

GHG Emissions

This section will appear once at organisational level, and will include any operated facilities, terminals and new developments.

If you think there are any errors with allocation please contact stewardshipsurvey@nstauthority.co.uk

UKSS 2023 Changes

- 1. The 'Indirect Emissions: Drilling, Aviation, and Shipping' section has been removed.
- 2. A new box requesting the Plan name and a drop-down requesting the Plan status of Emissions Reduction Plans.
- 3. All pages have enhanced guidance and explanatory notes.



Organisation level

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UKSS – GHG emissions guidance



The NSTA is collecting data on future greenhouse gas (GHG) emissions which will facilitate the estimation of carbon costs to be included in the assessment of economic recoverability of existing and future oil and gas developments. The NSTA is also collecting these data to supplement emissions performance benchmarking to assist in Asset Stewardship engagements and also to monitor the industry's progress in reducing its GHG emissions.

Please report your best current estimate of forecasted GHG emissions per operated facility, terminal and/or new development. This forecast profile should include:

- 1) Your forecasted current baseline GHG emissions estimate.
 - a. This should include both GHG emissions associated with the installation's base case and (for offshore facilities) direct incremental GHG emissions associated with any additional activities on the installation which do not require an FDPA (e.g. additional production from infill drilling, well intervention, enhanced recovery etc) with a greater than 50% chance of occurring.
- 2) Net of any applicable reductions in GHG emissions from emissions abatement projects that have a greater than 50% chance of occurring. These emission reduction project plans should be listed on the "Direct Emissions Total" tab in the year the abatement is expected to begin.

Where applicable, you will be asked to provide GHG emission profiles for each operated facility, terminal, unsanctioned project (which requires NSTA consent) and selected indirect emissions (aviation, drilling and shipping) for the organisation as a whole.

Facilities, terminals and new field developments (FDP prior to NSTA consent) will appear automatically in this section. Please manually add on the Manage Assets page any new incremental projects associated with fields that are already approved (FDPA prior to NSTA consent).

These new development projects should be reported separately by the operator of the project until consent has been granted by the NSTA. Once this occurs, the emissions profile should then be incorporated into the host facility's profile and submitted by the host facility operator.

Direction Emissions:

Emissions generated from the combustion of fuel gas/fluid and/or the combustion of waste gas at the flare stack and/or controlled release of waste gas.

Indirect Energy Supply Emissions:

Emissions generated to produce electricity during the production phase of an electrification project.

Definitions



CO₂ within UK ETS scope (tonnes): Carbon dioxide

Within scope of the UK ETS, i.e. CO₂ emissions resulting from the combustion of liquid fuels, gaseous fuels and flared gas from installations with combustion capacity greater than 20 MW thermal input.

Total CO₂ (tonnes): Carbon dioxide

Within scope of UK ETS (as above) in addition to CO_2 emissions out with scope of the UK ETS e.g. vented CO_2 and CO_2 emissions from installations with combustion capacity less than 20 MW thermal input.

CH4 (tonnes): Methane

Please report methane emissions generated from all applicable sources, for instance from venting, flaring and fugitives. The scope is equal to that reported in the Environmental and Emissions Monitoring System (EEMS).

"Other GHGs": Nitrous oxide (N₂O), hydro-fluorocarbons (HFC), perfluorocarbons (PFC), nitrogen trifluoride (NF₃), and sulphur hexafluoride (SF₆) using the 100 year time horizon global warming potential (GWP) factors reported in the IPCC's AR5 report (inclusive of climate carbon feedbacks): https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5 Chapter08 FINAL.pdf

tCO₂e: tonnes of CO₂e (carbon dioxide equivalent)

Cold Flare: Gas passing through the flare without ignition – effectively venting of gas through the flare system. This refers to a period of time where there is no combustion (or zero combustion efficiency) i.e. it is not the non-combusted component of a flare gas stream where combustion efficiency less than 100% but greater than 0%.

Emission Reduction Plans

Completed: the project has been completed on the offshore asset/onshore terminal, and the actual emission reduction impact is embedded in the assets latest carbon forecast.

Under Execution: the projects execution has commenced and is in progress on the offshore asset/onshore terminal, with the planned (i.e. expected) emission reduction impact embedded in the assets latest emissions forecast pending any actual reduction adjustments.

