North Sea Transition Authority

CSS SURVEY USER GUIDE

This guide should be referenced before and whilst completing the Carbon Storage Stewardship Survey (CSSS).

It provides guidance to prepare and help you input data into the survey.

Each organisation with a Carbon Storage exploration or storage licence will have an Information and Samples Coordinator (ISC) who will assign a Single Point of Accountability (SPA) whom the survey will be sent to and is required to oversee its completion and submission.

If you have any questions, please contact CSSS@nstauthority.co.uk.

The 2025 Carbon Storage Stewardship Survey will launch on Mon 3 November 2025 and close on Fri 30 January 2026.

Date of publication 03/11/2025

The document can be found on the NSTAs website.

This document is available in large print,audio and braille on request.
Please email: correspondence@nstauthority.co.uk with the version you require.

Enquiries to:
North Sea Transition Authority
50 Broadway
London
SW1H 0DB

Email: correspondence@nstauthority.co.uk

Published by the North Sea Transition Authority

Contents

INTRODUCTION

Due to the energy sector expanding, the North Sea Transition Authority (NSTA) is now stewarding operations involving UK carbon storage stores (in addition to the UK hydrocarbon Stewardship Survey).

The Carbon Storage Stewardship Survey (CSSS) should be completed by the operators of all UK carbon storage licences. This survey **only requests data related to processes involving the storage of carbon dioxide**.

For each carbon storage exploration or storage licensee, the assigned SPA will be the point of contact whilst the survey is live, as well as the person responsible for the completion and submission of the survey.

This User Guide will assist an operator to complete the CSS Survey.
Throughout this document any reference to '**survey year**' should be interpreted as **the 'year' prior to survey deadline date** (i.e. 2025).

The CSSS data will be held by the NSTA in accordance with the Energy Act 2023 and will be used, among other things, to inform asset stewardship reviews and provide meaningful insights into current and forecast activity in carbon storage.

The survey includes requests for data within at least five worksheets:

- 1. Store details & plans
- 2. Store activity details
- 3. Well details
- 4. Licence – Geophysical data
- 5. Store # – Forecasts

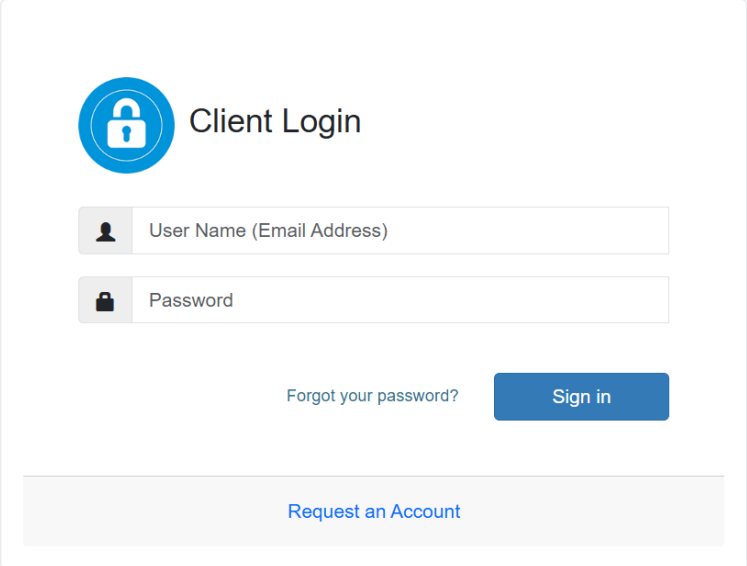
Notes:

1. The three left most columns (Exploration/Storage operator, Licence, and Store name) in Worksheet '1 Store Details & Plans' must be completed first – this will prepopulate selection lists in the other worksheets.
2. In worksheet '2 Store Activity details', the 'Activity Type' must be completed for all Stores before the worksheets '5 Store # - Forecasts' so that these worksheets can be prepopulated.

3. The worksheet '5 Store # – Forecasts' is repeated 15 times to capture data for up to 15 stores within the set of licenses held by an operator.
   If you have more than 15 stores to report on, please email CSSS@nstauthority.co.uk to get the survey expanded as required.

