North Sea Transition Authority

UKSS SECTION GUIDE

TECHNOLOGY

This section will appear at Organisational level.

If you think there are any errors with allocation, please contact

stewardshipsurvey@nstauthority.co.uk

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1. UKSS 2026 CHANGES

The following changes have been implemented in the Technology section of the UKSS (UK Stewardship Survey):

1. Reporting at Field level is no longer required.
   It has been replaced with a requirement to complete the ‘Technology Listing Template’ spreadsheet (an NSTA template) detailed in section 2.6.

2. ORGANSATION – TECHNOLOGY

2.1 UK Spend on Technology

Please use actuals for the previous and current year and provide forecast spend/budget for the next 3 years of your company's total technology spend in support of your UKCS business.

The value in the 'Total' column for Total spend (reference section 2.1.1) should equal the value in the 'Total' column for 'Breakdown Spend' (reference section 2.1.2).

Data entry

Entries should be whole numbers with no spaces, commas, or decimal points
e.g. £5m = 5000000.

You can paste values into the table directly from Excel:

- The page will map your pasted cell values to the table cells, ignoring any overflowing rows or columns
- Input fields which have been pasted to will be highlighted green to allow a visual check.

2.1.1. Total Spend

	Total Spend		
Year	Technology research & development spend (£)	Technology transfer spend (£)	Total (£)
Survey year – 2			
Survey year – 1			
Survey year			
Survey year + 1			
Survey year + 2			

This section refers to your company's technology spend in support of your UKCS business.

Please provide information related to the testing, qualification, and deployment of technologies, whether or not developed by your company, and in support of your UKCS business, including all costs (CAPEX and OPEX) to undertake technology pilots, qualification work, design and implementation of technologies, including activities outsourced to third-parties, and in

collaboration with other companies.

Technology Research & Development (R&D) Spend
Spend should include R&D activities undertaken by your UK business, corporate charges, as well as R&D activities outsourced to third-parties (but under your direct control), memberships and contributions to joint industry projects.

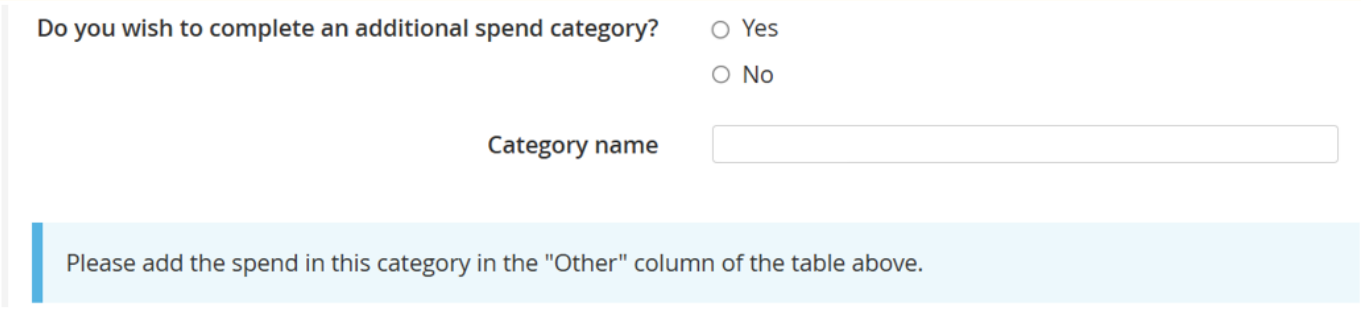
Technology Transfer spend
Spend on all other technology activities, including procurement of deployable technology.

2.1.2. Breakdown Spend

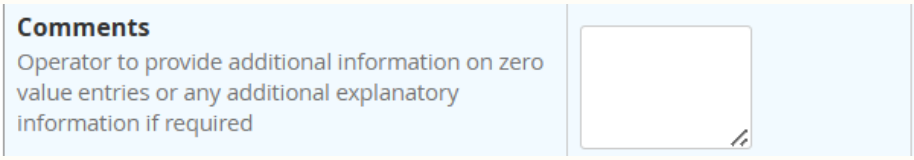
	Breakdown Spend									
Year	Seismic & exploration (£)	Well drilling & completions (£)	Reservoir & well management (£)	Subsea systems (£)	Installations & topsides (£)	Facilities management (£)	Well plug & abandonment (£)	Facilities decommissioning (£)	Other (£)	Total (£)
Survey year – 2										
Survey year – 1										
Survey year										
Survey year + 1										
Survey year + 2										

Please provide the breakdown of the Total Technology Spend reported in the previous section (i.e. the total of R&D and Technology Transfer) by Technology Category, using the sub-categories as guidance as listed in section 3.2 below.

