Facility Energy and Carbon Savings Assessment Tool: Completion Guidance for Facility Operators

Contents

[1. Introduction 4](#_Toc190700708)

[2. Facility Details and Base Year Energy Consumption 6](#_Toc190700709)

[3. Energy Demand Savings 7](#_Toc190700710)

[4. Energy Supply Savings 10](#_Toc190700711)

[5. Savings Assessment Overview 13](#_Toc190700712)

[6. Annex A: Frequently Asked Questions 14](#_Toc190700713)

[B. Timings / Process 15](#_Toc190700714)

[C. Base Year 15](#_Toc190700715)

[D. Costs and Commercial Sensitivity 16](#_Toc190700716)

[E. Target Setting 17](#_Toc190700717)

[F. SAT Specific 17](#_Toc190700718)

# Introduction

* 1. This guidance is provided to assist Facility Operators (or their consultant) with completion of the Facility Energy and Carbon Savings Assessment Tool (SAT). The SAT will be provided by your Sector Association (SA) and will be used to:
		1. Provide the Environment Agency (EA) with the data they need to set a baseline for each facility in the new CCA scheme.
		2. Aid the Department of Energy Security & Net Zero (DESNZ) to set robust targets for the whole duration of the upcoming new CCA scheme. Therefore, this is a one-off process which will only be needed once for the new scheme, and the amount of information it asks for is proportionate to this.
	2. To minimise admin burden, we have integrated the baseline data collection with the needs for data for target setting on EE and decarbonisation measures in the SAT. This means:
		1. **All facilities will at least need to complete tabs 1 and 2 of the SAT, which will provide the baseline data needed by the EA.**
		2. **A sample of facilities will also need to complete tabs of the SAT related to target setting (tabs 3, 4a and 4b).** Your Sector Association will indicate if you are required to complete these tabs.
	3. A video walk-through of how to complete the SAT is available at this URL: <https://www.youtube.com/watch?v=Za2RDzyur3s.> Please note: there are some minor changes in the final SAT to the one seen here. E.g.
		1. B32 in tab 1 and B17 in tab 2 are now described as “Grid electricity and electricity from the combustion of renewable fuel”
		2. B34 in tab 1 and B19 in tab 2 are now described as “Non-grid electricity from the combustion of a non-renewable fuel (e.g. CHP)”
		3. D19 in tab 2 is now a green cell requiring manual input
	4. If you have a technical question about completing the SAT, please refer to this guidance document, the above video, worked SAT example and the FAQ at the end of this document. If you need further assistance, drop-in sessions are also being organised by our technical consultants Ricardo to support operators, please contact your Sector Association for more details.
	5. The tool includes tabs to assess the energy savings opportunities arising from both energy demand and energy supply.

|  |  |
| --- | --- |
| Energy Demand | Tab 3: * Process Optimisation (scope for changes to processes)
* Insulation improvements (heat demand reduction)
* Infrastructure improvement (refurbishment/replacement of buildings/plant)
* Energy management (optimisation of energy use)
* New Technology Uptake (Component and/or equipment replacement)
* Heat Recovery
 |
| Energy Supply | Tab 4a: Supply side measures (e.g. switching Non-Renewable Fuel, switching to Renewable Power, or switching to Biomass Heating)Tab 4b: Combined Heat and Power (CHP) |

* 1. The tool provides results in:

|  |  |
| --- | --- |
| Savings Assessment Overview | This shows the cumulative percentage savings over the year, assessed in terms of energy consumption and carbon emissions. |

* 1. A map of the Savings Assessment Tool tabs is shown below:



* 1. The savings are estimated in terms of energy demand savings and energy supply savings. The anticipated year in which improvements are likely to be made can be assigned to give an annual profile of savings.
	2. The tool does not set any limits on the opportunities that should be accounted for, such as only covering measures with a payback of less than 6 years. This is because payback is only one factor affecting whether a saving measure may be implemented - its cost, impact and the need for it are others. It may be that an existing expensive piece of equipment has come to the end of its life and must be replaced, even though it has a long payback. The tool seeks to capture the true extent of savings opportunities to enable discussion and negotiation of what is likely to be implemented.