Accessing the CSSS

1. The CSSS is accessed via the North Sea Transition Authority Web Client (SFTP) portal



   If you have recently used the NSTA SFTP and can log in with your password, please contact ISC@nstauthority.co.uk who will assign you to the correct CSSS folder.

   If you do not currently have an account,
   please use the 'Request an Account' option and an account will be created for you.

2. Source your assigned folder which has the naming convention 'CSSS_OperatorName' e.g. 'CSSS_NSTA'
3. From the 'OGA files' folder, download a copy of the template 'YYYY_CSSS_Template' and save it using the naming convention 'YYYY_CSSS_OperatorName_yyyy-mm-dd' e.g. 2025_CSSS_NSTA_2025-11-23.

Data Entry Warning

Data entered into the spreadsheet is **not** automatically saved, it is recommended that you **regularly save** the spreadsheet so that any progress is saved and enables you to return to the survey at different points in time before your submission.

Deadline

The 2025 UK Carbon Storage Stewardship Survey will launch on Mon 3 November 2025 and closes on Fri 30 January 2026.

1. STORE DETAILS & PLANS

1.1. Store details - General notes

This section of the survey gathers data about the stores within each licence attributed to an Organisation. Each potential storage site considered for permit should be considered as a separate store. Data should reflect the current understanding of any potential projects.

1.2. Licence details

Please record the names of all the stores within all licences attributed to your organisation as the licence administrator.

For each store being reported on, provide the following initial information:

Licence details Column	Description
Organisation	Select from the list, the name of the organisation who currently holds the Licence that the store is associated with.
Exploration / Storage Operator	Select from the list, the name of the operator (Exploration or Storage) for the Licence associated with the store.
Licence	Select from the list, the carbon storage licence reference for the store.
Store Name	Enter the name of the store associated with the licence.

1.3. Store details

For each store recorded, provide further details about the store.

Store Details Column	Description
Project phase	Select from the list of NSTA phases, the phase that the project is currently in as of 31 December of the survey year Six options: ● Appraise ● Assess ● Define ● Execute ● Operational ● Post-closure
Project description	Enter a brief description of the project associated with the store (include conceptual and/or planned activities, emitters etc).
Type of store	Select from the list, the type of store it is to be defined as. Six options: ● Saline Aquifer closure ● Saline Aquifer – migration assisted storage (MAS) ● Saline Aquifer – combination MAS/closure ● Depleted Gas Reservoir ● Depleted Oil Reservoir ● Other Where possible choose the best option if the store is a combination of types, otherwise select 'Other' and explain the combination type by entering text into the '"*other" type of store'* column. **Note**: Migration Assisted Storage (MAS) may also be referred to as Open Saline Aquifer (OSA).
"other" type of store	Only required if "other" is selected as the 'Type of store'. Overwrite the cell information with text that specifies the type of store (that was not available from the list of store types).
Main Store Geological Formation	Enter the main geological formation of the store. e.g. Bunter.

Store Details Column	Description
Total Effective Storage Capacity (MT)	Enter the expected total effective storage capacity, in MT, of the store. *Reference:* (i). SRMS section 1.1.0.4 and 1.1.0.5 (ii). The suggested methods below.
Total Effective Storage Capacity calculation method	Select from the list, the method used to calculate the total storage capacity of the store. Five options: 1. The sum of all stored quantities, discovered storage resources, and undiscovered storage resources. 2. The sum of stored CO_2 + 2P + all 2C + all 2U + all inaccessible storage resources. 3. The sum of all sanctioned, planned, possible and sub-economic incremental activities to maximise the quantity of CO_2 stored in a store. 4. The total (mean) technically injectable storage capacity (MT) = mean Net Pore Volume x mean storage efficiency factor. (either without, or with brine production) 5. Other. If “other” is selected, then you will be required to enter text to explain your method in the ‘“*other” calculation method’* column.
“other” calculation method	Only required if “other” is selected as the ‘Total storage capacity calculation method’. Overwrite the cell information with text that specifies the calculation used to determine the total storage capacity of the store (that is different from the four calculation methods suggested).
Forecasted / Actual year of first injections	Enter the year (YYYY) that the first injection into the store is forecast to take place or actually took place.
Forecasted / Actual year of final injection	Enter the year (YYYY) that the final injection into the store is forecast to take place or actually took place.
Expected percentage of CO2 stream from domestic (UK) sources	Enter a value between 0 and 100 for the expected percentage (%) of CO_2 stream from domestic (UK) sources.