Planned: the project is included in the asset's business plan (i.e. activity in the 8Q schedule, costs allocated in budget and onshore/offshore resources committed to deliver); site execution not yet commenced, with the planned emission reduction impact embedded in the assets latest emissions forecast.

Manage assets screen - guidance



Facilities, terminals and new developments

Facilities, terminals and new field developments (FDP prior to NSTA consent) will appear automatically in this section. Please manually add on the Manage Assets page any new incremental projects associated with fields that are already approved (FDPA prior to NSTA consent).

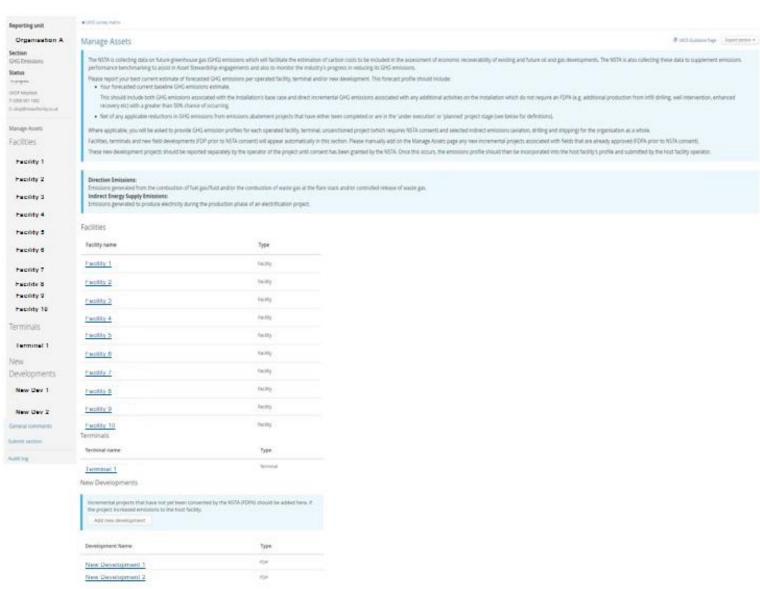
These new development projects should be reported separately by the operator of the project until consent has been granted by the NSTA. Once this occurs, the emissions profile should then be incorporated into the host facility's profile and submitted by the host facility operator.

This page will automatically list all facilities, terminals and new developments operated by your organisation.

New developments are any projects that would need NSTA approval (FDP/FDPAs).

Any incremental projects occurring on fields that are already approved by the NSTA (FDPAs) should be added manually to this page by selecting 'Add new development'.

Note, projects consented during survey live period (1st November 2023 – 23rd February 2024) should still complete a separate profile and be combined with the host facility profile in the next survey.



Facility emissions - guidance



Please report your best current estimate of forecasted GHG emissions per operated facility, terminal and/or new development. This forecast profile should include:

- Your forecasted current baseline GHG emissions estimate.
 - a. This should include both GHG emissions associated with the installation's base case and direct incremental GHG emissions associated with any additional activities on the installation which do not require an FDPA (e.g. additional production from infill drilling, well intervention, enhanced recovery etc) with a greater than 50% chance of occurring.
 - b. Net of any applicable reductions in GHG emissions from emissions abatement projects that have a greater than 50% chance of occurring. These emission reduction project plans should be listed on the "Direct Emissions Total" tab in the year the abatement is expected to begin.

Therefore, please subtract emissions avoided via abatement projects from the baseline profile to give your current estimate for forecasted GHGs.

Please note, any new development projects should be reported separately by the operator of the project until consent has been granted by the NSTA. Once this occurs, the emissions profile should then be incorporated into the host facility's profile and submitted by the host facility operator.

Direct Emission profiles should be split into the 3 categories:

- Fuel combustion (emissions resulting from the *in-situ* combustion of fuel gas, diesel or fuel oil). This will be split into Diesel Combustion and Fuel Gas Combustion.
- Flare (emissions from the combustion of waste gas at the flare stack).
- Vent (emissions from the controlled release of waste gas, includes gas vented via cold flaring (unignited flare)).