**Within each tab, data input is only required in the green cells**. There are many calculations included in the tabs, which do not need to be considered by the Operator.

# Facility Details and Base Year Energy Consumption

* 1. The tool requires some details about the Facility to be inputted to the **Facility Details tab**. The data input is self-explanatory and includes information on any non-standard fuels used.
	2. **In this tab, the following information is required:**
		1. **Facility Identity**: The Facility Reference Number (Facility ID from current CCA scheme), which should be issued by your Sector Association, and/or the facility’s name and address [to note, if you are a sole trader, please repeat your facility name in the facility address box].
		2. **Facility Assessment Considerations**: Yes/No questions regarding ETS participation.
		3. **Facility Base Year**: This should be 2022. Facilities that were in production prior to 2022 need to enter 1st January 2022 – this is set as the default. Facilities that may have joined the scheme part way through 2022 should enter 12 months data from the point the facilities entered the scheme. If there are circumstances in which a facility had partial closures in 2022, please can this be made known to your Sector Association and copy in DESNZ (cca@energysecurity.gov.uk) at the earliest convenience. DESNZ will then take this away for review with Ricardo and the EA on a case-by-case basis.
		4. **Facility Energy Types Consumed**: Please add any fuels used in the facility that are not included in the provided list into cells C47:C57. If the facility consumes kerosene, petrol, refinery gas, or any additional fuel, please enter the Gross Calorific Value Conversion Factor.
	3. The tool assesses the savings potential against 2022 Base Year energy consumption data. **Note the delivered electricity data must be provided, not primary as is required in CCA reporting.** This is because the conversion factor currently used to convert delivered electricity into primary fuel consumption is built into all calculations and may be varied at one point in the whole workbook (in the Facility Details tab).
	4. In the **Base Year Energy Consumption tab**, in addition to the energy breakdown, data must be provided on:
		1. The carbon factor associated with the non-renewable fuel used to generate the electricity included in row 19, which should be entered in D19.
		2. The carbon factors for any non-standard fuels used; they should be included in D32:D42.
		3. The total **delivered** energy consumption including UK ETS and estimated fixed and variable energy consumption by product excluding ETS for each fuel. Fixed energy consumption is the amount of energy consumed that is not a function of the facility's production activity. In contrast, variable energy consumption depends on production activity. For more information on how to estimate those values, please refer to Annex A of the [Government Response to Climate Change Agreements: Consultation on a New Scheme](https://www.gov.uk/government/consultations/climate-change-agreements-consultation-on-a-new-scheme).
		4. The production amount and its associated unit for each relevant product.
		5. Production data should split into groups of products that cover all eligible energy in the scheme. You should consider how to group the products, particularly taking into account scope for changes to product mix and energy intensity.
		6. An operator is allowed to allocate all their energy consumption to the non-physical product, i.e., the fixed energy component. Only in this case, product units information and throughput will need to be included in column H.
		7. Any direct fuel used for steam or hot water.
	5. The savings covered in tabs 3, 4a and 4b are estimated in terms of energy demand savings and energy supply savings. The anticipated year in which improvements are likely to be made can be assigned to give an annual profile of savings.
	6. The tool does not set any limits on the opportunities that should be accounted for, such as only covering measures with a payback of less than 6 years. This is because payback is only one factor affecting whether a saving measure may be implemented - its cost, impact and the need for it are others. It may be that an existing expensive piece of equipment has come to the end of its life and must be replaced, even though it has a long payback. A key aim of the new scheme is to drive additional energy and carbon savings in exchange for substantive CCL relief from 2027-2033. In entering demand-side and supply-side measures that facilities would undertake as a result of participating in the new CCA scheme, please be ambitious with what you propose between now and December 2030.
	7. Within each tab, data input is only required in the green cells. There are many calculations included in the tabs, which do not need to be considered by the Operator and so have been hidden in the version of the tool suffixed with ‘Facility version’.