Store Details Column	Description
Method of transport	Select from the list, the method of transport used to transport the CO_2 to the onshore store facilities. (Storage buffer tanks may be used within the onshore store facilities). Seven options: ● Pipeline, Ship and Tank ● Pipeline and Ship ● Pipeline and Tank ● Pipeline ● Ship and Tank ● Ship ● Other
"other" method of transport	Only required if "other" is selected as the 'Method of transport'. Overwrite the cell information with text that specifies the type of store (that was not available from the list of transport methods).

1.4. Infrastructure plans

For each store recorded, provide further details about the store infrastructure.
For any repurposed items, such as wells or pipelines, please detail the references identifiers they currently have in WONS or NDR submissions.

Infrastructure Column	Description
Existing infrastructure	Enter details of all existing infrastructure (including repurposed or completed purpose-built), including pipelines, that will be used as part of this project, within the footprint of the licence. Include references to wellbore ID registration number as per0WONS and pipeline ID number/code as per GIS, if appropriate. Separate each piece of infrastructure by a comma (,).
Planned facilities / infrastructure	Enter details of all the planned facilities and infrastructures, planned for usage as part of the project, and within the footprint of the licence. Separate each piece of infrastructure by a comma (,).

2. STORE ACTIVITY DETAILS

2.1. Store Activity – General notes

This section of the survey gathers data about activities occurring or planned to take place for stores within each licence attributed to an Operator.

The final column in the worksheet, Store Activity Details, specifies which worksheet should be used to enter the store forecast data into (survey section 5).

Note there should only be one base case activity per store. The base activity is the baseline activity planned for the store that is or will be included in the storage permit application.

Incremental activities describe activities/projects occurring, or being considered, in addition to the baseline injection activity. Some examples may include optimisation activities, injection enhancement projects, etc. It may be the case that there are currently no incremental projects being considered, in this case inaccessible storage capacity may be reported with a probability of zero, to give a sum that is the total storage capacity.

2.2. Store Activity Details

For each activity recorded at each store, provide further details about the Base activity (this is the minimum requirement for each store) and any additional incremental activities (up to a maximum of five incremental activities excluding the base activity).

Store Activity Column	Description
Store Name	Select from the list, the name of the store you are reporting the activity at.
Licence	The licence number will automatically appear, based on the Store name selected and the data entered into the Store details worksheet.
Activity Type	Select from the list, a type of activity to be associated with the Store. Each store must have a Base activity and only one base activity. Any further activities will be designated as an Incremental Activity and assigned a number from 1 up to 5 in ascending order. The ‘Base’ case will most likely be equivalent to the Permit case, and all other activities will be incremental activities.

Store Activity Column	Description
Activity Name	Enter a name for the activity being reported.
Activity Description	Enter a brief description of the activity being reported. Include impact on injection volume / income / rates / pressure, additional storage volumes etc.
Probability of Proceeding	Select from the list, the most appropriate probability range that indicates the likelihood of the activity proceeding both technically and commercially. Options: • 0% ⇒ cancelled activity, or activity not being pursued at the present time • Low % ⇒ below 50% • Medium % ⇒ around 50% • High % ⇒ above 50% • 100% ⇒ sanctioned activity by NSTA
Reason for cancelling activity, probability of proceeding = 0%	Only required if Probability of Proceeding is 0%. Select from the list, the reason for cancelling the activity. Two options: ● Commercial ● Technical
Permit date of granted permit	Only required if Probability of Proceeding is 100% and a permit has been granted. Overwrite the cell information with the date that the permit was granted.
Comments	Enter any additional information you deem necessary to gain a deep understanding of the activity being reported.

2.3. Total Storage Resources

For each activity recorded at each store, provide details about its resource capabilities. NSTA recommend the use of the CO_2 Storage Resources Management System (SRMS) definitions when deciding on quantities. The storage resource categorisation is defined as the progress through the NSTA phases by a store or its activities. The NSTA propose using the categories (2U/2C/2P) to reflect the permitted quantity, to use the 1U/1C/1P categories as the downside case and the 3U/3C/3P as the upside case, not requiring further CAPEX investment but likely to require a permit amendment.

