National Waste Collection Permit Office

Guidance for Permit Holders for the completion of the Waste Facility Permit / Certificate of Registration 2021 Annual Return

PART EIGHT

Additional Survey for Authorised Treatment Facility (ATF) for End-of-Life Vehicles

January 2022

Version 2.0

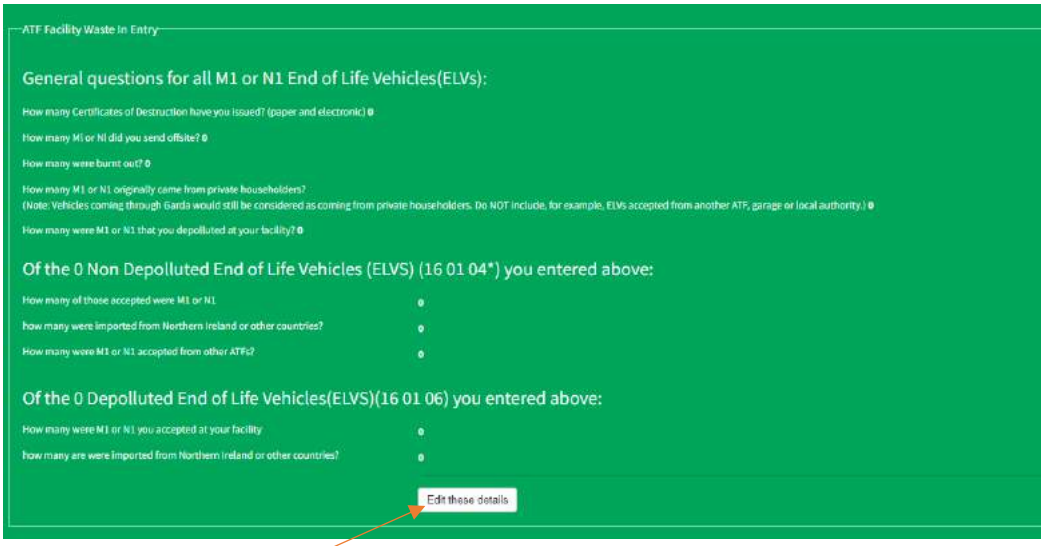
Contents

Waste-In ATF Questions

1. Additional Waste-In Questions for Authorised Treatment Facilities (ATF) for End of Life Vehicles (ELV)

When completing the Waste-In Tab of your Annual Return, additional questions appear in a green box under Step 4 “Review Facility Waste-In Entries for Submission” for ATFs. These must be completed as part of your “Waste–In” return Please see below:

To begin, at the bottom of the green box, select “Edit these details”:



The Edit screen then opens and looks like this:

The following guidance may assist you in answering these questions:

1.1 General Questions for all M1 and N1 End of Life Vehicles (ELVs)

Under the ELV Regulations, End-of-Life Vehicles (ELV's) are classified as M1 (Passenger cars) and N1 (small vans) vehicles.

You may be authorised to accept other vehicles (for example trucks) that would be classified as 16 01 04* but would not technically be a M1 or N1 ELV and are not considered an ELV under the Regulations. M1 is a passenger car, N1 is a small van weighing less than 3.5 tonnes.

This survey asks questions in relation to M1 and N1 vehicles ONLY.

- **How many Certificates of Destruction (CoD) for M1 or N1 vehicles have you issued?**
  Enter the Number of CoDs issued during the reporting period. This figure should include all paper and electronic CoDs issued (for M1 and N1 vehicles only).

- **How many M1 or N1 vehicles did you send offsite?**
  Enter the number of M1 or N1 vehicles that you sent off site during the reporting year.

- **How many M1 or N1 were burnt out?**
  Enter the number of M1 or N1 vehicles received at your facility that were burnt out M1 or N1 vehicles. Burnt out vehicles would normally be included in the 16 01 04* units reported in your Waste In.

- **How many M1 or N1 originally came from private householders? (Note: Vehicles coming through Garda would still be considered as coming from private householders. Do <u>not</u> include for example ELVs accepted from another ATF, garage or Local Authority.)**
  Enter the number of M1 or N1 vehicles that were brought to your facility by the general public or delivered by a person on their behalf.

- **How many were M1 or N1 that you depolluted at your facility?**
  This question asks that, of the total M1/N1 ELVs accepted, how many did **<u>your facility</u>** depollute? This figure should include all non-depolluted M1/N1 received minus any burnt outs that did not need depollution, and any non-depolluted stored onsite at the end of the year i.e. not depolluted during the reporting year.

1.2 Of the Non-Depolluted End of Life Vehicles (ELVS) (16 01 04*) you entered above (Waste-In):

This next set of questions is in relation to the **Non-Depolluted** (ELV's) (16 01 04*) that you entered in your "Waste-In" return.

- **How many of those accepted were M1 or N1**
  Of the (16 01 04* non-depolluted) vehicles accepted at your facility (entered in "Waste-In"), how many were M1 or N1 vehicles.

- **How many were imported from Northern Ireland or other countries?**
  This refers to any non-depolluted <u>(16 01 04*)</u> vehicles imported from <u>Northern Ireland or other countries</u> for the purposes of waste treatment. It does not include non-Irish registered vehicles deposited by their owner at your facility.

- **How many were M1 or N1 accepted from other ATFs?**
  Of the (16 01 04*) vehicles entered in “Waste-In”, enter the number of M1 or N1 vehicles that were accepted from other Authorised Treatment Facilities, regardless of where CODs were issued. This question is asked to ensure ELVs In (16 01 04*) are not double counted at two ATFs.

1.3 Of the Depolluted End of Life Vehicles (ELVS) (16 01 06) you entered above:

The next set of questions is in relation to **Depolluted** ELVs (16 01 06) that you entered in your “Waste-In” return. If none were accepted in, enter “0”.

- **How many were M1/N1 accepted at your facility?**
  Of the (16 01 06 depolluted) vehicles accepted at your facility, enter how many were M1 or N1 vehicles.

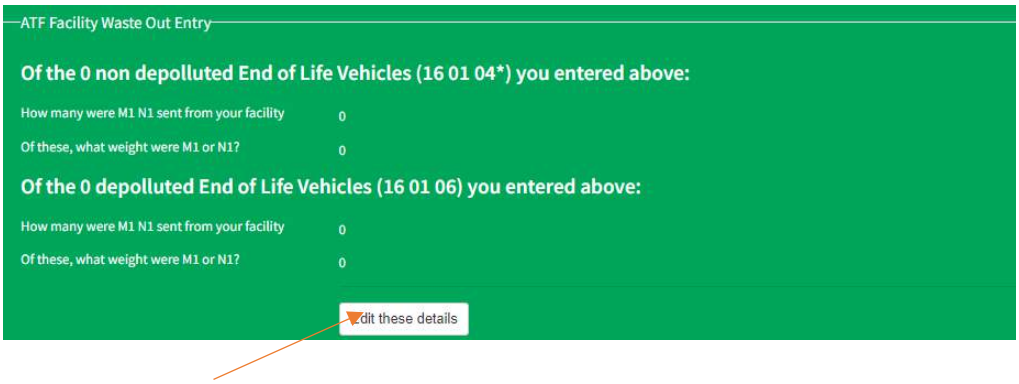
- **How many were imported from Northern Ireland or other countries?**
  Of the (16 01 06 depolluted) vehicles entered in “Waste-In”, enter the number of M1 or N1 vehicles that you imported from Northern Ireland or other countries.

Waste-Out ATF Questions

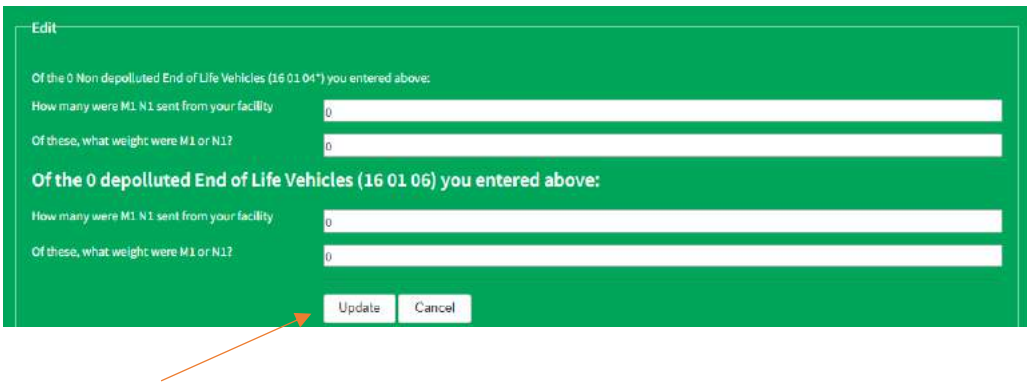
2. Additional "Waste-Out" Questions for Authorised Treatment Facilities (ATF) for End of Life Vehicles (ELV)

When completing the Waste-Out Tab of your Annual Return, additional questions appear in a green box under Step 4 "Review Facility Waste-Out Entries for Submission" for ATFs. These must be completed as part of your "Waste–Out" return Please see below:

To begin, at the bottom of the green box, select "Edit these details":



The Edit screen then opens and looks like this:



2.1 Of the Non-Depolluted End of Life Vehicles (ELVS) (16 01 04*) you entered above:

These questions are in relation to **Non-Depolluted** ELVs (16 01 04*) that you entered in your "Waste-Out" return. If none were sent off site, enter "0".

- **How many were M1/N1 sent from your facility?**
  Of the (16 01 04* non-depolluted) vehicles sent from your facility, enter how many were M1 or N1 vehicles.
- **Of these, what weight were M1 or N1?**
  Of the (16 01 04* non-depolluted) vehicles sent from your facility, enter the weight of the M1 or N1 vehicles.

2.2 Of the Depolluted End of Life Vehicles (ELVS) (16 01 06) you entered above:

The next set of questions is in relation to **Depolluted** ELVs (16 01 06) that you entered in your "Waste-Out" return. If none were sent off site, enter "0".

- **How many were M1/N1 sent from your facility?**
  Of the (16 01 06 depolluted) vehicles sent from your facility, enter how many were M1 or N1 vehicles.
- **Of these, what weight were M1 or N1?**
  Of the (16 01 06 depolluted) vehicles sent from your facility, enter the weight of the M1 or N1 vehicles.