## Energy Demand Savings

* 1. There is 1 tab covering energy demand:

|  |  |  |
| --- | --- | --- |
| Energy Demand | 3 | * Energy management (optimisation of energy use)
* Process Optimisation (scope for changes to processes)
* Insulation improvements (heat demand reduction)
* Infrastructure improvement (refurbishment/replacement of buildings/plant)
* Heat Recovery
* New Technology Uptake (Component and/or equipment replacement)
 |

* 1. Rows needed to be entered in this tab for:
		1. All demand side measures already implemented that impact the 2022 baseline; and
		2. All demand side measures the facility intends to undertake as a result of the next phase of the CCA scheme out to 2030.
	2. Measures included in this tab must be listed in chronological order, from the first implemented to the last implemented or to be implemented. Operators should submit one row per measure per fuel type that is impacted. In the event that a measure impacts multiple fuel types, operators should submit multiple lines.
	3. Energy Management measures may be around operation of the Facility, for instance:
		1. Changes in shift patterns to ensure optimisation of production when equipment is running.
		2. Reduced start-up and shut-down times for equipment and reduced standby consumption.
		3. Improved control of building heating
	4. Process Optimisation is intended to cover changes in processes carried out, for instance:
		1. The move onsite of a process that was carried out elsewhere.
		2. The move off- site of a process currently undertaken.
		3. Change to a process to meet a new regulatory requirement or standard.
		4. The reduction of a process step in terms of time / quality of product (e.g. thinner plating or less coats of paint on products).
		5. Lightweighting of packaging.
		6. An alternative technical solution such as moving from conventional to blast freezing
	5. Insulation Improvement is intended to cover savings relating to heat demand, perhaps regarding plant or equipment, for instance:
		1. Additional insulation on an oven.
		2. Additional insulation on a pipework system.
	6. Infrastructure Improvements is intended to cover savings arising from the replacement or refurbishment of buildings and/or major plant, for instance:
		1. Installation of a new chicken shed.
		2. Replacement of a BREEAM Unclassified building with a new BREEAM Pass building – saving estimated by architect.
		3. Replacement of a major plant (built on site) such as a new Oxidizer Plant
	7. Heat Recovery is intended to cover savings achieved by recovering and reusing heat not involving the use of a heat pump. Opportunities involving the use of a heat pump to displace an incumbent fuel, such as a gas boiler used for the generation of space heating, should be included in the supply side savings measures.
	8. New Technology Uptake is intended to cover the inventory of equipment, appliances, and replaceable component parts within the Facility. Covered by this tab would be for instance:
		1. Replacement of existing motors with the latest IE4 motors.
		2. Uptake of VSDs.
		3. Replacement of an existing boiler.
	9. It may be that some of the replacements/upgrades are to products on the Energy Technology List.
	10. The below table details the data inputs required within this tab.

|  |  |
| --- | --- |
| Workbook Tab | Data Input |
| Demand Side Measures | **Type of demand-side measure:** Classification of measures selected from a dropdown list.**Demand-side measure:** Short description of the measure.Energy Type: selected from a dropdown list which will include electricity and fuel for heat (including all fuels). If, for example, nitrogen is used for cooling purposes, it should also be included within fuel for heat.Proportion of consumption impacted: The proportion of the site fuel that goes to the process the demand side measure addresses. Anticipated Energy Savings: The percentage savings that are expected, based on current energy consumption and predicted energy consumption for the applicable proportions (defined above). This may be determined using manufacturers’ data. Energy savings should reflect the anticipated savings from the measure in isolation.Basis for estimates provided: Explanation for savings % given. For example, this could have been sourced from an ESOS audit, an ISO 500001 report, internal investment planning, etc.**Is Measure Already Implemented?:** Indicates whether the measure has already been implemented when completing the SAT.Anticipated Implementation Year with CCA: Year in which measure is likely to be implemented as a result of participating in the new CCA scheme. If measure is composed of several smaller changes, or gradual progress changes, then an average year might be appropriate. **Anticipated Implementation Year without CCA:** Estimated year in which measure is likely to be implemented IF FACILITY WAS NOT IN NEW CCA SCHEME, i.e. if the facility had to pay full rates of CCL.**Payback time:** Expected payback period. Please provide your best estimate. |