Total Storage Resources categorisation	Sub-category	Description
Appraisal phase	1U (MT)	Enter the quantity of undiscovered resources, in MT, for the P90 pre-Assess phase. (P90 case of possible development plans)
	2U (MT)	Enter the quantity of undiscovered resources, in MT, for the P50 pre-Assess phase. (base case or likely PERMIT quantity)
	3U (MT)	Enter the quantity of undiscovered resources, in MT, for the P10 pre-Assess phase. (P10 case of possible development plans)
Assess & Define phases	1C (MT)	Enter the quantity of contingent resources, in MT, for the P90 assess and define phase. (P90 case of agreed development plan)
	2C (MT)	Enter the quantity of contingent resources, in MT, for the P50 assess and define phase. (base case or target PERMIT quantity)
	3C (MT)	Enter the quantity of contingent resources, in MT, for the P10 assess and define phase. (P10 case of agreed development plan)
Operational Term (Permit awarded)	1P (MT)	Enter the capacity, in MT, when FID is taken and permit is awarded, for the P90 case. (This may be lower than the Permit Quantity, due to either commercial or technical limits. It should be the 'Definite not less than" quantity)
	2P (MT)	Enter the capacity, in MT, when FID and permit are awarded, for the P50 development case. (PERMIT quantity)

Total Storage Resources categorisation	Sub-category	Description
	3P (MT)	Enter the capacity, in MT, when FID and permit are awarded, for the P10 development case. (P10 case of possible upside, either technical or commercial improvement. No additional capex required, a Permit Amendment would be required)
Cumulative stored to date	Tonnage injected (MT)	Enter the cumulative total quantity injected, in MT, up to the end of the year, 31 December of the survey year.
	Pure CO2 injected (MT)	Enter the cumulative total quantity of pure CO2, in MT, up to the end of the year, 31 December of the survey year.

2.4. Wells

For each activity recorded at each store, enter the number of each well type associated with the entire activity. The sum total is calculated automatically.

Well type options are:

- Appraisal
- Injection
- Brine production
- Monitoring
- Other

If there are none for a particular option, then enter zero, “0”.

3. WELL DETAILS

3.1. Wells – Guidance notes

Ony wells that actually exist or are expected to exist within the last 18 months or in the next 3 years need to be recorded.

3.2. Well details.

For each well associated with an activity recorded at a store, provide further details about the well.

Well details Column	Description
Well reference name	Enter the well name/reference. This should align with the WONS registered name where one exists. **Note**: Should a well not yet be registered in WONS, please pre-fix the well location with "**PW–**" e.g. PW-01/01A.
CS Licence	Select from the list, the licence that the well is to be attributed to. The list of options is pre-determined by the licenses selected in the worksheet '1 Store Details & Plans'.
Store that the well sits in	Select from the list, the Store name that the well is associated with. The list of options is pre-determined by the Store names entered into worksheet '1 Store Details & Plans'.
Activity Type	Select from the list, the activity at the Store that the well is to be associated with. The list of options is pre-determined by the activities selected in the worksheet '2 Store Activity details'.
Well type	Select from the list, the type of the well. Four options: ● Subsea ● Subsea sidetrack ● Platform ● Platform sidetrack

Well details Column	Description	
Well intent	Select from the list, the intent of the well. Four options: ● Appraisal / Exploration ● Brine production/ Pressure management ● Injection ● Monitoring / Sentinel	
Is an existing well?	Select from the list, Yes or No. An existing well is a well completed prior to 1 January of the survey year.	
Well Spud date	**Only if** i) the well was spudded within the last 18 months OR ii) the planned spud date is within the next 3 years:	
	Year (yyyy)	Enter the year that the planned / actual drilling of this new well commences / commended.
	Quarter (Qx)	Enter the quarter within the year that the planned / actual drilling of this new well commences / commended.
Date of commencement of work on existing well	**Only if** i) the well **IS** an existing well with a spud date **before** the last 18 months, AND ii) the date of the planned work is within the past 18 months or next 3 years:	
	Year (yyyy)	Enter the year that the planned / actual work on the existing well commences / commended.
	Quarter (Qx)	Enter the quarter within the year that the planned / actual work on the existing well commences / commended.
Actual date the new well, or work on existing well, is concluded	For any new or existing well:	
	Year (yyyy)	Enter the year of the actual date that work done concluded.
	Quarter (Qx)	Enter the quarter within the year of the actual date that work done concluded.