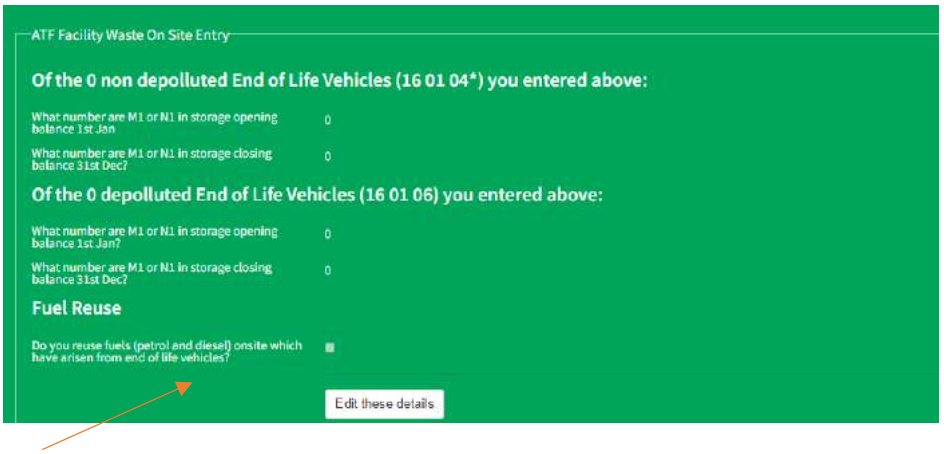
When you have entered the appropriate figures select "Update"

Waste-On Site ATF Questions

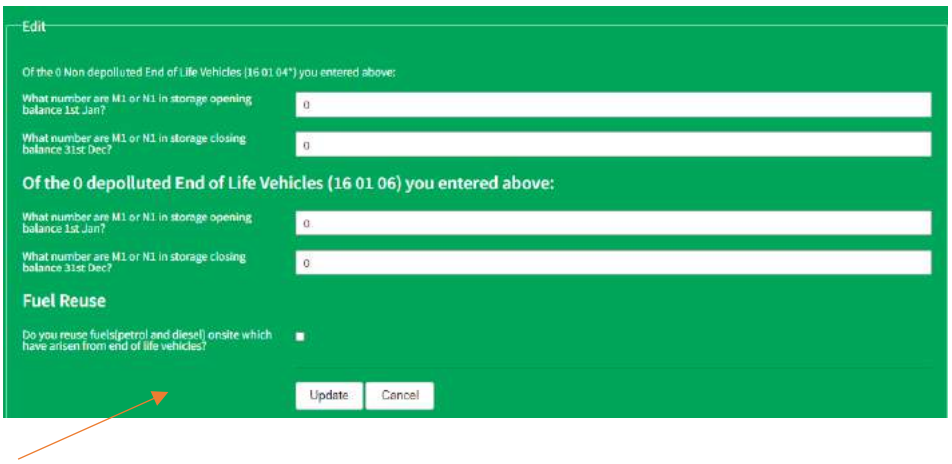
3. Additional "Waste-On Site" Questions for Authorised Treatment Facilities (ATF) for End of Life Vehicles (ELV)

When completing the Waste-On Site Tab of your Annual Return, additional questions appear in a green box under Step 4 "Review Facility Waste-On Site Entries for Submission" for ATFs. These must be completed as part of your "Waste–On Site" return Please see below:

To begin, at the bottom of the green box, select "Edit these details":



The Edit screen then opens and looks like this:



3.1 Of the Non-Depolluted End of Life Vehicles (ELVS) (16 01 04*) you entered above:

These questions are in relation to **Non-Depolluted** ELVs (16 01 04*) that you entered in your "Waste-On Site" return. If none were stored on site at the start or end of year, enter "0".

- **What Number are M1 or N1 in storage opening balance 1st Jan?**
  Of the (16 01 04* non-depolluted) vehicles stored on your facility on the 1st of January, how many were M1 or N1 vehicles.
- **What Number are M1 or N1 in storage opening balance 31st Dec?**
  Of the (16 01 04* non-depolluted) vehicles stored on your facility on the 31st of December, how many were M1 or N1 vehicles.

3.2 Of the Depolluted End of Life Vehicles (ELVS) (16 01 06) you entered above:

The next set of questions is in relation to **Depolluted** ELVs (16 01 06) that you entered in your "Waste-Out" return. If none were stored on site at the start or end of year, enter "0".

- **What Number are M1 or N1 in storage opening balance 1st Jan?**
  Of the (16 01 06 depolluted) vehicles stored on your facility on the 1st of January, how many were M1 or N1 vehicles.

- **What Number are M1 or N1 in storage opening balance 31st Dec?**
  Of the (16 01 06 depolluted) vehicles stored on your facility on the 31st of December, how many were M1 or N1 vehicles.

3.3 Fuel Reuse

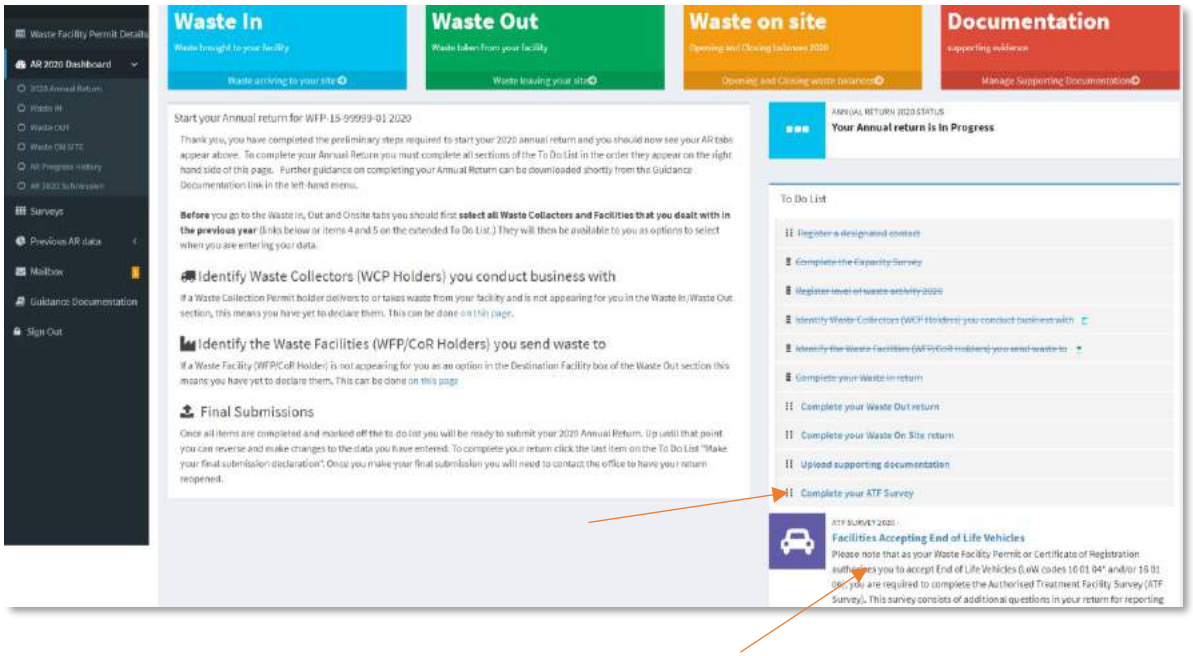
- **Do you reuse fuels (petrol and diesel) onsite which have arisen from end of life vehicles?**
  Select this box if you reuse fuels (petrol and diesel) onsite which have arisen from ELVs.

When you have entered the appropriate figures select "Update"

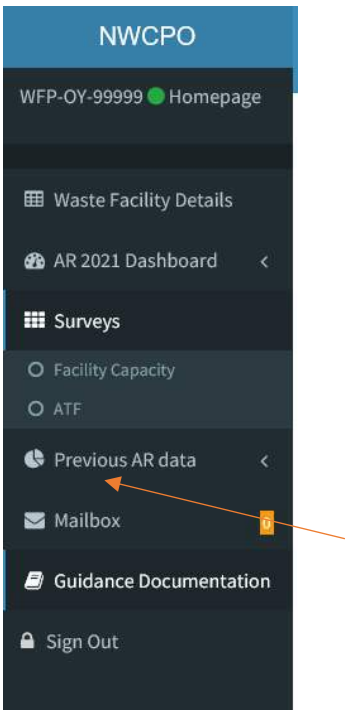
Completing your ATF Survey

As an ATF, you will also need to complete the ATF survey before your AR can be submitted.

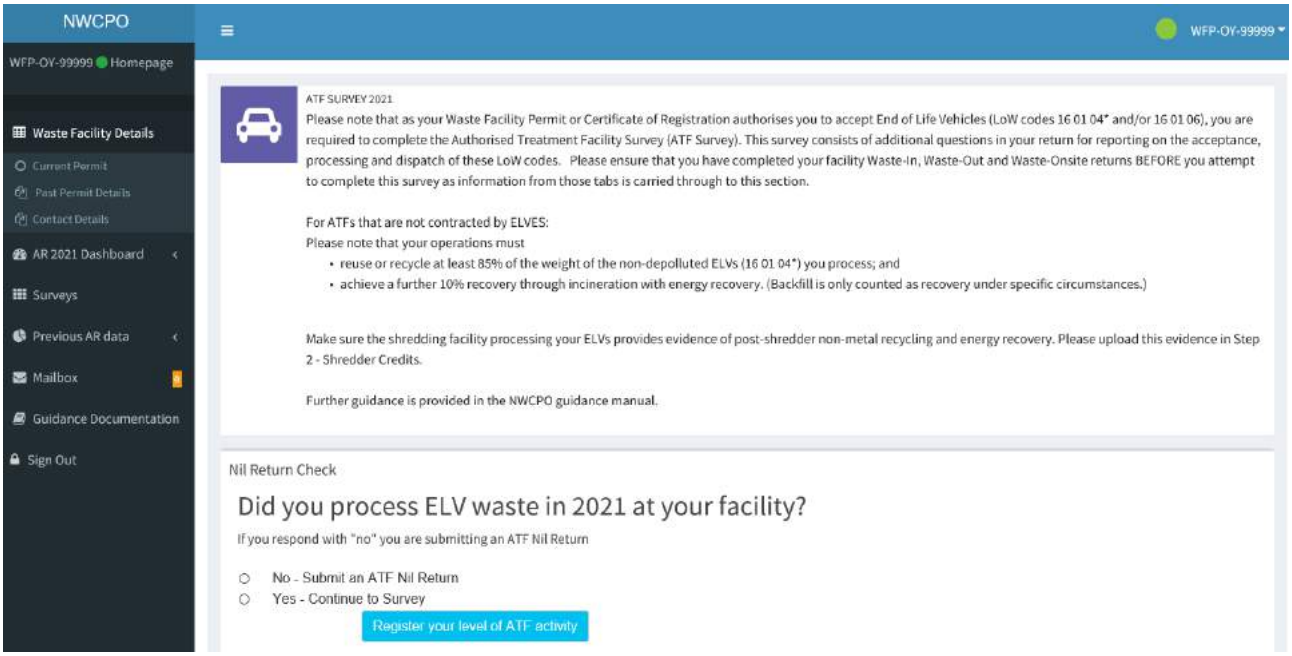
You can access the ATF survey from your “To Do List” on the Homepage by clicking on “Complete your ATF Survey”.



Alternatively, you can access the ATF Survey on the main navigation pane.