Please endeavour to use the given Categories but, if necessary, additional categories can be added to the breakdown spend.



2.1.3. Validations



Explanations will be required in the comments box below the table of spend values for the following validations.

Validation 1: you must enter data for all years. If there is no spend, enter 0.
If 0 entered, please provide an explanation.

Validation 2: each years Total Breakdown Spend must be within +/- 10% of the Total Spend.
If out with the tolerance, please provide an explanation.
eg If year 2027 Total spend is £5MM and 2027 Breakdown Spend is £14MM. Why?

Validation 3: each years Total Spends must be within +/- 10% of the Total Spends from the previous survey.
If out with the tolerance, please provide an explanation.

2.2 Technology deployment Notes – Technology Listing

As part of Stewardship Expectations, we aim to use this section to demonstrate that technologies are being deployed to support achievement of energy transition and maximising economic recovery objectives.

2.2.1 Technology Listing spreadsheet

The following extracts show the headings in the Technology Listing spreadsheet for information and the following sections provide guidance on how to complete your entries.

	Cross Cutting categories							
	Select Y/N	Select Sub-Category	Select Y/N	Select Sub-Category	Enter Technology Name	Enter Technology description	Select Category	Enter Sub-Catgory - see available options for each category in the Drop down lists Tab
Operator Company Name	**Digital & Data Y/N**	**Digital and Data Sub-category**	**Net Zero Y/N**	**Net Zero Sub-category**	**Technology Name**	**Technology Description**	**Technology Category**	**Technology Sub-category**

	KPI Data							
Select Development plan	Select Deployment Status	Enter deployment Month	Enter Asset/Field deployed on	Enter any benefits from deployment if known	Select Maturity Stage	Select Technology Aims	Enter if Other selected	Enter notes if required
Development Plan	**Deployment Status**	**If Deployed - Deployment Month**	**Asset/Field deployed on**	**Deployment Benefits**	**Maturity Stage**	**Technology Aims**	**Technology Aims Other**	**Notes**

Add Technologies to the Technology Listing spreadsheet under the appropriate Technology Category which can be selected from the following (see drop down on spreadsheet):

- Seismic characterisation
- Well drilling and completions
- Subsea systems

- Installations and topsides
- Reservoir and well management
- Facilities management
- Well P&A
- Facilities decommissioning

Please ensure the technology is in the correct category, pick the most appropriate one if not certain.

2.2.2 **Technology sub-category**

For the 'Technology sub-category', the options are dependent on the category (reference the table below). Select one of the sub-category options from the relevant list. Please use the most appropriate sub-category and only use "Other" if this is not possible and explain in the notes column.

NSTA Category	Technology Sub-Category
Seismic characterisation	Geology processing and imaging; Geophysical acquisition; Subsurface modelling; Other
Well drilling and construction	Completions and artificial lift; Drilling equipment; Drilling, casing and cementing operations; High-angle and ERD; Multilaterals; MWD, LWD and geosteering; Stimulation; Well design and planning; Well equipment; Other
Subsea systems	Inspection and intervention systems; Installations and construction; Manifolds, umbilicals and control systems; Metering, flow assurance and chemicals; Pipelines, risers, jumpers and connections; Power generation and hydraulic storage; Processing, boosting and storage; Subsea concept; Other

NSTA Category	Technology Sub-Category
Installations and topsides	Construction and installation; Control systems and automation; Fluid injection and reinjection; Fluid separation, treatment and compression; FPSOs and FSOs; Manned offshore platforms; Metering and monitoring; Power and utilities; Production and offloading buoys; Onshore terminals; Unmanned offshore platforms; Other
Reservoir and well management	Carbon storage; Hydrogen; Improved and enhanced recovery; Intervention equipment; Liquid loading and water production; Sand and solids management; Surveillance and inspection; Waxing, hydrates and scaling solutions; Well integrity repairs; Other
Facilities management	Equipment monitoring and reliability; Facility integrity repairs; Integrity monitoring and inspections; Maintenance and operations; Other
Well P&A	Barriers, placement and verification; Casing section removal; Conductor removal; Data and planning; Intervention equipment; Well inspection and cement condition; Other