The data on the total emissions tab will be automatically summed from the fuel, flare and vent tabs. If any of the profiles submitted are net of emissions reductions from abatement projects (with a greater than 50% change of occurring), please add these projects on the total emissions tab at the year the abatement is expected to be realised, by selecting the project type(s) from the drop-down box and providing further information if necessary.

Indirect Energy Supply Emissions should be provided when you expect the facility will begin to import electricity. Emissions in this category should not include any generated during the construction or commissioning phase of an electrification project, rather, just the emissions generated to produce the electricity during the production phase of the electrification project.

Facility GHGs – direct emissions by

Facilities are automatically populated. If there are any issues, please contact stewardshipsurvey@nstauthority.co.uk

Please report your best current estimate of forecasted GHG emissions per operated facility. This forecast profile should include:

- 1) Your forecasted current baseline GHG emissions estimate.
 - This should include both GHG emissions associated with the installation's base case and direct incremental GHG emissions associated with any additional activities on the installation which do not require an FDPA (e.g. additional production from infill drilling, well intervention, enhanced recovery etc) with a greater than 50% chance of occurring.
- Net of any applicable reductions in GHG emissions from emissions abatement projects that have a greater than 50% chance of occurring. These emission reduction project plans should be listed on the "Direct Emissions – Total" tab in the year the abatement is expected to begin.

Direct Emissions

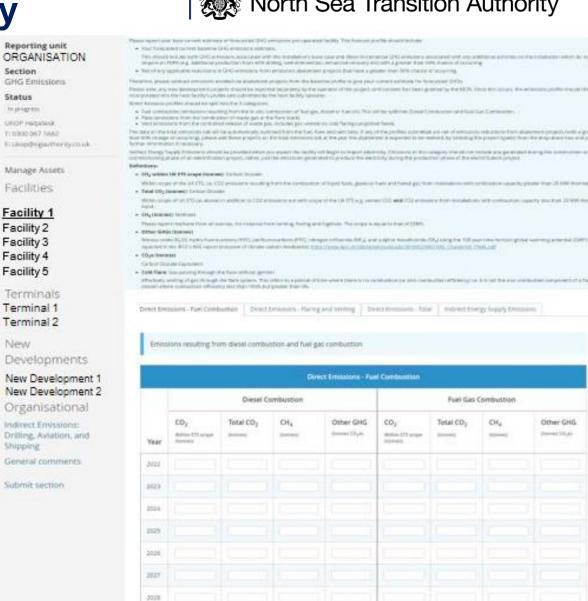
source

- Please fill in as much detail as you can.
- · Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically. These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if Zero, please enter "0".

Fuel Combustion, Flare, Vent

- Fuel combustion (emissions resulting from the *in-situ* combustion of fuel gas, diesel or fuel oil). Please split into Diesel Combustion and Fuel Gas Combustion.
- Flare (emissions from the combustion of waste gas at the flare stack).
- · Vent (emissions from the controlled release of waste gas, includes gas vented via cold flaring (unignited flare)).





2029

Facility GHGs – total direct emissions

Guidance

- · Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero, please enter "0"

The total is auto calculated from data entered into the Direct Emissions pages: Fuel combustion, flare, vent.

An error will occur if partial data has been entered for any given year.

The data on the total emissions tab will be automatically summed from the fuel, flare and vent tabs. If any of the profiles submitted are net of emissions reductions from abatement projects (with a greater than 50% change of occurring), please add these projects on the total emissions tab at the year the abatement is expected to be realised, by selecting the project type(s) from the drop-down box and providing further information if necessary.

Please provide a short suitable description of the plan for "Plan Name", with further details in the comment box. Please see the definitions pages for what constitutes a plan that is "Completed, Under Execution or Planned".

Multiple emissions reduction plans can be added to each year.

It is expected that a decrease in emissions would be connected to an emissions reduction plan.