* 1. As an example, consider a Facility which used 57,693 units of delivered electricity (100,001 units of primary electricity) in its base year. It implements an energy management improvement (improved zone control of building aircon), but it does not have submetering at the level necessary to know exactly what proportion of its electricity consumption was impacted by this improvement. However, it estimates that 15% of the electricity consumption will be impacted by the improvement. The anticipated savings from the action are 2% of the electricity currently consumed. The anticipated electricity savings are then:
	2. Energy savings = 100,001 x 15% x 2% = 300 units

## Energy Supply Savings

* 1. There are 2 tabs covering potential changes on the energy supply side:

|  |  |
| --- | --- |
| Energy Supply | * 4a: Supply side measures (e.g. switching Non-Renewable Fuel, switching to Renewable Power, or switching to Biomass Heating)
* 4b: Combined Heat and Power (CHP)
 |

* 1. Rows needed to be entered in these tabs for:
		1. All supply side measures already implemented that impact the 2022 baseline; and
		2. All supply side measures the facility intends to undertake as a result of the CCA.
	2. Measures included in this tab must be listed in chronological order, from the first implemented to the last implemented or to be implemented. Operators should submit one row per measure per fuel type that is impacted. If a measure impacts multiple fuel types, operators should submit multiple lines.
	3. The **Supply Side Opportunities** tab is intended to cover:
		1. Fuel consumption impacted by switching non-renewable fuels, for instance:
			1. Switching from a gas oven to an electric oven (which may be largely product related consumption).
			2. Switching from fuel oil heating to gas heating for a building (which may be largely fixed energy consumption).
			3. Switching from gas heating to the use of an electrically driven heat pump for the provision of hot water.
		2. Fuel consumption impacted by switching to renewable fuels for heat, for instance:
			1. Switching to use of wood chippings for kiln drying
			2. Switching to use of poultry little for space heating
		3. Fuel consumption impacted by switching to Renewable Power, for instance:
			1. Switching to on-site PV which is directly supplied for consumption by the facility
			2. Switching to wind or hydro-power, which is directly supplied to the facility for consumption.
		4. The **Switching to CHP** (non-renewable CHP only) tab is intended to cover:
			1. Savings made by switching to CHP or increasing the use of CHP. The CHP accounting rules will need to be used to determine the amount of primary fuel used by the CHP to generate the heat and the power which is consumed by the facility, and which displaces heat and power sourced from, for example, the grid or heat only boilers. Accounting for the displacement of electricity and fuel for heat using CHP is achieved in a single row in this worksheet.
		5. Fossil CHP options should only be considered energy efficiency options if the site is not currently covered by the ETS and if deploying CHP does not cause the site to become covered by the ETS (i.e., the 20 MWth threshold is not breached).
		6. Note there are more columns to fill in for CHP measures due to their complexity. If completing measures in this tab pls complete all green columns for each row.
		7. Installation of renewable CHP needs to be accounted for differently from fossil fuelled CHP. This is because electricity generated via the combustion of a renewable fuel must be accounted for in the same way as grid electricity. This means that this generated electricity carries a 2.1 primary to delivered factor. The primary energy assigned to the electricity and heat outputs from CHP should equal the total fuel input to the CHP. If you plan to implement a CHP project using a renewable fuel, please contact us (cca@energysecurity.gov.uk).
		8. Similarly, CHP measures in the SAT assume that CHP operates in heat led mode and that all heat generated will be consumed in the eligible facility. If you plan to export heat, then please contact us to discuss how this should be accommodated in the SAT.
		9. The below table details the data inputs required within each of these tabs:

|  |  |
| --- | --- |
| Workbook Tab | Data Input |
| Supply Side Measures | **Type of supply-side measure:** Classification of measures selected from a dropdown list.**Description of supply-side measure:** Short description of the measure.Fuel Type Currently Used: Selected from a dropdown list which will include other fuels if any are used.Quantity of Delivered Energy Currently Used: Energy consumption that is going to be replaced by using an alternative fuel and equipment/appliance. Existing Equipment/Appliance Efficiency (%): Efficiency of equipment/appliance currently providing heat or generating electricity. If this information is not available, kindly provide the best estimate.Replacement Fuel Type: Selected from a dropdown list which will include other fuels if any are used.Replacement Equipment/Appliance Efficiency (%): Efficiency of equipment/appliance to be providing heat or generating electricity.**Is Measure Already Implemented?:** Indicates whether the measure has already been implemented when completing the SAT.Anticipated Implementation Year with CCA: Year in which measure is likely to be implemented. If measure is composed of several smaller changes, or gradual progress changes, then an average year might be appropriate. **Anticipated Implementation Year without CCA:** Estimated year in which measure is likely to be implemented IF FACILITY WAS NOT IN NEW CCA SCHEME, i.e. if the facility had to pay full rates of CCL.**Payback time:** Expected payback period. |

* 1. Note: Where the fuel currently use is a form of electricity the efficiency of the ‘Existing Equipment’ should be assumed to be 100%. Likewise, if the replacement fuel is a form of electricity, then ‘Replacement Equipment’ efficiency should also be assumed to be 100%.

|  |  |
| --- | --- |
| Workbook Tab | Data Input |
| Switching to CHP | **Description of CHP measure:** Short description of the measure.Existing Fuel Type Consumed to Generated Heat Displaced by CHP: Selected from a dropdown list which will include other fuels if any are used.**Site heat demand:** Amount of heat currently needed at the site.**% of Site Heat Demand to be met by CHP:** The proportion of the site's current heat demand planned to be met by CHP.**Efficiency of Existing Heat Generation Plant:** The efficiency of the current equipment/appliance turning the fuel into heat that is consumed within the Facility. It may be obtained from manufacturers data. **Existing Type of Power Displaced by CHP:** The type of power currently in use at the site that will be displaced using CHP. **% Heat Generated by CHP Consumed on Site:** The proportion of heat generated by the CHP which will be consumed within the facility. If you anticipate exporting heat for consumption outside of the facility, please contact us ([cca@energysecurity.gov.uk](cca%40energysecurity.gov.uk)). **Power Efficiency of CHP:** The expected power efficiency of the CHP unit. This can be found in the manufacturer's information.**Heat to Power Ratio of CHP:** The expected heat to power ratio of the CHP unit. This can be found in the manufacturer's information.**% Power Generated by CHP Consumed on Site:** The proportion of power generated by the CHP which will be consumed on site.**Type of Fuel to be Consumed by CHP:** Selected from a dropdown list which will include other fuels if any are used.**Is Measure Already Implemented?:** Indicates whether the measure has already been implemented when completing the SAT.Anticipated Implementation Year with CCA: Year in which measure is likely to be implemented. If measure is composed of several smaller changes, or gradual progress changes, then an average year might be appropriate. **Anticipated Implementation Year without CCA:** Estimated year in which measure is likely to be implemented IF FACILITY WAS NOT IN NEW CCA SCHEME i.e. if the facility had to pay full rates of CCL.**Payback time:** Expected payback period. |

# Savings Assessment Overview

* 1. The Saving Assessment Overview tab provides the year-on-year profiled savings that have been identified in terms of:
		1. Percentage energy consumption savings relative to the Base Year with and without CCAs.
		2. Percentage carbon emissions savings relative to the Base Year with and without CCAs.