Well details Column	Description
Well cost (£ MM)	Enter the actual / estimated cost of the well, in £ MM. e.g. 53.1 ≡ £ 53 100 000. This includes the cost of drilling, testing, and completing the well. If the well is pre-existing and activity has taken place to workover hydrocarbon wells, please include associated costs. All sterling amounts should be in 2025 prices (except amounts for 2024 which should be actuals).
Work done on existing wells	Enter details of work undertaken on any existing wells for the purpose of Carbon Storage. Examples include, workover, remediation, well tests, and sampling.
Comment	If applicable, enter details of any changes to the well intent and drill date.

4. LICENCE GEOPHYSICAL DATA

4.1. Geophysical data – Guidance notes

The purpose of this section is to provide a full inventory of the geophysical and seismic data that is being used in the licence, and when this data was processed.

Please list all geophysical and seismic surveys that are in active use on the licence.

4.2. Geophysical data

For each NDR survey recorded, provide further details about the survey.

Geophysical data Column	Description
NDR Survey Reference name	Enter the reference name of the survey.
CS Licence	Enter all the Carbon Storage licences covered by this NDR survey. Separate each licence by a comma (,).
Exploration Licence	If known, enter all the Exploration licences covered by this NDR survey. Separate each licence by a comma (,).
Geophysical method	Please select from the list, the geophysical activity being reported. Six options: ● Bathymetry ● Gravity ● 2D Seismic ● 3D Seismic ● 3D Seismic with 4D Seismic intent (monitoring) ● Other e.g. DAS, Passive seismic

Geophysical data Column	Description
"Other" type of geophysical method	Only required if "other" is selected as the geophysical method. Overwrite the cell information with text that specifies the type of geophysical method used (that was not available from the list of geophysical methods).
Survey Data Status	Please indicate the current status of the geophysical survey data (as indicated in question 'Geophysical Method' on Geophysical survey approach). Six options: ● None ● Acquisition ● Acquisition and processing ● Processing ● Reprocessing ● Reprocessing and Merging
Is the data intended to be used as a baseline survey?	Please select from the list, Yes or No.
Year Acquired (YYYY)	Enter the year (yyyy) that the survey was originally / will be shot.
Processing / Re-processing year (YYYY)	Enter the year (yyyy) when the latest processing / reprocessing of the survey concluded.
(Re-)Processing description	Enter a brief description of the type of processing or reprocessing, and if the processing was done as part of a multi-client purchase.
Estimated cost (£ MM)	Enter the estimated cost (£ MM) for this survey.
Ownership	Please select from the list, the type of ownership for the survey. Two options: ● Multi-client ● Proprietary
Owner of the survey data	Only required if "Multi-client" is selected as the ownership type. Overwrite the cell information with text that specifies the name of the owner of the data.

Geophysical data Column	Description
Processing type	Please select from the list, the type of processing used. Four options: ● PreSTM ● PreSDM ● PreSTM & PreSDM. ● Full Waveform Inversion
Acquisition type	Please select from the list, the relevant combination for the type of acquisition. Eight options: ● OBC ● OBN ● Towed streamer ● OBC & Towed streamer ● OBN & Towed streamer ● OBC, OBN & Towed streamer ● Distributed Acoustic Sensing (DAS) ● Other
“Other” acquisition type	Only required if “Other” is selected as the acquisition type. Overwrite the cell information with text that specifies the type of acquisition used for the survey (that was not available from the list of acquisition types).
Comments	Enter details about the acquisition and processing and / or reprocessing of the survey.

5. STORE FORECASTS

5.1. Store Forecasts – Guidance notes

Forecast data for each store is to be entered into its designated worksheet (specified in the last columns of the worksheet '2 Store Activity details').

The Store name, Licence, Activity type and Profile years, along with the description of each activity, will be automatically populated, based on the data entries in the worksheet '2 Store Activity details'.

For each activity at each store, report forecasted data across a 50-year timespan starting from the year before the 'survey year'. Input all values in line with the **technical profiles**. Input zeroes where there is no forecasted value (e.g. no spend/injection in that year).