Facility GHGs – indirect energy supply emissions



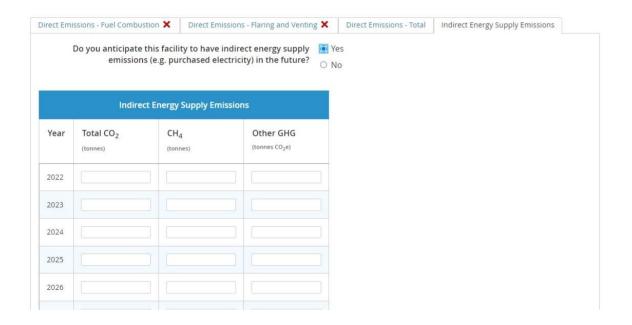
Guidance

- Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero, please enter "0"

Indirect Energy Supply Emissions should be provided when you expect the facility will begin to import electricity. Emissions in this category should not include any generated during the construction or commissioning phase of an electrification project, rather, just the emissions generated to produce the electricity during the production phase of the electrification project.

If it is expected a facility will begin to import electricity during its future, please select 'Yes', this will allow you to populate the GHG emissions forecast.

By selecting 'No', you will not have to populate any forecast for this tab.



Terminal GHGs – direct emissions by source



Terminals are automatically populated. If there are any issues, please contact stewardshipsurvey@nstauthority.co.uk

Please report your best current estimate of forecasted GHG emissions per operated terminal. This forecast profile should include:

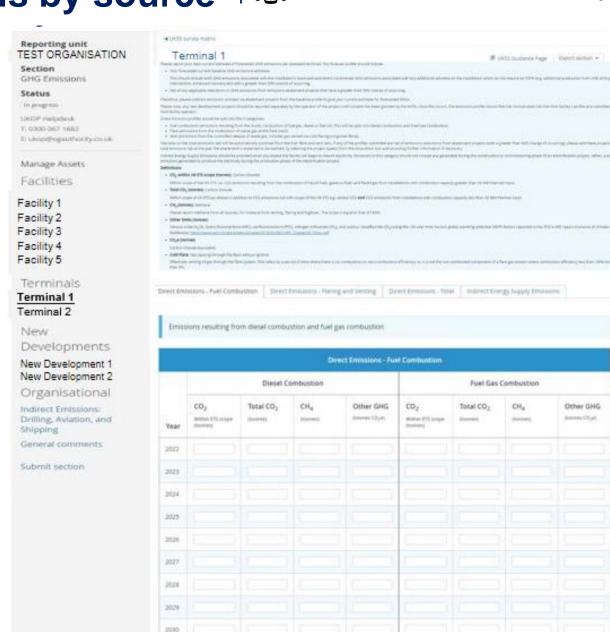
- 1) Your forecasted current baseline GHG emissions estimate.
 - a. This should include both GHG emissions associated with the terminal's base case and direct incremental GHG emissions associated with any additional activities on the terminal – with a greater than 50% chance of occurring.
- 2) Net of any applicable reductions in GHG emissions from emissions abatement projects that have a greater than 50% chance of occurring. These emission reduction project plans should be listed on the "Direct Emissions Total" tab in the year the abatement is expected to begin.

Direct Emissions

- · Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically. These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if Zero, please enter "0"

Fuel Combustion, Flare, Vent

- Fuel combustion (emissions resulting from the *in-situ* combustion of fuel gas, diesel or fuel oil). Please split into Diesel Combustion and Fuel Gas Combustion.
- Flare (emissions from the combustion of waste gas at the flare stack).
- Vent (emissions from the controlled release of waste gas, includes gas vented via cold flaring (unignited flare)).



Terminal GHGs - total direct emissions

Guidance

- Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if Zero please enter "0".
- The Total Emissions page contains values which are calculated automatically. These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if Zero, please enter"0"

The total is auto calculated from data entered into the Direct Emissions pages: Fuel combustion, flare, vent.

An error will occur if partial data has been entered for any given year.

The data on the total emissions tab will be automatically summed from the fuel, flare and vent tabs. If any of the profiles submitted are net of emissions reductions from abatement projects (with a greater than 50% change of occurring), please add these projects on the total emissions tab at the year the abatement is expected to be realised, by selecting the project type(s) from the drop-down box and providing further information if necessary.

Please provide a short suitable description of the plan for "Plan Name", with further details in the comment box. Please see the definitions pages for what constitutes a plan that is "Completed, Under Execution or Planned".

Multiple emissions reduction plans can be added to each year.