NSTA Category	Technology Sub-Category
Facilities decommissioning	Cleaning and isolation; Data management; Late life management and equipment readiness; Preparation and removal; Site inspection and monitoring; Subsea decommissioning; Survey and planning; Topsides/Jacket decommissioning; Waste management and recycling; Other

2.2.3 Deployment Status

Select one of the following options:

- **Under Assessment** - The technology has not yet been planned to be deployed but is being assessed at this time.
- **Planned** - Technology is available and is intended for deployment at a future date.
- **In Progress** - Technology is being developed and/or undergoing trials for future deployment.
- **Parked - Not Progressing** - The technology is not progressing at this time because it does not make a sufficient business case or is no longer suitable.
- **Completed** - Technology is in use on the asset.
- **Business As Usual** - The technology has been deployed and has become standard practice to use, so it is considered business as usual.
- **Unknown** - Technology does not fit with the above options (operator to describe).

2.2.4 Date of deployment

Insert month that the technology was deployed.

2.2.5 Field / Asset deployed on

Insert Field or Asset name that the technology was **first** deployed on. Subsequent deployments do not need to be recorded.

2.2.6 Benefits of deployment

Insert text to advise any benefits that the deployment has shown.

2.2.7 Development Plan

Select one of the following options:

- **Vendor solution** - Technology developed by supply chain

- **Partnership with suppliers** - Technology developed in collaboration with supply chain
- **Joint industry programme** - Technology developed in collaboration with other operators/institutions/supply chain
- **NZTC programme** - Technology developed in collaboration with supply chain but with NetZeroTC funding
- **In-house development** - Technology developed by operator
- **Other** - Does not fit in above options (operator to describe)
  If 'Other' is selected, then provide a description in the 'notes' column.

2.2.8 Digital and data sub-category

Select one of the following options:

- Connectivity
- Data acquisition
- Data systems
- Modelling & analytics
- Productivity & safety enhancements
- Visualisation & interfacing.

2.2.9 Net Zero sub-category

Select one of the following options:

- Low carbon power / electrification
- Energy efficiency
- Flaring venting, monitoring & reduction
- Hydrogen
- CCUS.

2.2.10 Maturity stage

Select one of the following TRL Range options:

- Early development – TRL range 1-3
- Late development / pilot – TRL range 4-5
- Early commercialisation – TRL range 6-7
- Proven technology – TRL range 8-9.

The TRL definitions are:

- **TRL 1 -** Basic principles observed
- **TRL 2 -** Technology concept formulated
- **TRL 3 -** Experimental proof of concept
- **TRL 4 -** Technology validated in lab
- **TRL 5 -** Technology validated in relevant environment
- **TRL 6 -** Technology demonstrated in relevant environment
- **TRL 7 -** System prototype demonstration in operational environment

- **TRL 8 -** System complete and qualified
- **TRL 9 -** Actual system proven in operational environment

Please advise in the 'notes' column if you use a different TRL scale and if so, explain what this scale is.

2.2.11 Technology aims

Select all the applicable options from the list:

- CAPEX reduction
- OPEX reduction
- Safety
- Emissions
- Probability of success increase
- Production efficiency enhancement
- Other
  If 'Other' is selected, then provide a description in the 'technology aims' comment box.

2.3 Company technology plan

The required content of a Company Technology Plan is described in the template provided in the links in section 3.7. Please also reference Stewardship Expectations SE 08 and/or the Carbon Storage equivalent Stewardship Expectation SE04 for additional information.

Please provide your Technology Plan as a text document rather than a spreadsheet (reference the Technology plan template in section 2.6).