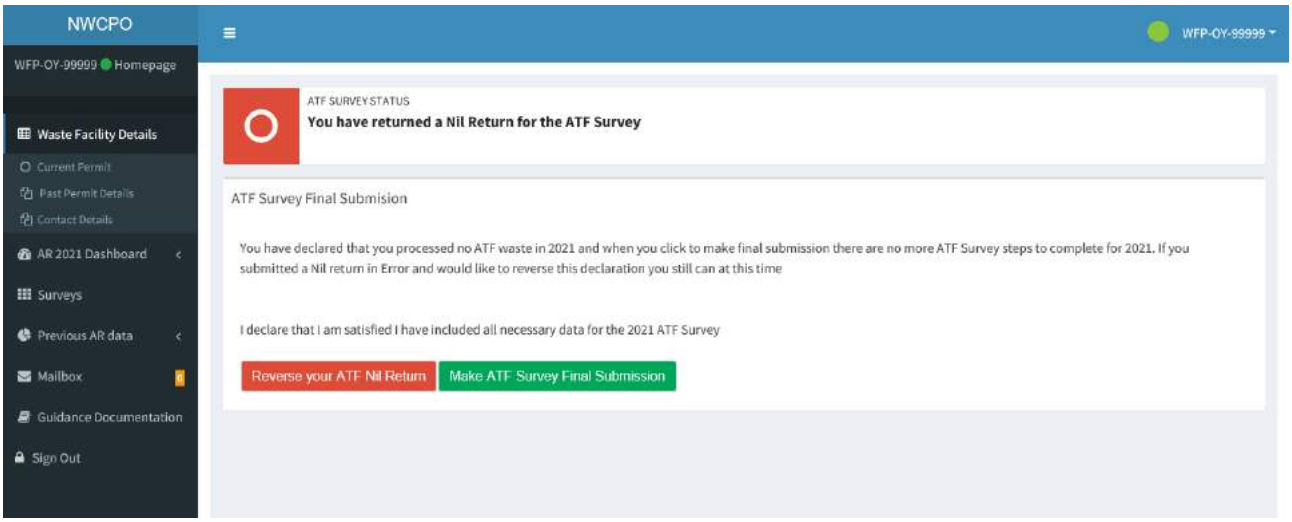
The ATF survey starts with the ATF Survey Overview screen and NIL Return check.



4. ATF NIL Return

While you are authorised to accept ELV's at your facility, you may not have accepted any ELV's during the reporting period. If you did not accept any ELV's at your facility, submit a "NIL Return" by selecting "No – Submit an ATF Nil Return".

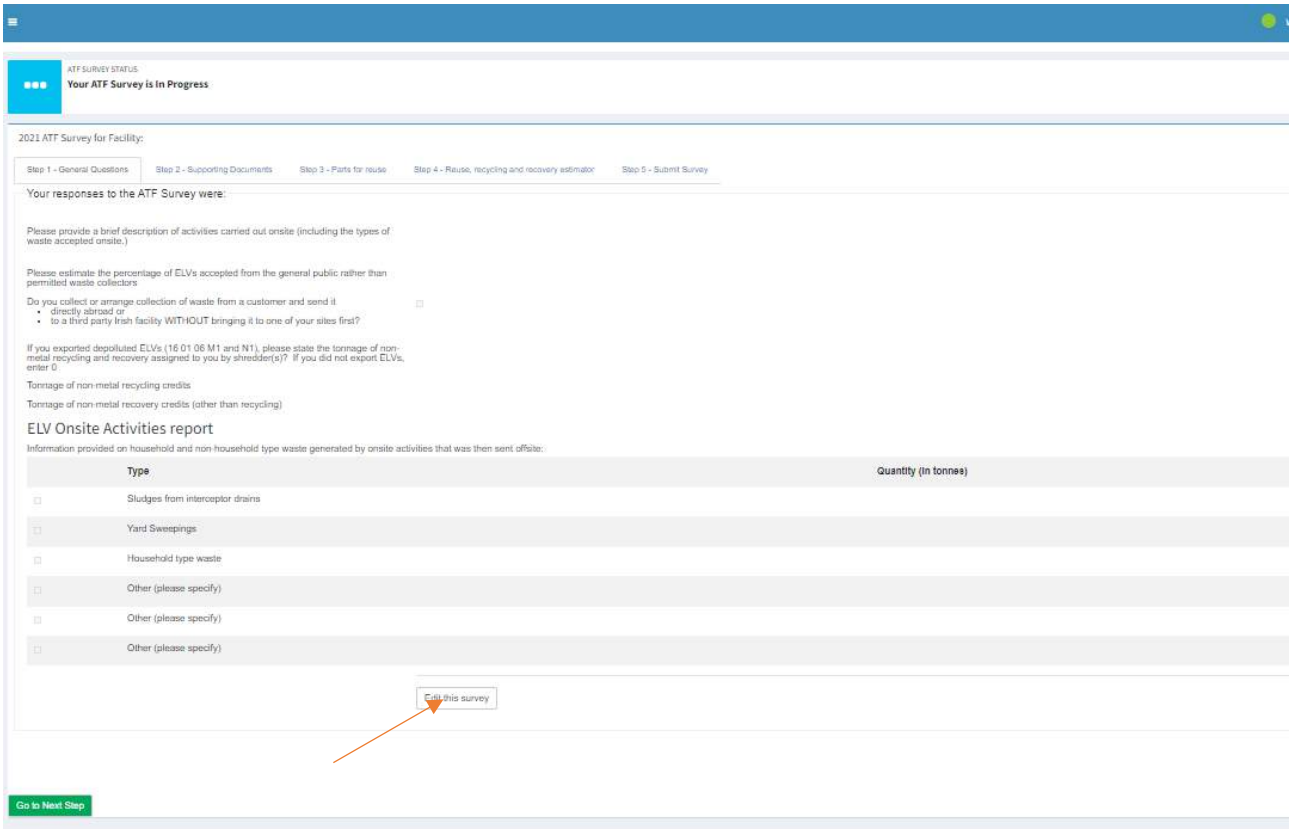
You will then be presented with this ATF Survey, Final Submission screen. If this was an error, you can reverse it by clicking on "Reverse your ATF NIL Return". This will bring you to the "Step 1-General Questions" screen, see below.



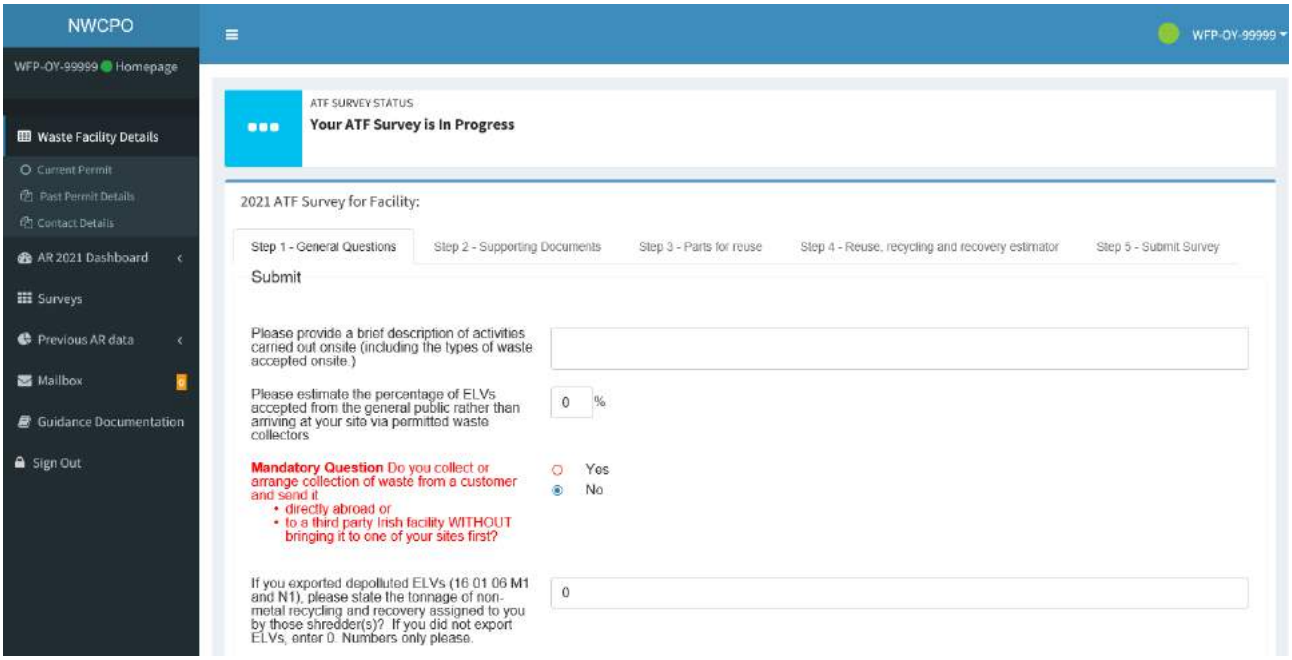
If you are satisfied that an ATF Nil Return is correct select "Make ATF Survey Final Submission". You will be brought back to the Annual Returns Dashboard and can proceed to make your final submission.

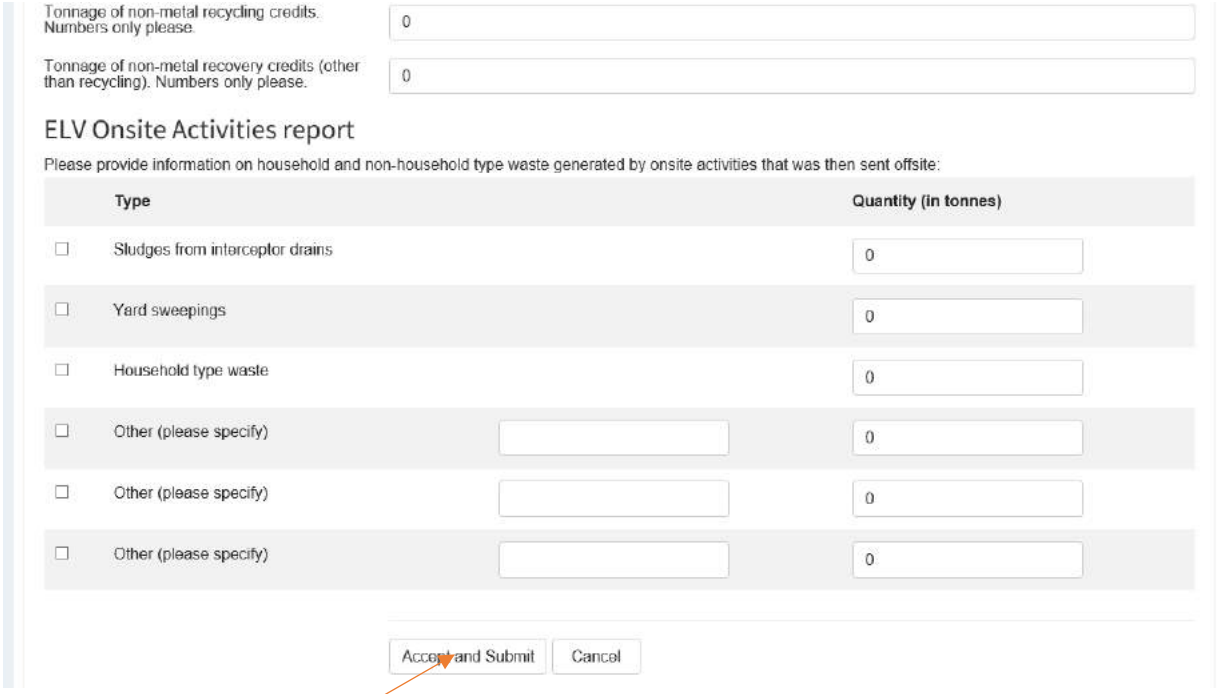
5. Step 1 General Questions

If you selected “Yes continue to survey” on the ATF Survey Overview Screen, you will be brought to this General Questions Screen.