## Annex A: Frequently Asked Questions

A. Guidance, Complexity & Support

1. **Can you just use our ESOS returns instead?**

Participants may wish to include findings and recommendations from recent ESOS audits into their SAT return where appropriate. However, there are a number of reasons why we are unable to solely use ESOS returns to calculate initial targets: (i) not all CCA scheme participants are subject to ESOS requirements, (ii) the timings of ESOS do not align with the time periods of the new phase of the CCA scheme, (iii) we require a more granular view: CCA targets are only based on eligible industrial process energy only whereas ESOS audits will cover all energy in transport, buildings and industrial processes, (iv) facilities may also want to consider implementation of carbon savings measures if their energy efficiency options are limited.

1. **This is a significant amount of effort. Once targets are agreed we would like reassurance we will not need to re-negotiate targets again for the remainder of the scheme?**

Yes, this target setting process is intended to be a one-off exercise that sets targets for the duration of the scheme. As set out in the Climate Change Agreements: Technical Annex, there may be some unique instances where it is appropriate to adjust a target, but this will be on a case-by-case basis.

1. **Are there additional training resources or support available for facilities unfamiliar with the SAT?**

In addition to this guidance document, we have provided a worked example of a completed SAT and a YouTube video to support completion. The YouTube video is available at this URL: <https://www.youtube.com/watch?v=Za2RDzyur3s>

Drop-in sessions are also being organised to support operators, please contact your Sector Association (SA) for more detail.

1. **How long do you think it will take a facility to complete the SATs?**

This will be different on a case-by-case basis. We appreciate that this is a comprehensive ask. We have tried to strike a balance between the need to gather good quality data to inform targets, administrative burden to operators and the value of tax relief offered over the lifetime of the scheme.

To note, this will also be a one-off process for the full 6-year scheme in comparison to the recent extensions occurring every 2-years.

### B. Timings / Process

1. **When is the deadline for this data collection exercise?**

The deadline for Sector Associations to submit completed SATs is Thursday 17th April at 5pm. Operators will likely need to submit details before then to their Sector Associations.

1. **How does this compare to the CCA TP6 reporting requirements?**

Target Period 6 (TP6) refers to the most recent extension to the second phase of the CCA scheme (2024) whereas this baseline and target setting data collection exercise is in the context of the third phase of the CCA scheme (2026-2030). The additional reporting requirements for TP6 were outlined in the Government Response (GR) to the March 2023 Consultation[[1]](#footnote-2). All operators must comply with TP6 requirements.

1. **What's the process/timeframe for setting targets for new processes that might be eligible to be covered by a CCA after DESNZ has confirmed eligibility changes?**

As set out in the recent GR, subject to parliamentary approval and timings, the legislative requirements and subsequent process to assess new applications are likely to mean that any new sectors or process found to be eligible will not be able to join until 1 January 2027. As such, we expect that new sectors will go through the same target setting processes on a slower timeframe – we are already in discussion with the relevant Sector Associations that represent the application process for new sectors and processes. The target setting process for successful applicants is likely to begin in 2026, after the current target setting process for existing sectors has been completed. This will be confirmed in due course.

### C. Base Year

1. **Is 2022 base year data a calendar year, January to December?**

All facilities in production before January 2022 should enter data for the full calendar year. Facilities that may have joined the scheme part way through 2022 should enter 12 months data from the point the facilities entered the scheme. If there are circumstances in which a facility had partial closures in 2022, please can this be made known to your SA and DESNZ at the earliest convenience ([cca@energysecurity.gov.uk](cca%40energysecurity.gov.uk)). DESNZ will then take this away for review with Ricardo and the Environment Agency (EA) on a case-by-case basis.

1. **The base year covers the start of the conflict in Ukraine - will the impact of energy pricing and therefore fuel switching be taken into account?**

DESNZ welcomes additional material from the SA such as market conditions impacting the base year (and the entire period of the new phase of the scheme) to be shared alongside the completed SAT submissions.

1. **Will operators be required to recalculate the base year energy use using updated energy conversion factors to convert from e.g. litres into kWh?**

Yes. Conversion factors have been added to in sheet “1.Facility Details”. Any missing factors will be added before the final commission.