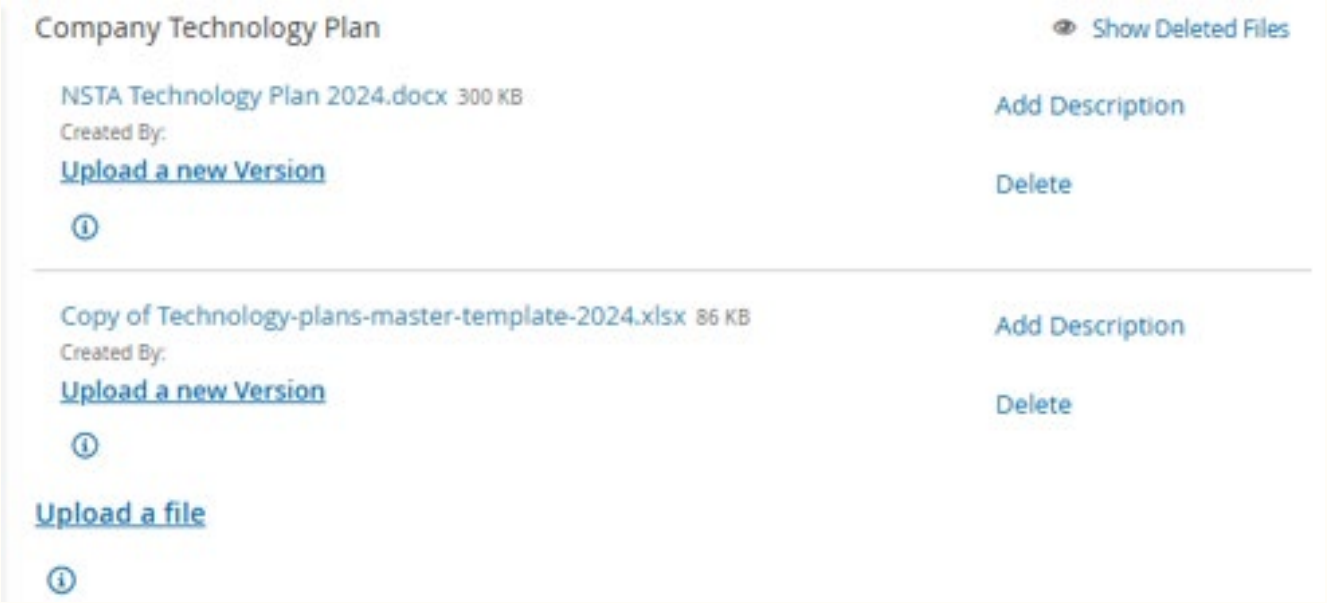
2.3.1. Technology Plan



Select the Upload a file icon to attach a copy of your Company Technology plan. The following file extensions are not allowed: bat, bin, com, dll, exe, msc, msi, msp, ocx, scr, wsc, wsf, wsh.

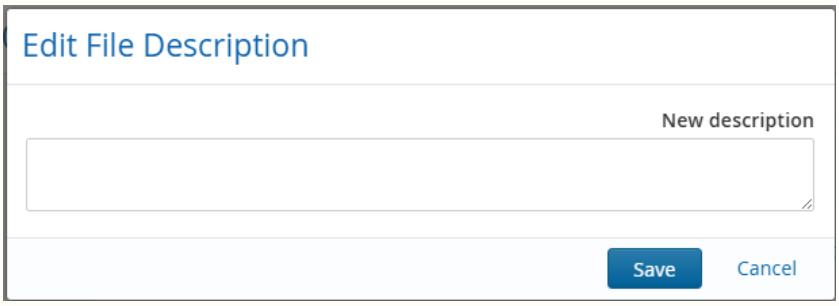
A Technology Plan should indicate to the NSTA that an operator has a strategy for the appropriate development and where applicable - deployment of existing, new and emerging technologies to their optimum effect for the benefit of its assets and NSTA's objectives.

A Technology Plan should help to identify potential technology gaps, providing an operator and the NSTA with visibility of technology needs.



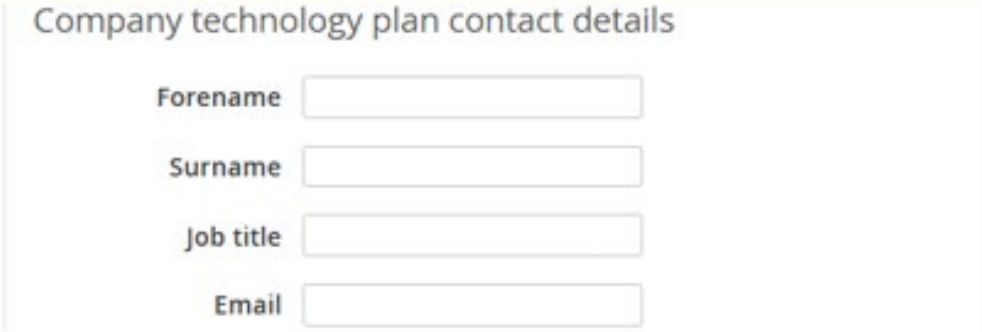
Select the Upload a new Version icon to overwrite a previously uploaded file.

Select the Add Description icon to include a description for the uploaded file.



Select the Delete icon to delete a previously uploaded file.