To begin, select “Edit this survey” and the edit screen opens:





Complete all questions (see notes below for guidance), select "Accept and Submit" and then "Go to Next Step"

Guidance Notes:

Q1. Please provide a brief description of activities carried out onsite (including the types of waste accepted onsite).

Sample Answer: Waste facility for the acceptance of scrap metal and ELVs. Vehicles are depolluted and parts sold for reuse. Metal and other waste fractions arising, sent offsite for further processing.

Q2. Please estimate the percentage of ELVs accepted from General Public rather than arriving at your site via permitted waste collectors.

Of the ELVs accepted at your facility, approximately what percentage are delivered directly by the general public?

Q3. Do you collect or arrange collection of waste from a customer and send it:

- **directly abroad or**
- **to a third party Irish facility WITHOUT bringing it to one of your sites first?**

This is a MANDATORY question and a yes or no answer.

If you collect vehicles and export them directly abroad, or bring them directly to a facility other than the one being reported on here then select **YES.**

If **all** vehicles you collect are brought back to the facility being reported on here, then select **No.**

Q4. If you exported depolluted ELVs (16 01 06 M1 and N1), please state the tonnage of non-metal recycling and recovery assigned to you by shredder(s)? If you did not export ELVs, enter 0

Please provide the tonnage of the ELVs exported and the tonnages of non-metal recycling and recovery credits assigned to your ATF by the UK shredder(s).

You will be required to upload copies of the 'shredder credit' documentation received from shredders where applicable in Step 2.

Q5. ELV Onsite Activities report

Please provide information on household and non-household type waste generated by onsite activities that was then sent offsite:

This question is required to establish the volumes of waste generated on site that is <u>not</u> coming from dismantling ELV's. E.g. canteen waste, general waste in vehicle boots, yard sweepings, sludge's from oil interceptors etc.

When complete, select "Accept and Submit" and "Go to Next Step"

6. Step 2 - Supporting Documentation (Shredder Credits)

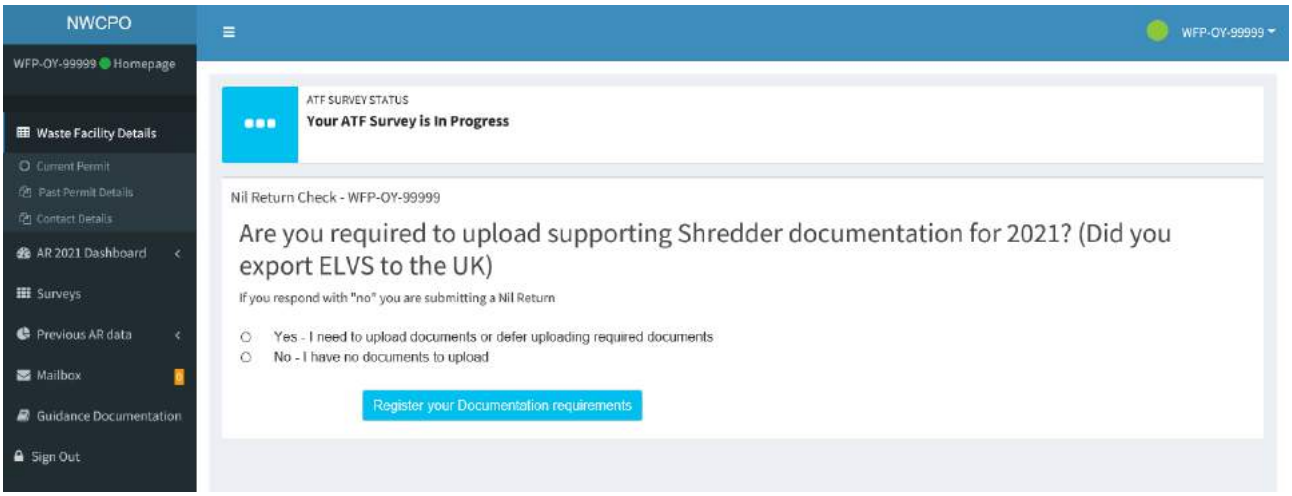
After completing the General Questions Step, you will be brought to Step 2 – Supporting Documents.

Shredder Credits:

The European ELV Directive (2000/53/EC) requires Ireland to achieve an ELV reuse and recycling rate of 85% and an ELV reuse and recovery rate of 95%. Non-metal recycling and recovery from ELVs exported to UK Shredders can be credited to Ireland only if Irish ATFs obtain documentation (i.e. 'shredder credits') that non-metal recycling and recovery took place.

If you exported ELVs to UK shredders, please contact these UK shredders and request 'shredder credit' documentation for post shredder residue recycled and recovered from the ELVs you exported. Alternatively, if you are part of ELVES, you will need to supply them with the required information as part of a group shredder credit application.

You will first be brought to the NIL Return check screen



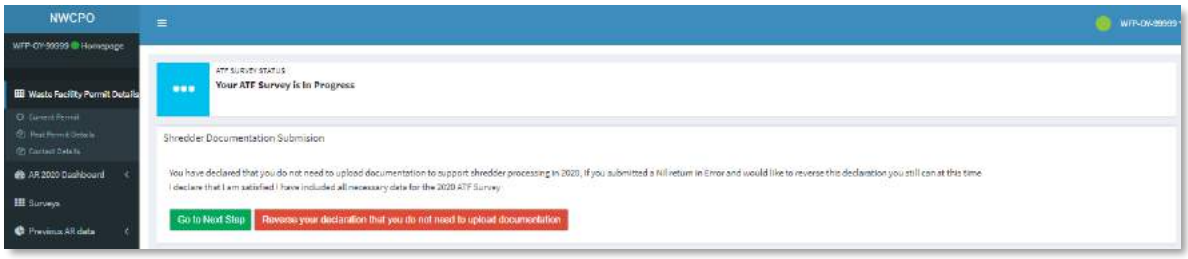
Documentation NIL Return

If you did not export ELVs to UK shredders, you can do a "NIL Return" by selecting "No – I have no documents to upload".

OR

If you did export ELVs to UK shredders, and your shredder credits are not yet available, you can select "Yes - I need to upload documents or defer uploading required documents". This will also allow you to defer uploading your shredder credit documents to a later date if they are not currently available. You may need to request your return to be re-opened by the NWCPO to allow for the submission of this information.

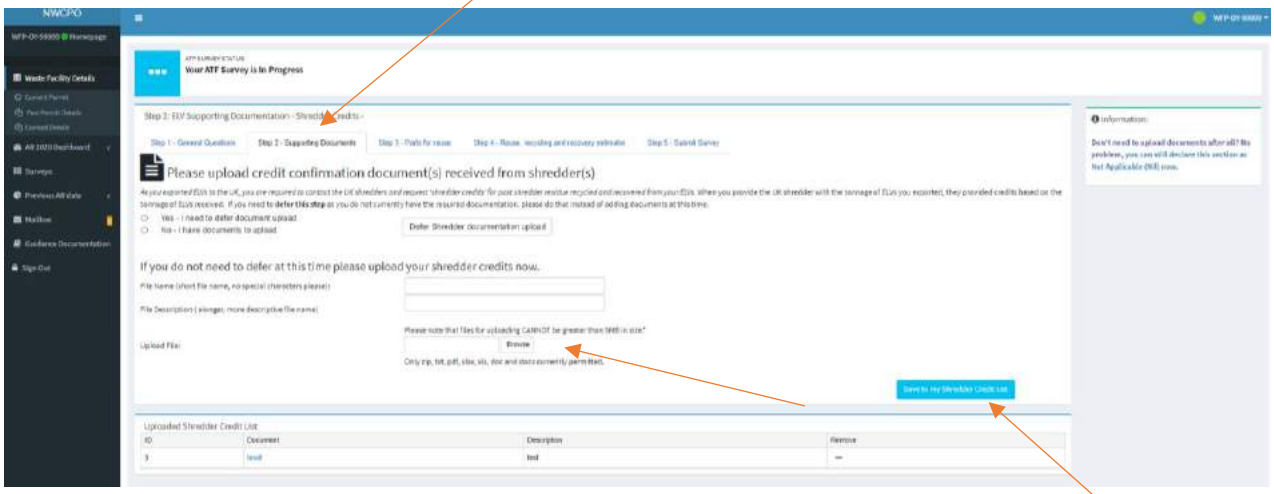
You will then be presented with this ATF survey submission screen.



If this was an error, you can reverse it by clicking on “Reverse your declaration that you do not need to upload documentation”. This will bring you to the “Step 2 – ELV Supporting Documentation – Shredder Credits” screen. See below.

If you are satisfied that a Documentation Nil Return is correct select “Go to Next Step””. You will be brought to Step 3 “Parts for Reuse”.

If you selected “Yes - I need to upload documents or defer uploading required documents” the ELV Supporting Documentation – Shredder Credits screen will appear.



This section allows you to defer uploading your shredder credit documents to a later date if they are not currently available. You must however upload them if they are available to you.

Where shredder documents are not available you can defer the upload of shredder credits:

- Select “Yes - I need to defer document upload”
- Select “Defer Shredder documentation upload”

Where shredder documents are available - To upload a file:

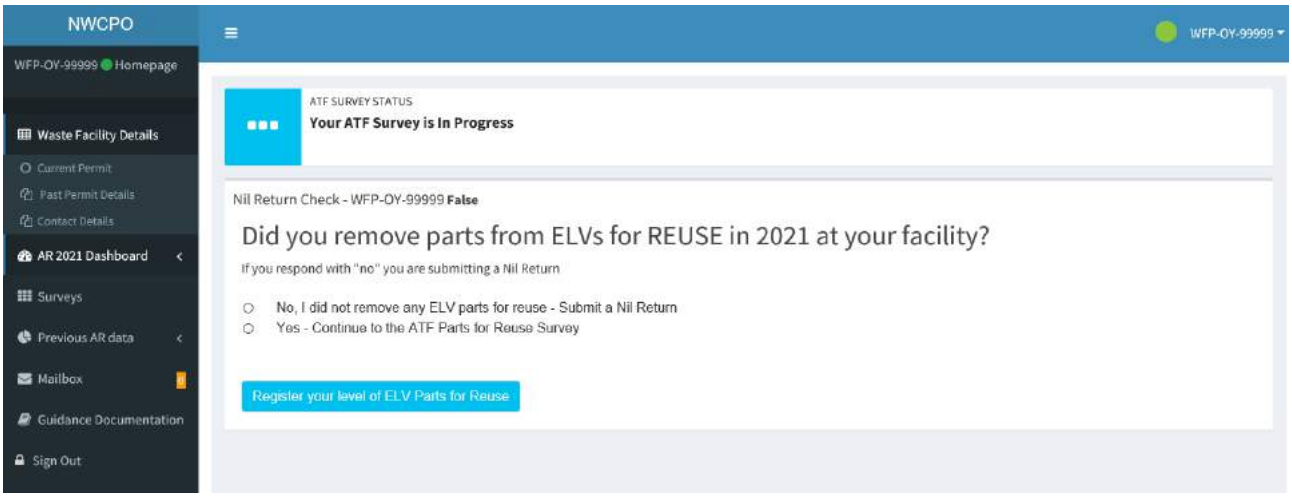
- Select “No - I have documents to upload”
- Enter a file title and description.
- Browse for the document you are uploading (note only zip, pdf, xlsx, xls, doc and docx file types permitted), and select open.
- Select “Save to my Shredder Credit List”

When all documents are uploaded, proceed to Step 3 by selecting the Step 3 Tab on the screen.