It is expected that a decrease in emissions would be connected to an emissions reduction plan.



| Direct Emissions - Total | | | | | | | | | |
|--------------------------|-------------------------------------------|-----------------------|--------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Year | CO ₂ Within ETS scope (tonnes) | Total CO ₂ | CH ₄ (tonnes) | Other GHG (tonnes CO ₂ e) | Emissions Reduction Plans Any emissions reducing projects completed in year? | | | | |
| | | | | | Plan Name | | | | |
| | | | | | Export Compressor Rewheel — Remove | | | | |
| | | | | | Plan Abatement Type | | | | |
| | | | | | Increased Equipment Efficiency V | | | | |
| | | | | | Plan Status | | | | |
| | | | | | Completed V | | | | |
| | | | | | Comment | | | | |
| | | | | | In Jan 24, completed rewheel of export compressor, estimated fuel gas saving xx t/d equating to xx tCO2e/d. | | | | |
| | | | | Plan Name | | | | | |
| 024 | 400.0 | 400.0 | 40.0 | 100.0 | Nitrogen Flare Purge — Remov | | | | |
| | | | | | Plan Abatement Type | | | | |
| | | | | | Reduced Flaring Technology | | | | |
| | | | | | Plan Status | | | | |
| | | | | | Under execution 🗸 | | | | |
| | | | | | Comment | | | | |
| | | | | | Replaced fuel gas with nitrogen gas for flare purge system. Estimated fuel gas saving xx t/d equating to xx tCO2e/d | | | | |
| | | | | | + Add another plan | | | | |
| | | | | | Plan Name | | | | |
| | | | | | Vapour recovery unit installation — Remov | | | | |
| | | | | | Plan Abatement Type | | | | |
| | | | | | Reduced Venting Technology | | | | |
| | | | | | Plan Status | | | | |
| 2025 | 396.0 | 396.0 | 36.0 | 96.0 | Planned | | | | |
| | | | | | Comment | | | | |
| | | | | | Plan to fit during 2025 TAR | | | | |
| | | | | | + Add another plan | | | | |
| | | | | | | | | | |

Terminal GHGs – indirect energy supply emissions



Guidance

- Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero, please enter "0"

Indirect Energy Supply Emissions should be provided when you expect the facility will begin to import electricity. Emissions in this category should not include any generated during the construction or commissioning phase of an electrification project, rather, just the emissions generated to produce the electricity during the production phase of the electrification project.

If it is expected a facility will begin to import electricity during its future, please select 'Yes', this will allow you to populate the GHG emissions forecast.

By selecting 'No', you will not have to populate any forecast for this tab.

| | | facility to have in | stricity) in the future? | Ves No | Indirect Energy Supply Emissions |
|------|-----------------------|--------------------------|-----------------------------------------|---------|----------------------------------|
| | Indirect E | nergy Supply Emi | ssions | | |
| Year | Total CO ₂ | CH ₄ (tonnes) | Other GHG (tonnes CO ₂ e) | | |
| 2022 | | | | | |
| 2023 | | | | | |
| 2024 | | | | | |
| 2025 | | | | | |
| 2026 | | | | | |

New developments

Guidance

Please provide emissions profiles only for any new developments that need consent from the NSTA (FDP/FDPA) and results in a GHG emission increase either outright or to the host installation.

A new field will appear automatically in this section. This normally occurs when a Concept Select Report has been approved by the NSTA.

Any incremental projects involving fields that are already online (FDPA) should be added on the Manage Asset page.

These projects should be reported separately by the operator of the project until consent has been granted by the NSTA. Once this occurs, the emissions profile should then be included in the host facility's profile and submitted by the host facility operator.

Note, projects consented during survey live period (1st November $2023 - 23^{rd}$ February 2024) should still complete a separate profile and be combined with the host facility profile in the next survey.

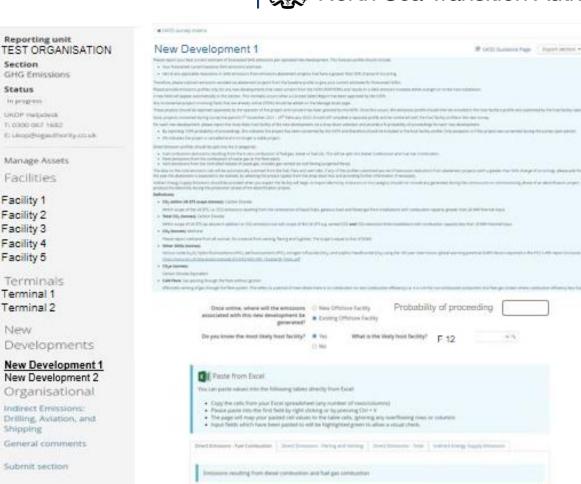
For each new development, please report the most likely host facility of the new development via a drop-down selection and provide a % probability of proceedings for each new development.