2.3.2. Responsible Person



The NSTA requires a single point of contact if the NSTA requires to follow-up on any aspect of an operator's Technology Plan or to engage with regarding technology subjects. Operators should nominate a Responsible Person in the UK as the single point of contact for each Technology Plan submitted. The Responsible Person may be the same individual as the Single Point of Accountability (SPA) for the Stewardship Survey.

The following information should be provided:

- Name of Responsible Person
- Job Title
- Email address

2.3.3. Company Technology Plan – Further guidance

For the purposes of this Guide, references to:

- 'Operator' means the operator (under a licence) of a UKCS exploration and/or production asset;
- 'Technology' includes technologies covering the whole asset lifecycle comprising the exploration, production, late-life, cessation of production and decommissioning phases.

2.3.3.1. Required Content

Operators are responsible for preparing and submitting the Technology Plan to the NSTA. Where an operator operates multiple assets in the UKCS, the operator is expected to submit a single Text based Technology Plan covering the operated assets in the UKCS (business unit level consolidated plan).

An NSTA Technology Plan template with the minimum content required is provided (reference section 2.3 and the template in section 2.6).

2.3.3.2. Additional information

It would be beneficial if an operator could provide details of any technology projects, JIPs, pilots or trials that they are involved in:

- information on any potential areas where the introduction of any future transformational technology would be of significant benefit.
- identification of any particular technologies that are not commonly used in the UKCS.
- identification of any first-time use, trial or piloting.
- This information could be provided by modifying any existing Technology Plan tables or by providing it as stand-alone information.

2.3.3.3. Timeline for completion of the Technology Plan

The Technology Plan should be submitted in accordance with the UKCS Asset Stewardship Survey timeline.

2.4 Technology Needs

Operators should identify the Technology Needs associated with all of their operated assets. Such information should be clearly set-out in the Technology Needs spreadsheet - using the NSTA Technology Needs Template. Each Technology Need should be as specific as possible and avoid:

- Generic needs such as ‘increase production’ and ‘reduce emissions’.
- Details of how you plan to address the need, such as ‘commission a university study’.
- JIPS, university studies and non-operated joint venture activity should not be included.

The following is an extract from the Technology Needs spreadsheet.

	New simpler to complete version				
	Please list each technology need once, do not repeat for multiple assets		* Asterisk indicates	drop down list	Free text
Operator name	Tech Need Name	Tech Need Description	*NSTA Category	*Technology Aims	'Other' Technology Aims - Notes

Only list the Technology Need once, no need to list the same Technology Need for each asset.

2.4.1. NSTA Technology Needs spreadsheet contents

Within the spreadsheet template, the worksheet ‘Guidance’ provides similar information to that detailed below.

Columns where the heading starts with an asterisk (*) contain a drop-down list for the operator to select an appropriate response.

Column	Description
Operator name	Enter Asset operator’s name.
Technology Need Name	Enter a name / short descriptor identifying if there is a technology gap as applicable.
Technology Need Description	Enter a more detailed description of the named Technology Need.
*NSTA Category	Select one of the eight categories from the drop-down list: • Seismic & Exploration • Well Drilling & Construction • Subsea systems • Installations & Topsides • Reservoir management • Facilities management • Well P&A • Facilities decommissioning

Column	Description
*Technology Aims	Select one of the seventeen Technology Aims options from the drop-down list. • ABEX Efficiency • Asset Management • CAPEX Efficiency • Development Complexity • Emissions Reduction • Enhanced Probability of Success • Evaluation & Study • Exploration & Subsurface Excellence • GHG Reduction • Increase Field Recovery • Integrity • Operational Excellence • OPEX Efficiency • Probability of Success Increase • Production Efficiency Enhancement • Safety Enhancements • Other If more than one of these is applicable, select 'Other' and add all those relevant to the ''Other' Technology Aims – Notes' column.
'Other' Technology Aims - Notes	If 'Other' is selected as the technology aim, then please enter additional notes explaining the technology aim.

2.5 Case Studies

Where possible Operators should provide 1–2-page technology Case Studies describing in-year deployments. This should include images if available, description of the technology deployed, and the benefits of deployment. Operators are encouraged to provide one or more of these which may be published, without being anonymised, along with the annual Technology Insights report.

2.6 Links to templates

- NSTA Technology Listing Template – spreadsheet
- NSTA Technology Plan – text document template
- NSTA Technology Needs Template – spreadsheet

3 CONTACT DETAILS

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

If you find any errors with the data or question options presented on this survey form, then please report the error to the UK Energy Portal Service Desk by calling 0300 067 1682 or email ukop@nstauthority.co.uk.

North Sea Transition Authority

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