7. Step 3 - Parts sold for reuse

You need to complete this section if you sell second hand parts for reuse. This includes any hybrid/electric or mild hybrid industrial batteries you may have sold for reuse.

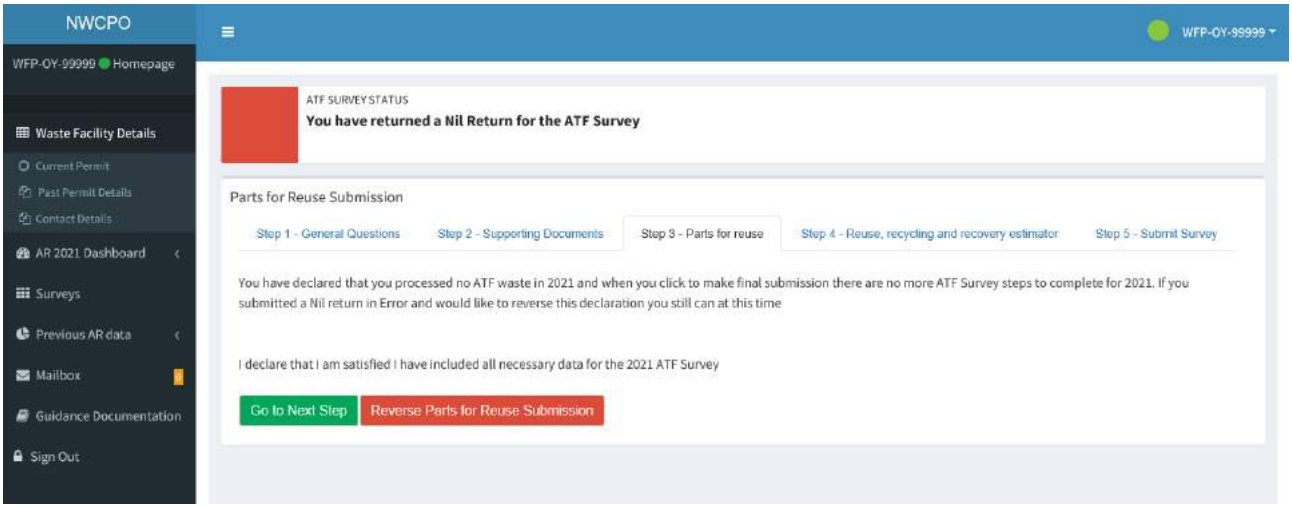
When you select the Step 3 Tab, you will be brought to this screen:



Parts for Reuse NIL Return

If you did not sell any parts for reuse, you can do a "NIL Return" by selecting "No, I did not sell any ELV parts for reuse" – submit a NIL Return.

You will then be presented with this "Parts for Reuse – Submission" screen.



If this was an error, you can reverse it by clicking on "Reverse your Parts for Reuse Submission". This will bring you to the "Step 3: Parts Sold from ELVs (M1 and N1) for reuse" screen. See below.

If you are satisfied that "ELV Parts for Reuse" Nil Return is correct, select *"Go to Next Step"".* You will be brought to Step 4 "Reuse, Recycling and Recovery Estimator".

NEW FOR 2021 ANNUAL RETURNS – REPORTING AC FLUIDS

The Environmental Protection Agency have requested that ATFs commence reporting on Air Conditioning Gases from End of Life Vehicles as waste or parts recovered for reuse. **Additional Guidance is provided in Appendix 2.**

7.1 How do I include AC Fluids removed from ELVs in my Annual Return?

Data for AC Fluids removed from ELVs must be recorded either as recycled AC Fluids or waste AC Fluids in the Annual Report as described below.

Recycled AC Fluids – to be recorded as Reuse Materials in the ATF Survey

Annual data on recycled gas, whether reused onsite or sold to third parties for reuse, shall be reported using the following Part Names:

- **AC Fluid -** R134a (net weight in kilograms)
- **AC Fluid -** R1234yf (net weight in kilograms)
- **AC Fluid -** R456A (net weight in kilograms)

Notes

- AC Fluid = air conditioning fluid/ gas.
- Net weight of AC Fluid to be reported (i.e. do not include the weight of the cylinder itself) in kilograms (kg) or tonnes (1kg = 0.001 tonnes).
- Only F-gas AC Fluids can be recycled. ODS (Ozone-Depleting Substances) AC Fluids such as R12 cannot be recycled

Waste AC Fluids to be Recorded in the Waste Out or Waste On-Site Sections

Any waste AC fluids removed from ELVs shall be reported under Waste Out (if sent for reclamation or destruction) or Waste On-Site. Each waste AC Fluid type should be reported using a List of Waste (LoW) Code.

The preferred List of Waste code is **16 01 21*** ***hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14*****.** When you select this code when entering data for the Annual Report, you will then be prompted to select one of the following to declare which particular waste AC Fluid you are referring to:

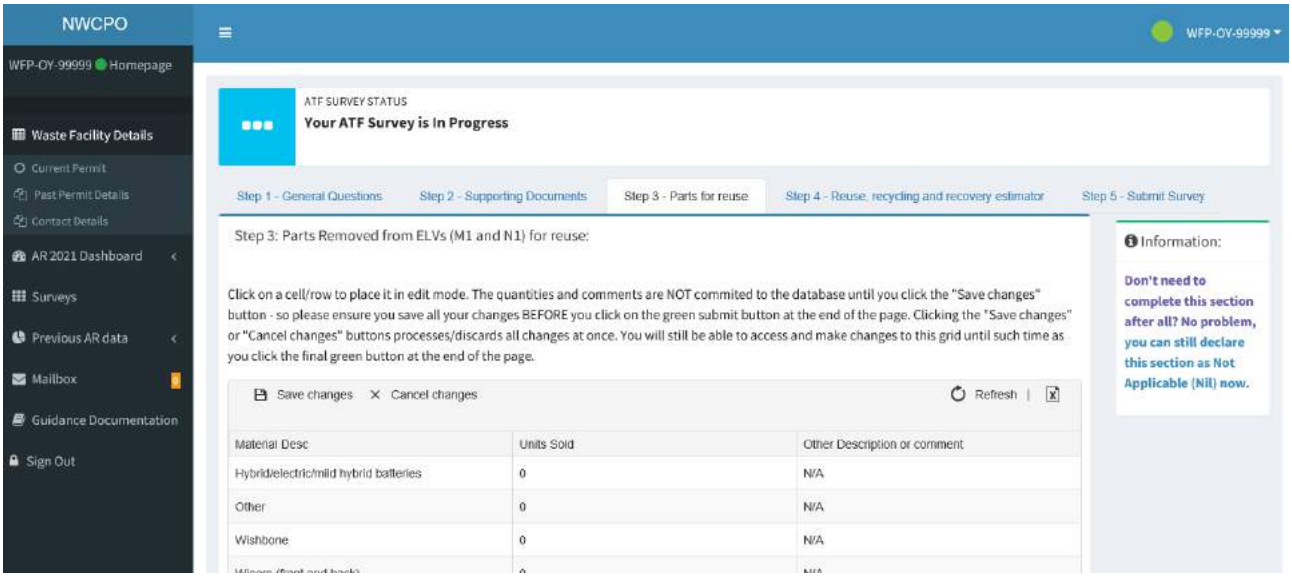
- 16 01 21* - AC Fluid R134a
- 16 01 21* - AC Fluid R1234yf
- 16 01 21* - AC Fluid R456A
- 16 01 21* - AC Fluid R12
- 16 01 21* - other *(Note: Use this option for items other than the four waste AC Fluids listed above.)*

Alternative List of Waste Codes that may be used are:

- 16 05 04* gases in pressure containers (including halons) containing hazardous substances
- 140601* *chlorofluorocarbons, HCFC, HFC*

ELV Parts for Reuse Return continued…

If you selected “Yes - continue to the ATF Parts for Reuse Survey”, the “Step 3: Parts Sold from ELVs (M1 and N1) for reuse” screen will appear. Select “Click to Create Grid” and the following screen will appear.



To enter data, enter the relevant quantity in Units sold and select “save changes” on the top left hand corner or bottom left hand corner of the grid.

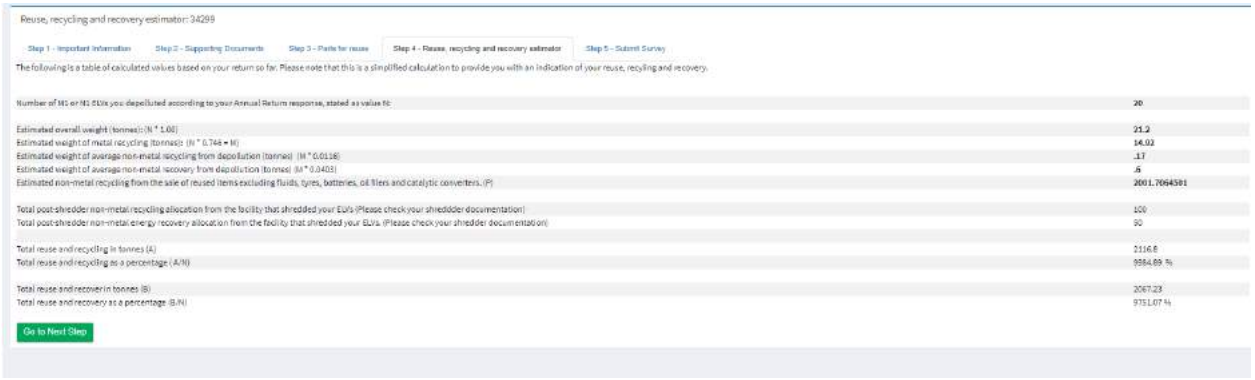
Clarification

If you have sold any batteries from hybrid, electric or mild hybrid vehicles for reuse, please enter the details here under ‘Hybrid/electric/mild hybrid batteries’ (the larger NiMH/Li-ion traction batteries, not lead acid starter batteries).