### D. Costs and Commercial Sensitivity

1. **What guarantees can DESNZ provide that commercially sensitive data, particularly relating to costs and investment plans, are not put in the public domain?**

Previous iterations of the SAT included requesting data on Capital Expenditure (Capex). DESNZ has taken on board feedback from the January workshops and will no longer be requesting that information. Instead, DESNZ will only be requesting estimates on payback periods for relevant demand-side and supply-side measures.

We recognise the sensitivity around the data being submitted for target setting and assessing performance. Subject to compliance with the Freedom of Information Act 2000 (FOIA) and the Environmental Information Regulations 2004 (EIRs), DESNZ will treat commercially sensitive data on a confidential basis subject to disclosure to the EA and our technical consultants. When dealing with any relevant FOIA/EIR request DESNZ will consider and apply any relevant exemptions under FOIA/EIR on a case-by-case basis. Where appropriate, we will consider all options to amalgamate data or redact information to protect commercial confidentiality.

### E. Target Setting

1. **How should facilities account for external factors (e.g., market conditions, regulatory changes) that might impact energy use during the target-setting period?**

DESNZ welcomes additional material from the SA such as market conditions which would impacting the base year and/or the period in which performance is assessed. This information can be provided by SAs in the sample proposition template alongside the completed SAT submissions.

1. **Do you intend to publish sector (TU) targets?**

Sector commitments are set out within the umbrella agreements between the EA and the SA. These agreements are published on .GOV.

1. **Will sectors still have the flexibility to distribute sector target evenly, or will each facility have to have an individual target?**

Sector associations will continue to have the ability to distribute targets within a sector, this could include distributing this evenly across all facilities or adjusting the target in a non-uniform manner.

### F. SAT Specific

1. **Should pre-2022 measures be included when filling out the SAT?**

Only measures applied after 2022 will be considered as the baseline already includes energy consumed that year. The SAT allows reporting of projects in 2023-24 and 2025 –2030 projects. Please can respondents include measures implemented prior to TP7 (2026) within their SAT return too.

1. **What if throughput will increase - it is then possible, albeit unlikely, that energy reductions will be more than 100%?**

Targets will be relative and will take into account production level changes and production mix changes. Supply-side measures can increase the energy consumption of specific fuels. The latest version of the SAT includes information on production and products mix associated with the baseline which will allow the EA to account for major changes that might allow for increases in energy consumption.

1. **How should we record projects on the SAT sheet if we are unable to quantify their impact (is it possible to have unable to quantify or unknow / not available?)**

If the precise impacts of the measures are unknown use your best estimation of the associated savings.

1. **UK ETS data: how UKETS data will be accounted for in this process and reporting in the new scheme and double counting avoided?**

Information about energy covered by the UK ETS is requested in '2. Base Year Energy Consumption'; however, savings from measures included in 3, 4a, and 4b should only affect non-UK ETS energy.

1. **Does the form allow for additional energy consumption resulting from fuel switching / supply side measures?**

Yes. The SAT allows operators to submit supply side measures (including CHP) in addition to demand side measures.

1. **Should new fuels and energy sources such as hydrogen be added other fuels in the SAT?**

Yes, others are not included in the existing list as outlined in tab “1. Facility Details”, so would need to be added separately by operators.

1. **For the base year energy, will operators be required to apply different fuel conversion factors to recalculate energy use associated with fuels such as gas oil?**

Companies would not need to recalculate energy use by applying updated energy conversion factors themselves. Tab “1. Facility Details” have conversion factors provided for.

1. **How should operators fill in the SAT if the same measure (e.g. multiple new VSDs) impacts different fuels?**

Operators should submit one row per measure per fuel type that is impacted. In the event that a measure impacts multiple fuel types, operators should submit multiple lines.

1. **What are the updated Primary Electricity Factor and Carbon Emissions Factors for the new scheme?**

DESNZ can confirm **the new grid PEF will be 2.1** from 1 January 2026 (TP7) until December 2030 (TP9). This figure uses the primary energy inputs to generate electricity in the UK, after accounting for the losses associated with transmission and distribution (based on DUKES Table 5.3[[2]](#footnote-3) and Table 5.1[[3]](#footnote-4) respectively), divided by the electricity generated in the UK (again DUKES Table 5.1).