By reporting 100% probability of proceedings, this indicates the project has been consented by the NSTA and therefore should be included in the host facility profile. Only exception is if the project was consented during the survey open period.

0% indicates the project is cancelled and is no longer a viable project.



Fuel Gas Combustion



New developments GHGs – direct emissions by source

Some New Developments are automatically populated. If there are any issues, please contact stewardshipsurvey@nstauthority.co.uk

Please report your best current estimate of forecasted GHG emissions per operated new development. This forecast profile should include:

- 1. Your forecasted current baseline emissions.
- 2. Net of any applicable reductions in GHG emissions from emissions abatement projects that have a greater than 50% chance of occurring. These emission reduction project plans should be listed on the "Direct Emissions Total" tab in the year the abatement is expected to begin.

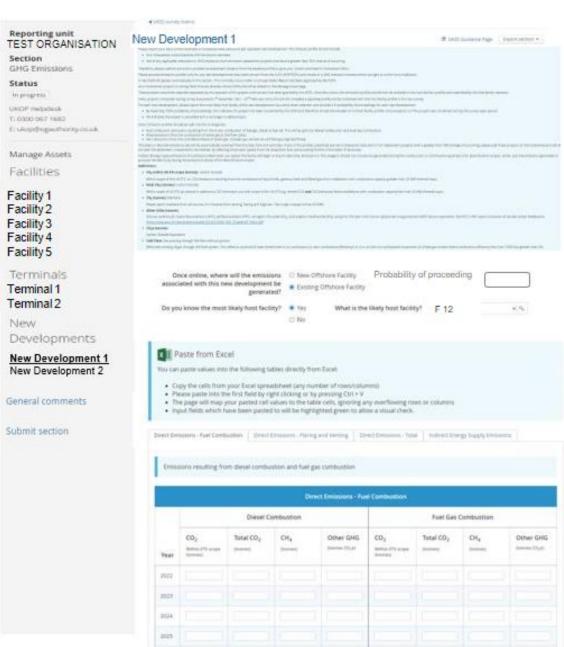
Direct Emissions

- · Please fill in as much detail as you can.
- Once data has been entered it is mandatory within each table to fill in the rest of the data for that year even if zero please enter "0".
- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero please enter "0"

Fuel Combustion, Flare, Vent

- Fuel combustion (emissions resulting from the *in-situ* combustion of fuel gas, diesel or fuel oil). Please split into Diesel Combustion and Fuel Gas Combustion
- Flare (emissions from the combustion of waste gas at the flare stack).
- Vent (emissions from the controlled release of waste gas, includes gas vented via cold flaring (unignited flare)).





New developments GHGs – total direct emissions

North Sea Transition Authority

Guidance

- · Please fill in as much detail as you can.
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- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero, please enter "0".

The total is auto calculated from data entered into the Direct Emissions page: Fuel combustion, flare, vent.

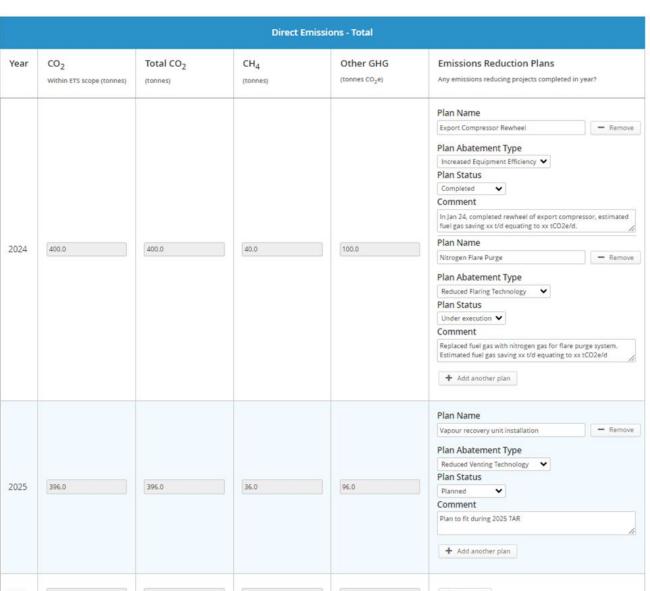
An error will occur if partial data has been entered for any given year.