- Select “Add New Record”
- Enter battery details
- Select “Insert”
- When all hybrid battery clarifications are complete select “I have completed all hybrid battery clariciations”
- When all data is entered in the Parts for Reuse table and saved, and any clarifications are complete, proceed to “Accept and Submit”

8. Step 4 - Reuse, recycling and recovery estimator

Step 4 will show you a table of calculated values based on your return so far. Please review details to ensure that they are accurate.

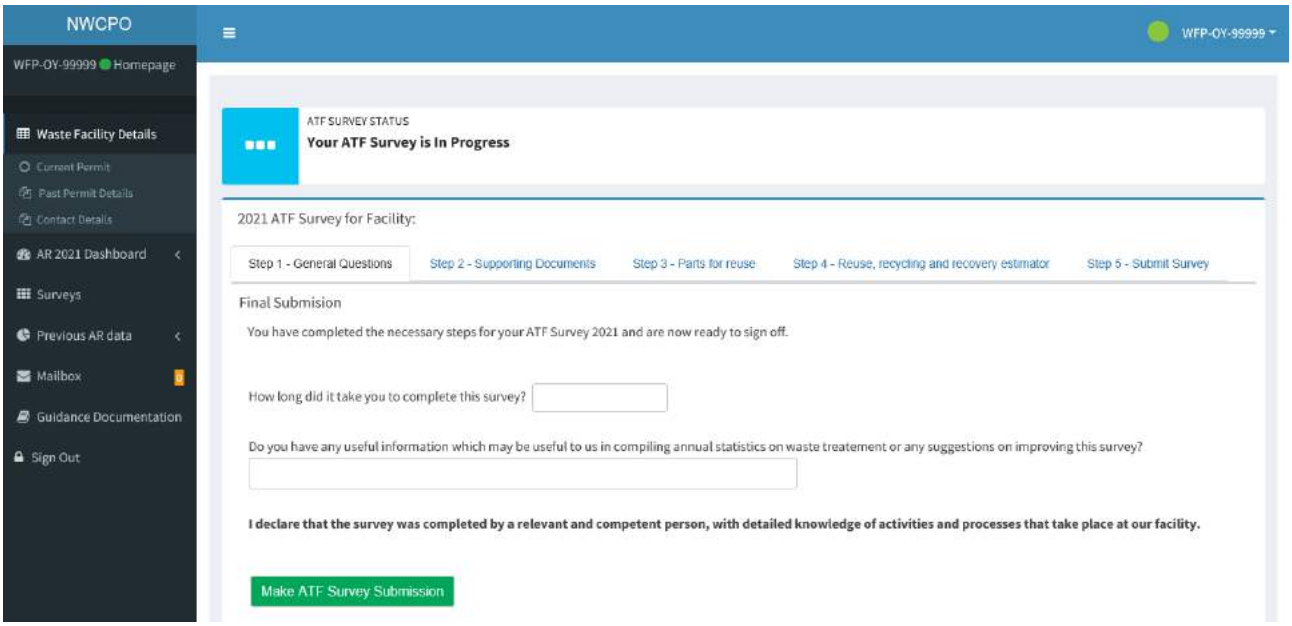


This Tab is provided for information purposes only and is not a mandatory step in the Annual Return Process. The information provided aims to assist the ATF operator to gauge their progress in achieving ELV targets.

This calculation may fail if there is insufficient data recorded in earlier steps or in the ATF clarifications in Waste-In, Waste-Out and Waste-On-Site. This Tab is provided for information purposes only and you may proceed without action on this step.

9. Step 5 Submit ATF Survey

Once all the other sections are complete you will be able to submit the ATF Survey.



Please arrange to complete the questions and submit your survey by selecting “Make ATF Survey Submission”. You will then need to return to the Annual Returns Dashboard to make your Final Submission. See Part 12 Section 12.1 of the main guidance document.

APPENDIX 1: WERLA Guidance - Information for Authorised Treatment Facilities (ATFs)/Metal sites regarding Annual Returns (ARs).

connacht-ulster waste region · eastern - midlands waste region · southern waste region	**Date: 28th January 2021**	**Ref:** WERLA-Sub-2021-0020
Document Title	**Information for Authorised Treatment Facilities (ATFs)/Metal sites regarding Annual Returns (ARs).**	

Information for Authorised Treatment Facilities (ATFs)/Metal sites regarding Annual Returns (ARs).

Dear Permit holder,

When submitting your Annual Return and if your site is permitted to accept End of Life Vehicles (ELVs) (LoW code 16 01 04*) that await depollution, or have already been depolluted (LoW code 16 01 06), it is important to record all waste types associated with this process.

This is to ensure compliance with the recovery and recycling targets set out in the European Union (End of Life Vehicles) Regulations 2014 as amended.

The NWCPO and local authorities are focussing their attention on eight waste types associated with ELVs to improve reporting of data. A coordinated programme of inspections will be carried out nationally in 2021, by Local Authority enforcement officers, to ensure compliance with the conditions of your permit. It is imperative that all waste types are recorded in line with the requirements of your waste authorisations.

To assist you with the completion of your Annual Return, for each polluted ELV received in, the following waste types at a minimum, should be included in your closing stock on your "Waste-On-Site" or in "Waste-Out" as applicable:

a. Depolluted vehicles- 1 per vehicle
b. End of Life tyres – 4 tyres per vehicle
c. Lead batteries – 1 per vehicle
d. Spent catalyst. (Catalytic convertors)- 1 per vehicle
e. Fluids –10.69Kgs per vehicle (if fuel not reused onsite)
f. Oil filters–1 per vehicle, and
g. Non-ferrous metals (alloys) – 4 alloys per vehicle

The weight for each item is provided for in Table 1 in the column titled "weight per item (tonnes)".

The weight for fluids is based on a combination of nine fluid types as provided for in table 2 associated with this note. This includes fuels. Where fuels are reused on site the weight reported for fluids should be reduced accordingly.

A vehicle that has been depolluted by another Authorised Treatment Facility (ATF) prior to entering a facility is not expected to have any wastes attached to it – however these wastes must be accounted for in the original ATF.

To allow for better reporting, a table called "conversion rate for waste types associated with ELV's" has been developed by the WERLAs. **The weights in this table are estimates and should only be used where actual weights are not available. Waste Facilities may be requested to justify the use of estimates rather than actual quantities.**

Table 1 is listed below and contains a breakdown on

- waste type
- list of waste code,
- units per tonne
- units per vehicle and
- unit weight for each waste type in tonnes

The notes to the table explain how the weight per item and weight of fluids were calculated.
Table 1 Conversion rates for waste types associated with ELV's

Waste Type	**List of waste code**	**Units per tonne**	**Units per vehicle**	**Weight per item (tonnes)****
End of life vehicles	16 01 04*	0.9259	1	1.08
End of life vehicles containing neither liquids nor other hazardous components	16 01 06	0.99	1	1.01
End of Life tyres	16 01 03	120	4	0.01
Lead Batteries	16 06 01*	78.89	1	0.01267
Spent catalyst (catalytic convertor)	16 08 01	257.95	1	0.00388
Fluids	Multiples codes – see note***	93.54	1	0.01069
Oil filters	16 01 07*	2380.95	1	0.0042
Non-ferrous metals (alloys)	16 01 18	122.39	4	0.00817

Notes to table 1

** The calculation weight per item conversion was derived from the theoretical pre-depollution ELV mass presented in the 2014 Shredder Trial (conducted by SIMI) which was adjusted for average missing parts in ELVs (calculated in a 2019 study conducted by ELVES). This conversion rate does not apply to tyres where the standard weight used is 10kgs per waste tyre.

***Fluids contain multiple codes that are listed in the table 2 below. The multiple codes are broken into fuels, used oil, refrigerant, brake fluids and anti-freeze. For each ELV the combined weight of fluids is

10.69 kg or 0.01069 tonnes per vehicle. Where fuels are reused on site the weight reported for fluids should be reduced accordingly.

The weights from the trial are estimates and should only be used where actual weights are not available.

Table 2 Breakdown of codes for multiple fluids

Waste fluid type	**List of waste code**	**List of waste code description**
Fuels	13 07 01*	Fuel oil and diesel
	13 07 02*	Petrol
Used oil	13 02 05*	Mineral-based chlorinated engine, gear and lubricating oils
	13 02 06*	Mineral-based chlorinated engine, gear and lubricating oils
	13 02 08*	Other engine, gear and lubricating oils
Refrigerant	16 01 21*	AC Fluid
Brake fluids	16 01 13*	Brake fluids
Antifreeze	16 01 14*	Antifreeze fluids containing hazardous substances
	16 01 15	Antifreeze fluids other than those mentioned in 16 01 14

During submission of your Annual Return please check if your return is in tonnages, or units per items.

Schedule 2 of the European Union (End of Life Vehicles) Regulations 2014 as amended provides the minimum technical requirements for appropriate treatment and recovery of end-of-life vehicles at your permitted facility.

This letter is without prejudice to any enforcement actions that the Local Authority may take in relation to operations of your permit.

Yours sincerely

Nicholas Bond

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For your information, also included is an extract from document "Depolluting End-of-Life Vehicles (cars and light goods vehicles) Guidance for Authorised Treatment Facilities" produced by DEFRA in the UK, which outlines the steps which must be taken in depolluting an end of life vehicle for the different waste streams.