The GR also set out that the PEF for electricity which is consumed on site and generated on site using PV, wind and hydro would be updated to 1.0. Where electricity is generated by a 3rd party using PV, wind and hydro and is supplied to the CCA facility for consumption using a private wire (i.e. not via the local distribution network), then the PEF for this electricity is also 1.0.

In the case of electricity generated via the combustion of a fuel (renewable or non-renewable), where this electricity is generated on-site, or is generated offsite and supplied to the CCA facility for consumption via a private wire, then the efficiency of the electricity generating plant is used to calculate the PEF. Where the electricity generator is a CHP, then the CHP algorithm is to be used to calculate the units of primary energy associated with the CHP generated electricity and heat that is consumed by the CCA facility. If CHP is already in use in the base year (2022), the associated PEF value should be included in Facility Details tab, table D.

Moreover, the Carbon Emissions Factors (CEFs) for the upcoming phase of the CCA scheme have been confirmed as follows:

* 1. For the majority of fuel types, this is based on the update to the Greenhouse Gas Reporting Conversion Factors[[4]](#footnote-5), with Coke and Ethane unchanged from fuel conversion factors in CCA10 for the old CCA scheme and scheme extensions[[5]](#footnote-6).
	2. The CEF for grid electricity will factor in the updated PEF (see above) alongside the CO2 intensity of this electricity generated in the UK and subtracting the losses incurred during transmission and distribution [[6]](#footnote-7). Electricity from combustion of a renewable fuel will be also included within this group.
	3. As outlined in the Government Response, non-grid renewable electricity generated on-site (e.g. PV, wind or hydro) will have a PEF of 1.0 and subsequently a CEF of 0 tCO2e/kWh.
	4. For non-grid electricity from combustion of a non-renewable fuel (e.g. Combined Heat and Power (CHP)) the carbon emissions factor for the fuel used to generate the electricity should apply. Please, complete this information in the ‘Base Year Energy Consumption’ tab.

To be consistent with baseline energy year and CEFs data, the updated PEFs are based on 2022 DUKES data.

1. <https://www.gov.uk/government/consultations/climate-change-agreements-consultation-on-extension-and-future-scheme-2023> [↑](#footnote-ref-2)
2. [DUKES Table 5.3](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fmedia%2F66a7da4349b9c0597fdb06c5%2FDUKES_5.3.xlsx&data=05%7C02%7Clucy.pearce%40energysecurity.gov.uk%7C2f1db8a927f54b054aa908dd0af5f02d%7Ccbac700502c143ebb497e6492d1b2dd8%7C0%7C0%7C638678773595848307%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=mf3SSrMb6OdljfWLZDYbi86jP2CM2IGXlJf2xK1BPeI%3D&reserved=0) [↑](#footnote-ref-3)
3. [DUKES Table 5.1](https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fmedia%2F66a7da29ce1fd0da7b592f0b%2FDUKES_5.1.xlsx&data=05%7C02%7Clucy.pearce%40energysecurity.gov.uk%7C2f1db8a927f54b054aa908dd0af5f02d%7Ccbac700502c143ebb497e6492d1b2dd8%7C0%7C0%7C638678773595894095%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=nZBz4ufMTS0Xe0Eh4gVBRXOLBidkEVy%2FGCEqeErXPG8%3D&reserved=0) [↑](#footnote-ref-4)
4. <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024> [↑](#footnote-ref-5)
5. This is due to an assumption that the chemical composition of these fuels is unchanged, i.e. they continue to emit the same CO2 released per unit mass as 2001 rates and have not become less carbon intensive. [↑](#footnote-ref-6)
6. [DUKES Table 2.6](https://assets.publishing.service.gov.uk/media/66a7a1c949b9c0597fdb066c/DUKES_2.6.xlsx) [↑](#footnote-ref-7)