The data on the total emissions tab will be automatically summed from the fuel, flare and vent tabs. If any of the profiles submitted are net of emissions reductions from abatement projects (with a greater than 50% change of occurring), please add these projects on the total emissions tab at the year the abatement is expected to be realised, by selecting the project type(s) from the drop-down box and providing further information if necessary.

Please provide a short suitable description of the plan for "Plan Name", with further details in the comment box. Please see the definitions pages for what constitutes a plan that is "Completed, Under Execution or Planned".

Multiple emissions reduction plans can be added to each year.

It is expected that a decrease in emissions would be connected to an emissions reduction plan.



New developments GHGs – indirect energy supply emissions



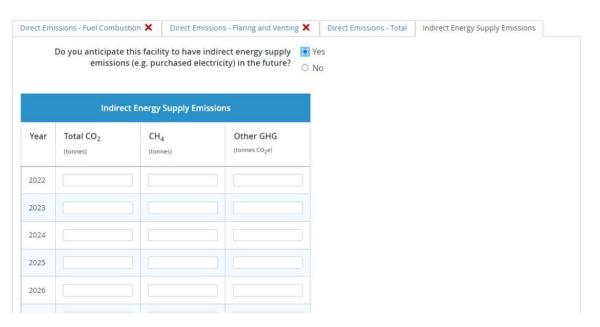
Guidance

- Please fill in as much detail as you can.
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- The Total Emissions page contains values which are calculated automatically.
 These values will appear in the greyed out boxes when all required data has been input.
- It is mandatory to complete GHG emissions profiles for the next 10 years, even if zero, please enter "0"

Indirect Energy Supply Emissions should be provided when you expect the facility will begin to import electricity. Emissions in this category should not include any generated during the construction or commissioning phase of an electrification project, rather, just the emissions generated to produce the electricity during the production phase of the electrification project.

If it is expected a facility will begin to import electricity during its future, please select 'Yes', this will allow you to populate the GHG emissions forecast.

By selecting 'No', you will not have to populate any forecast for this tab.



General Comments

Please use this area to provide us with any information you think is important, or clarifies any data entered in the rest of the section.

Submit Section

Autosave functionality

Data entered into the form is automatically saved. If you need more time to complete the form, you can return to the matrix or log off and any progress will be safe.

Submission

Prior to submitting the form, please ensure any data entered is correct. You will not be able to modify your responses until the NSTA have reviewed the submissionand asked for a correction.

The link 'UKSS Guidance Page' will take you to the NSTA webpage where all the guidance notes can be found.

The section can be exported either via spreadsheet or PDF at any time during the survey live period.

General comments

Please provide any extra details that will help in the understanding of your responses in this section optional

Submit section

E UKSS Guidance riage

E UKSS Quidance Page Export secti

Autosave functionality

Data entered into the form is automatically saved. If you need more time to complete the form, you can return to the matrix or log off and any progress will be safe.

Submission

Prior to submitting the form, please ensure any data entered is correct. You will not be able to modify your responses until the NSTA have reviewed the submission and asked for a correction.

This section contains invalid pages, please correct the errors in these pages before submitting

Checklist



Below are the some of the detailed QC steps that each section will go through. If you think your data will not pass these checks, please add as much information in the general comments section as possible to help us understand why.

- It is expected that the Direct Emissions Total CO2 would be greater than, or equal to the CO2 within scope of ETS.
- Any (non-CoP driven) significant annual reduction in a facility, terminal or new development's emissions should be accompanied with submission of the responsible emission reduction plan on the "Total Direct Emissions" page (see guidance pages 8, 11 and 15).
- The facility emissions profile reported roughly matches the length of the production profile for the fields tying into that facility.
- The reported emissions for 2024 make sense relative to the outturn 2023 data for that facility or terminal.



Thank you