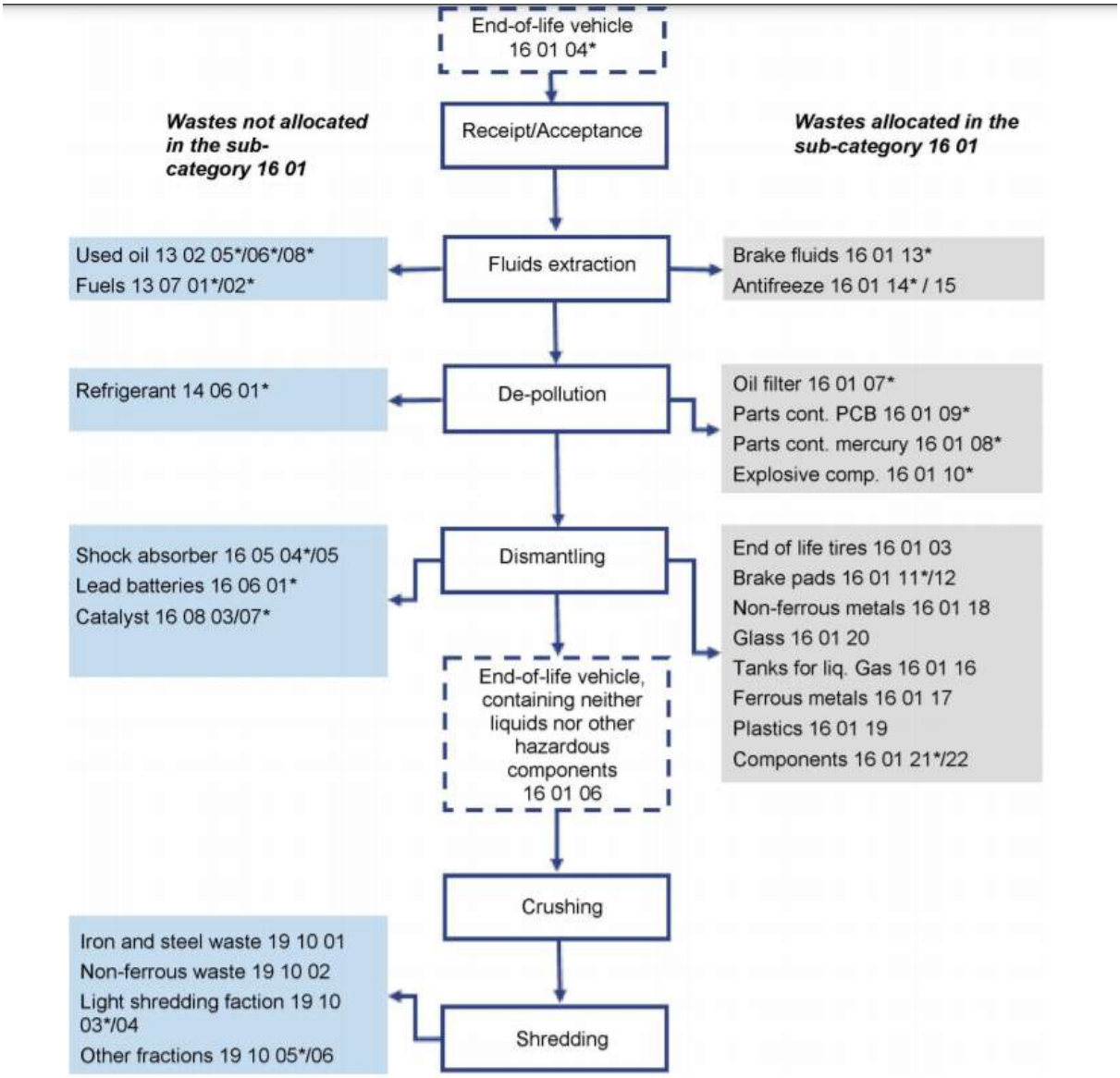

Figure 4: **LoW entries from ELV treatment**

APPENDIX 2: Removal of Air Conditioning Gases at Authorised Treatment Facilities and Metal Shredder Sites

Version 1, January 2022

Recovery of Air Conditioning System Fluids from ELVs at Authorised Treatment Facilities and Metal Shredder Sites

Introduction

- Many vehicles contain air conditioning (AC) systems which are filled with special air conditioning system fluids. These can also be referred to as AC gases or refrigerants.
- If air conditioning fluids escape to the environment, they can result in environmental harm.
- The End-of-Life Vehicle Regulations requires that air conditioning system fluids must be transferred from End-of-Life Vehicles into gas cylinders for subsequent appropriate treatment as part of the vehicle's depollution process. This regulation is enforced by Local Authorities.
- Most air conditioning fluids are additionally subject to regulation by the Environmental Protection Agency under the F-Gas Regulation and the ODS Regulation.
- The deliberate release of F-Gas and ODS AC fluids to the environment is illegal.
- This guidance note describes the controls required to properly remove air conditioning system fluids from ELVs and their subsequent management.

Summary of Requirements

- Air conditioning gases must be transferred from End-of-Life Vehicles into specified recovery gas cylinders for subsequent, appropriate treatment as part of the vehicle's depollution process.
- Specialist equipment is required to remove air condition gases from vehicles. The removed gases should be transferred into specified recovery gas cylinders.
- Anybody removing F-Gas AC fluids, such as R134a, from cars (≤ 8 seats) and light vans (≤ 3.5 tonnes) must have a Mobile Air Conditioning (MAC) F-Gas handling certificate. This certificate is also recommended for all other AC fluid removal operations.
- Cylinders of recovered F-Gas and ODS AC fluids must be labelled with specified information.
- The cylinders of recovered air conditioning fluid/gas may either be removed as waste or reused (recycled) to service the air conditioning systems of on-the road vehicles if the quality of the AC fluid remains suitable for this purpose. Because of the high cost of AC Fluids, this reuse can generate income.
- Air conditioning fluids removed from ELVs for reuse (i.e. recycling) or dispatched from site as waste must be recorded and reported annually.

Further details can be found on the following pages.

Further Information on the Recovery of Air Conditioning System Fluids from ELVs

Introduction

The deliberate release of F-Gas or ODS air conditioning fluids/gases to the environment is illegal and they must be removed from vehicles at end-of-life into specified recovery pressure cylinders for subsequent, appropriate treatment. In order to achieve this, the correct equipment and qualifications are required, and the fate of the removed air conditioning fluids/gases must be documented. This guidance aims to provide a summary of requirements for ATFs and metal shredder sites involved in the depollution of end-of-life vehicles (ELVs). The assistance of ELVES (the compliance scheme for ELVs in Ireland), the Limerick and Clare Education and Training Board and SWERLA (Southern Waste Enforcement Regional Lead Authority) in the production of this guidance is gratefully acknowledged.

What are Air Conditioning Fluids?

AC fluids (also called AC gases or refrigerants) are chemical compounds that are used as the heat carrier in AC systems. During the operation of an AC system, they are converted from gas to liquid and then back to gas by means of the AC system's compressor and evaporator in order to provide heating or cooling to the vehicle. An AC fluid will normally convert into gas if it released from the air conditioning system.

Why are Air Conditioning Fluids Subject to Controls?

Modern AC fluids typically are a type of chemical known as Fluorinated Greenhouse Gas. These are powerful greenhouse gases with an effect much greater than carbon dioxide and emissions of these gases have been rising internationally. Thus, the control of F-Gases is required in order to limit global warming and combat climate change.

Older AC fluids are a type of chemical known as an Ozone Depleting Substance (ODS). If released to atmosphere, these chemicals lead to the formation of a hole in ozone layer of the earth' atmosphere. The ozone layer is the Earth's natural sunscreen, filtering out harmful ultraviolet (UV) rays from the sun. UV rays can cause damage to humans and other forms of life. Therefore, ODS are regulated in order to reduce their emissions to atmosphere. They can no longer be installed in vehicle AC systems. However, older vehicles can still contain these substances, particularly the AC fluid known as R12, and thus they must be removed from ELVs for appropriate treatment.

What Regulations Apply to the control of AC Fluids?

Air conditioning system fluids must be removed from End-of-Life Vehicles as part of the depollution process outlined in Schedule 2 of the ELV Regulations (S.I. No. 281/2014). This regulation is enforced by Local Authorities.

Air conditioning system fluids are also regulated under the EU Fluorinated Greenhouse Gas (F-Gas) Regulation (EU No 517/2014) and the EU Ozone Depleting Substances (ODS) Regulation (EC No 1005/2009) which are enforced by the Environmental Protection Agency (EPA). The aim of these regulations is to prevent the emission of these AC fluids and protect against environmental harm. These regulations have specific obligations relevant to the depollution of AC fluids from ELVs and their subsequent management.

What Air Conditioning Fluids are Typically Found in ELVs?

Each vehicle air conditioning system should be labelled with the type and quantity of AC fluid present on or adjacent to the vehicle's air conditioning unit. Information on the types of AC fluids used in

particular vehicles can also be found on the International Dismantling Information System (www.idis2.com).

Information on Different AC Fluids Types			
AC Fluid Type	**Type of Vehicles**	**Use in Vehicles**	**Is this gas subject to ODS/ F-Gas regulations?**
R12	All	Used prior to 1994	Yes, as an ODS
R134a	Cars (M1) and light vans (N1) All other vehicle types	Used in cars and vans placed on the EU market prior to 2017 Ongoing	Yes, as an F-Gas
R1234yf	All	In use since around 2008, increasingly used instead of R134a	Yes, as an Annex II F-Gas (reporting requirement only)
R456A	All	From 2022	Yes, as an F-Gas

New types of refrigerants are being developed, particularly for use in electric vehicles.

The quantity of air conditioning gas installed in a car and or a van varies by model but typically ranges from 0.350 to 1.070 kilograms weight for R134a.

What Qualifications for the Removal of AC Fluid from Vehicles Are Required?

Anybody recovering (i.e. removing) the air conditioning fluid R134a, or any other F-Gas AC Fluid, from cars and light vans is required to hold a special certificate for this task in accordance with the F-Gas Regulation. This certificate (also known as an attestation) can be obtained after successful completion of a short training course. The aim of this course is to equip persons handling motor vehicles with the knowledge and skills to correctly remove AC F-gases from their air conditioning systems. The use of AC fluid recovery equipment and pressure cylinders for storage of the recovered AC fluid is covered during this training.

For larger road vehicles, including buses, coaches, lorries and specialist vehicles such as tractors and refrigerated containers (aka reefers), the removal of F-Gas AC fluids shall be carried out by appropriately qualified personnel. While no specific qualifications are mandated in legislation, the same qualification as that required for cars and light vans above is considered appropriate (i.e. F-Gas MAC certificate).

For the removal of ODS AC fluids, such as R12, from ELVs, the F-Gas MAC certificate is recommended.

Summary of Personnel Certification Requirements to remove F-Gas (e.g. R134a) or R12 from ELVs		
Type of vehicle	**Cars and Vans**	**All other vehicle types***
Recovery of F-Gas (e.g. R134a)	F-Gas MAC certificate required	F-Gas MAC certificate recommended
Recovery of all other AC Fluids	F-Gas MAC certificate recommended	F-Gas MAC certificate recommended

* including buses, coaches, lorries and specialist vehicles such as tractors and refrigerated containers (aka reefers)

Where can I get training which leads to an F-Gas Mac Certificate?

This certificate, often known as the F-Gas MAC award or attestation, can be obtained by undertaking a one-day course from an approved training provider. Training includes the operation of the equipment required to remove AC Fluids from vehicular air conditioning systems.

In Ireland, MAC training providers are approved by Quality and Qualifications Ireland (QQI). Upon successful completion of a QQI approved training course, a QQI Level 5 Special Purpose Award in Handling F-gas Mobile Air Conditioning Systems in Certain Motor Vehicles (award code 5S21699) is issued to the trainee. This is commonly called the F-Gas MAC certificate. An earlier version of this QQI award known as the FETAC Special Purpose Award Code 5S0109 is also acceptable.

The following SOLAS craft apprentice awards also have the MAC F-Gas certificate embedded since 2014: agricultural mechanic, construction plant fitting and motor mechanic.

An equivalent F-Gas MAC certificate issued in another European Union Member State is also recognised in Ireland.

What Equipment is Required for the Recovery of AC Gas from Vehicles?

It is recommended that a MAC refrigerant recovery rig is employed for efficiency and ease of operation reasons. The following elements, which may be stand-alone or combined into a MAC refrigerant recovery rig, are required.

- A specialist vacuum pump which removes the AC fluid/gas from the vehicle's AC system and transfers it into a recovery cylinder. If the recovered AC gas is to be recycled (i.e. reused in another vehicle), the vacuum pump must have an embedded filter for cleaning the gas.