For each Store, its activities in worksheet '2 Store Activity details' need to be recoded in chronological order from Base up to Incremental 5 for the 'Activity description' to appear in worksheet '5 Store # - Forecasts'.

5.2. Injection Volumes

Enter the forecasted injection volume of CO_2 into the store associated with each activity. The value is to be stated in million tonnes of CO_2 per annum (Mtpa).

Input zero where there is no forecasted value (i.e. no injection in a specific year).

5.3. Costs

Cost values are to be stated in million pounds Sterling (£ MM). e.g. 1.05 ≡ £1 050 000.

All sterling amounts should be in 2025 prices (except amounts for 2024 which should be actuals).

Input zero where there is no forecasted value (i.e. no spend in a specific year).

Costs Column	Description
Total DEVEX (£ MM)	Enter the actual / forecasted Development expenditure for the activity at the store each year. DEVEX is the development costs in respect of the Store which are incurred to enable the final investment decision (FID) to be taken, including front end engineering design (FEED) and pre-FEED. If you have licence DEVEX then either enter the DEVEX amount into the store most likely to proceed or split the DEVEX amount proportionally across all the stores.
Total CAPEX (£ MM)	Enter the forecasted Capital expenditure defined by the FID for the activity at the store each year.
Power OPEX	Enter the forecasted expenditure for power requirements for the activity at the store each year.
Non-power OPEX	Enter the forecasted expenditure for non-power requirements for the activity at the store each year.
Total OPEX (£ MM)	This value is automatically calculated as the sum of the Power and the Non-power OPEX costs.
Total ABEX (£ MM)	Enter the forecasted Decommissioning expenditure for the activity at the store each year.

5.4. Income

If the project is at an applicable phase and income data is available,
then enter the forecasted or actual Income from the activity at the store each year.
The value is to be stated in million pounds Sterling (£MM). e.g. 1.05 ≡ £1 050 000.

All sterling amounts should be in 2025 prices (except amounts for 2024 which should be actuals).

Input zero where there is no forecasted value (i.e. no income in a specific year).

5.5. Energy Demand

Considering the energy associated with the transportation and storage of CO_2 from the point at which the store operator takes ownership of the CO_2, enter a forecast for the average amount of energy needed to store one tonne of CO_2 (Kwh/tCO_2) sequestered.

Input zero where there is no forecasted value (i.e. no energy needed in a specific year).

6. Submissions / Clarifications

6.1. SPA queries

If you have any issues when using the Carbon Storage Stewardship Survey then please email CSSS@nstauthority.co.uk and the team will respond as quick as possible.

6.2. Submissions

1. Login to the North Sea Transition Authority Web Client (SFTP) portal.
2. Source your assigned folder which has the naming convention 'CSSS_OperatorName' e.g. 'CSSS_NSTA'
3. Into the 'Company files' folder, upload your completed CSSS spreadsheet, ensuring it is saved using the naming convention 'YYYY_CSSS_OperatorName_yyyy-mm-dd' e.g. 2025_CSSS_NSTA_2026-01-23.

The NSTA will quality check your submission and email the ISC should there be any clarifications required.

6.3. Clarification requests

The NSTA will email the ISC detailing the clarification request, with a deadline to complete the clarification request.

Should this result in a change to the data submitted in the CSSS spreadsheet then you will be required to:

1. Save a copy of the latest version of your CSSS spreadsheet and rename it such that the date (yyy-mm-dd) within the file name reflect the date that the file has been updated (i.e. A date more recent than the previous version).
2. Make, and save, any edits required to the CSSS spreadsheet.
3. Login to the North Sea Transition Authority Web Client (SFTP) portal.
4. Source your assigned folder which has the naming convention 'CSSS_OperatorName' e.g. 'CSSS_NSTA'.
5. Into the 'Company files' folder, upload the latest version of your CSSS spreadsheet.

Once your upload is complete, you should see a list all your CSSS spreadsheet files submitted to date, with names containing the dates associated with their completion/submission.

North Sea Transition Authority

The North Sea Transition Authority is the business name for the Oil and Gas Authority, a limited company registered in England and Wales with registered number 09666504 and VAT registered number 249433979. Our registered office is at 50 Broadway, London, SW1H 0DB.