned from calibration and history matching of storage site models	Main lessons learned from history matching of the reservoir model	<report>						Full, not anonymised	Full, not anonymised
4.9		Other impacts									
4.9.1	2	Other environmental impacts	Have you experienced any undesired environmental impact incidents in the last 6 months? If yes, mitigating, emergency and/or evasive actions to	Y/N <report>						Full, not anonymised	Full, not anonymised

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			deal with the incidents								
4.10		Further research									
4.10.1	2	Identified research needs within environmental impact of CCS.	Have you identified any areas or issues that need more research?	<report>						Full, not anonymised	Full, not anonymised

NOTE: All planned values shall be according to the project's currently valid baseline

NOTE: All values in this section 4 will be moved to sharing Level 2 at the latest when the project goes into operation

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5. Health and safety

ID no.	Level	Item Description	Q1	Value1	Unit1	Q2	Value2	Unit2	Baseline	Within the Network	Beyond the Network
5.1		Health and safety plan									
5.1.1	2	Health and Safety Management Plan/System	Lessons learnt during safety planning specifically relating to CCS	Y/N						Full, not anonymised	Full, not anonymised
5.2		Undesireable incidents									
5.2.1	2	Health and safety incidents	Have you had any accidents, near misses and/or hazardous conditions that are related to CCS in the last 6 months?	Y/N						Full, not anonymised	Full, not anonymised
5.2.2	2		If yes; mitigating, emergency and/or evasive actions to deal with the incidents.	<report, narrative summary>						Full, not anonymised	Full, not anonymised