- A pressurised cylinder into which the recovered gas is transferred. Different types of AC Gases must not be mixed together. Therefore, you should have a separate recovery cylinder for each type of gas recovered. Please be aware that these cylinders, as they are pressurised containers, have for safety purposes an expiry date which is stamped on each cylinder. Gas should not be filled into or stored within cylinders beyond the expiry date.

- A means of recording the weight of the recovered gas. This may simply involve placing the gas recovery cylinder on a small weighing device and recording the weight of the cylinder before (that is when empty) and then again after filling with gas. Subtract the empty cylinder weight from the filled cylinder weight to determine the net weight of the gas contained in the cylinder.

The practical use of AC fluid recovery equipment and pressure cylinders for storage of the recovered AC fluid is covered during MAC certificate training.

Examples of Vacuum Pump and Recovery Cylinders

Example of Recovery Rig

How are Cylinders of AC Fluid to be Labelled?

When F-Gas or ODS AC gas is removed (recovered) from an ELV, it should be transferred into a recovery cylinder. Each cylinder must be then be labelled with specific information. The following table lists the requirements for R134a and R12. The same format can be used for other air conditioning gases. A cylinder's label must remain legible as long as there is AC Fluid is stored within it.

Cylinder Labelling Text		
Notes	**F-Gas (e.g.R134a) Cylinder Label**	**ODS (e.g. R12) Cylinder Label**
Required text	This cylinder contains fluorinated greenhouse gas	This cylinder contains Ozone Depleting Substances
List the Gas Type	R134a	R12
List the net weight of the gas in kilograms*	10.4 kg	10.2 kg
List the intended destination of the recovered gas	Choose one of the following: • "for reclamation" • "for destruction" • "for recycling"	"for destruction"
If for recycling, you must also add	Recycling Facility = the name and address of the ATF/Shredder Site	Not applicable as cannot be recycled

* record the weights of the empty cylinder (1) and again after filling with AC Fluid (2) to determine the net weight of the AC Fluid contained in the cylinder (2-1= net weight of AC Fluid)

What are the Options for AC Fluids Once Removed from Vehicles?

Following recovery (i.e. once the AC gas has been removed from an ELV and transferred into a recovery cylinder), there are three options for the management of the recovered AC fluid, depending on the AC Fluid type and its quality (which determines whether it is feasible to recycle or reclaim it):

a) Destruction: Send as waste for destruction to an authorised waste facility; or,

b) Reclamation: Send as waste to a specialist plant that can re-process the waste AC Fluid to create "reclaimed refrigerant" which is identical to new, "virgin" AC Fluid; or,

c) Recycling: Following a basic cleaning process as the AC Fluid is removed from a vehicle (this can be done automatically, if an appropriate refrigerant vacuum pump/MAC refrigerant

recovery rig is used), the ATF may then itself re-use this AC Fluid to top-up vehicle AC systems (this process is known as Recycling) or supply it to third parties for this purpose (for example a garage that services vehicle AC systems). However, **recycled refrigerant must always be used with care as it may be contaminated or may be of different composition to that stated on the vehicle's label**.

It is worth noting that reclaimed and recycled F-Gases R134a, R456A and R1234yf have a monetary value.

Recovered Gas Management Options for Common Air Conditioning Gases	
R134a, R456A and R1234yf	Can be recycled, reclaimed or destroyed.
R12	Can only be sent as hazardous waste for destruction.

What can I do with recovered F-Gas R134a/R1234yf/R456A suitable for recycling?

The ATF/metal shredder site can re-use "recycled AC Fluid" to top-up vehicle AC systems (a task which, in the case of cars and vans, only a certified person can do) or supply it to third parties for this purpose. If recovered R134a is supplied to a third-party who will reuse it in cars and vans, then the third-party must employ at least one person who holds the F-Gas MAC award. The supply of Recycled F-Gas AC Fluids to third parties must be recorded as discussed latter.

What can I do with recovered AC Fluid destined for destruction or reclamation?

Waste AC Fluids are classed as hazardous wastes.

Recovered AC Fluid destined for destruction or reclamation (either because the AC Fluid is not suitable for recycling or because you choose not to pursue this option) must be sent to a waste facility authorised to accept this waste type. Waste AC Fluids are usually returned to a refrigerant producer who also holds a waste licence as they have the facilities to test if a waste refrigerant can be reclaimed, the equipment to reclaim it where feasible and the means of distributing/selling the reclaimed refrigerants. As reclaimed AC Fluid has a value, there may be a reduced cost or even a financial gain from this process.

However, as there are currently no facilities in Ireland which can either dispose of or reclaim recovered AC Fluids, this process can involve several steps, perhaps including temporary storage at one or more appropriately authorised waste facilities in Ireland. Also, in order to be shipped abroad for treatment, the waste AC Fluid will require Transfrontier Waste Shipment notification to the National TFS Office.

Whilst the transfer of the recovered AC Fluid destined for destruction or reclamation to a waste facility abroad can be directly arranged by the ATF or Shredder site, typically a specialist hazardous waste management company is engaged. Alternatively, there are specialist refrigerant distributors who may arrange the return of waste refrigerants to refrigerant producers. These refrigerant distributors can also supply recovery cylinders and equipment. A non-exhaustive list of these facilities is maintained by the EPA and can be viewed at Waste ODS & F-gases: Prior Annual Notifications | Environmental Protection Agency (epa.ie).

How can I transport waste AC Fluids?

The ATF or shredder site, as the producer of the waste, can transport this waste themselves to an authorised waste facility in Ireland, such as a refrigerant distributor who holds an appropriate waste facility authorisation.

Alternatively, a third-party may be engaged to collect and transport waste AC Fluids. However, they must be authorised under waste legislation to do so. Authorisation can be either:

- A valid Waste Collection Permit issued by the National Waste Collection Permit Office Home (nwcpo.ie) for the area(s) in which collections are taking place and for the waste types that cover waste ODS and F-Gases; or,
- A Prior Annual Notification (PAN) which has been submitted to and has been acknowledged by the Environmental Protection Agency. For more information, refer to Prior Annual Notifications (www.epa.ie)

Other transport controls apply. Refer to the Health and Safety Authority's Carriage of Dangerous Goods by Road A Guide For Business (hsa.ie).

What Records must I Maintain?

Records concerning the amount of F-Gas and ODS AC fluids removed annually from ELVs, the amount recycled, the amount dispatched as waste for reclamation/disposal as well as the balance in storage as waste at the end of each calendar year are either required or recommended as listed below, to demonstrate that the recovered AC fluids have been managed legally.

1. Copies of the MAC F-Gas certificates of the trained personnel used by the ATF/metal shredder site to recover R134a and R456A from cars and vans should be maintained on file.
2. The total net weight of each type of AC fluid removed during a calendar year from all ELVs should be recorded (kilograms).
3. The management of recovered AC fluids/gases dispatched as waste for reclamation or disposal should be documented until the gas is reclaimed or destroyed. These records should include dockets/receipts/transfrontier shipment notes for each batch of waste AC fluids/gases dispatched.
4. Records of the direct reuse by the ATF/metal shredder site of Recycled F-Gas (e.g. R134a, R456A) in vehicles (i.e. the recovered AC fluid is injected into non-ELV vehicles at the ATF site) should be maintained, if applicable. Invoices for this service in addition to the quantity in kilograms of each type of AC fluid reused (i.e. recycled) in this manner annually would suffice.
5. The ATF/metal shredder site must establish, and maintain for at least five years, records which contain the following information for each batch of recovered AC fluid supplied to third parties for recycling, such as garages, for reuse in cars and vans:
    a) The name and address of the purchaser;
    b) The name of the MAC certificate holder employed by the purchaser, the certificate awarding body and the certificate number (a photocopy of the certificate would suffice). It is important to note that you may only sell the recovered AC fluid to a person who holds the MAC certificate or to a company, such as a garage, that employs a MAC certificate holder;
    c) The date of the sale; and,
    d) The net weight of R134a in kilograms.

It is recommended that similar records, other than item b), are maintained for gas supplied to third parties for reuse in all other vehicle types.

These records can also be used to generate the annual report. Required records should be maintained for at least five years and be available for inspection by Local Authority/WERLA/EPA staff. If a third party is used by the ATF to recover gas from ELVs on its behalf, the ATF must still maintain these records.

How do I make returns for ATFs in the Annual Report for AC Fluids removed from ELVs?

Data for AC Fluids removed from ELVs must be recorded either as recycled AC Fluids or waste AC Fluids in the Annual Report as described below.

1. Recycled AC Fluids

Annual data on recycled gas, whether reused onsite or sold to third parties for reuse, shall be reported using the following Part Names:

- **AC Fluid -** R134a (net weight in kilograms)
- **AC Fluid -** R1234yf (net weight in kilograms)
- **AC Fluid -** R456A (net weight in kilograms)

Notes

- AC Fluid = air conditioning fluid/ gas.
- Net weight of AC Fluid to be reported (i.e. do not include the weight of the cylinder itself) in kilograms (kg) or tonnes (1kg = 0.001 tonnes).
- Only F-gas AC Fluids can be recycled. ODS AC Fluids such as R12 cannot be recycled

2. Waste AC Fluids

Any waste AC fluids removed from ELVs shall be reported under Waste Out or Waste Stored On-Site. Each waste AC Fluid type should be reported using a List of Waste Code.

The preferred List of Waste code is 16 01 21* *hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14*. When you select this code when entering data for the Annual Report, you will then be prompted to select one of the following to declare which particular waste AC Fluid you are referring to:

- 16 01 21* - AC Fluid R134a
- 16 01 21* - AC Fluid R1234yf
- 16 01 21* - AC Fluid R456A
- 16 01 21* - AC Fluid R12
- 16 01 21* - other *(Note: Use this option for items other than the four waste AC Fluids listed above.)*

Alternative List of Waste Codes that may be used are:

- 16 05 04* *gases in pressure containers (including halons) containing hazardous substances*
- 14 06 01* *chlorofluorocarbons, HCFC, HFC*

Procedure

It is strongly recommended that a procedure is developed that details when, how and by whom, using the equipment available, AC gas is to be removed from vehicles and recycled or dispatched for reclamation/destruction. The labelling of recovery cylinders should be described. The procedure should also outline record generation and storage (what information is required, how/when/by whom is this information generated, where it is stored once collected, etc.) and the annual reporting requirement.

Enforcement

Local Authorities may undertake compliance inspections in relation to the ATF permit. The EPA may undertake compliance inspections in relation to the ODS and F-Gas Regulations.

Key Regulations

- End-of-Life Vehicles Regulations 2014 (S.I. No. 281/2014)
- European Union F-Gas Regulations 2014 (No 517/2014)
- European Union ODS Regulation (EC) No 1005/2009

Disclosure

This document does not purport to be and should not be considered a legal interpretation of the legislation referred to herein. Although every effort has been made to ensure the accuracy of the material contained in this report, complete accuracy cannot be guaranteed. Neither the Environmental Protection Agency nor the authors accept any responsibility whatsoever for loss or damage occasioned, or claimed to have been occasioned, in part or in full as a consequence of any person acting or refraining from acting, as a result of a matter contained in this publication.