

# Carbon Reduction Plan 2021 -2025

## Report for 2022 (version 2)



### Carbon Reduce Certification

This is to certify that

**DSM Demolition Limited**

Meets the requirements of Carbon Reduce certification having measured its greenhouse gas emissions in accordance with ISO 14064 Part 1 2018 and is committed to managing and reducing its emissions in respect of its operational activities of its UK organisation.

Level of Assurance: Reasonable

Certificate Number: 2023316J

Start Date: 15 August 2023  
Expiry Date: 15 August 2025



Osana Robertson



Company Address: Arden House, Arden Road, Heartlands, Birmingham, B8 1DE, United Kingdom

This certificate should be read in association with the annual disclosure statement which is available at [www.dsmltd.co.uk](http://www.dsmltd.co.uk)  
Carbon Reduce is administered by Achilles under license from Enviro-Mark Solutions Limited (trading as Toitū Envirocare).  
Carbon Reduce is an annual certification programme and this certificate only remains valid with an annual surveillance audit.



**DSM Demolition Limited**  
Arden House  
Arden Road  
Heartlands  
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*This carbon reduction plan has been produced in accordance with the requirements of The Cabinet Office Document PPN 06/21. The data used is obtained from our annual Environmental Performance Reports produced in accordance with the Companies Act 2006 (Strategic Report and Directors' Report Regulations 2013 and the Companies (Director's Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018.*

## 1 Document Issue History

Version	Date Issued	Comments
1	07 Aug 2023	Initial issue of 2022 version of the plan.
2	22 Aug 2023	Section 2 All data externally certified to ISO-14064-1. New section 11 added on carbon off setting



## 2 Validity of Data

DSM is aware that “Greenwashing” of reported emissions is undertaken by some companies. Given the importance of transitioning to a carbon neutral economy it is essential that accurate monitoring of carbon emissions is undertaken.

It was decided by the board of DSM therefore to obtain external certification of our carbon footprint as contained in our annual SECR reports. This is being done through Achilles against ISO 14064-1 (2018) “Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals”.

The methodology Achilles use in their auditing is accredited to:

- ISO 14064 and ISO/IEC 17065 by JAS-ANZ (Australian / New Zealand equivalent to UKAS).
- Accredited by UK government under the Climate Act 2008 as route to compliance for energy (ESOS) and Streamlined Energy & Carbon Reporting (SECR) regulation.
- Carbon Reduction and Carbon Zero Certification. Logo’s and Wordmarks automatically accepted by UKAS under IAF Multilateral Recognition Agreement (MLA) and 104 other countries and territories.
- Accredited by Carbon Disclosure Project as a verification standard for companies reporting into the CPD (additional points) and as a Science Bases Targets provider.
- Approved supporter and service provider to Task Force on Climate-related Financial Disclosures (TCFD).
- Accredited by the International Carbon Reduction Offset Alliance (ICROA) – part of International Emissions Trading Association (IETA) certification meets international best practice.

All the emissions data contained in this plan has been now certified through Achilles against ISO 14064-1 (2018).



### 3 Baseline Year

DSM has set 2021 as its baseline year as this was the first year where DSM's carbon footprint, from the 2021 SECR report, was externally certified to ISO 14064-1 (2018) by Achilles.

The figures are for the calendar year, as will all subsequent year's reports.

### 4 Outline Emissions Calculation Protocol

Individual SECR reports contain full details of the emissions calculation protocol used. The following outlines the methods used:

- Rate of emissions are calculated by using the relevant year's UK Government GHG Conversion Factors for Company Reporting.
- For scope three emissions only the activity groups detailed in PPN 06/21 have been determined.
- Where possible emissions are calculated based on measured amounts of energy (diesel, electricity, gas etc) as evidenced by supplier invoices.
- Contract hauliers' mileage moving DSM's products, waste and imported materials is based on emission rates for average laden rigid wagons > 17 tonnes unladen weight, on a one-way distance.
- Wastes taken to landfill are also calculated on the basis of the applicable transport emissions rather than on the landfill waste factors given in the UK Government GHG Conversion Factors for Company Reporting. It was agreed with the auditor this was a more accurate method of determining the emissions due to our detailed records. For all wastes sent to landfill containing organic matter an allowance for decay emissions in the landfill of 5% of the relevant landfill waste factors given in the UK Government GHG Conversion Factors for Company Reporting is also added.
- The emissions from the seven greenhouse gases named by the Kyoto Protocol have been measured, where applicable, and are included within the reported Carbon Dioxide Equivalent total – CO<sub>2</sub>e.
- The seven greenhouse specified are:
  - Carbon Dioxide CO<sub>2</sub>
  - Nitrous Oxide N<sub>2</sub>O
  - Sulphur Hexafluoride SF<sub>6</sub>
  - Hydrofluorocarbons HFCs
  - Nitrogen Trifluoride NF<sub>3</sub>
  - Methane CH<sub>4</sub>
  - Perfluorocarbons PFCs

## 5 Headline Emissions 2021 - 2022

Emission Source	CO <sub>2</sub> e (Tonnes)		% Change 2022 - 2021	% of Total (2022)
	2021	2022		
<b>Scope 1</b>				
Transport	1,082.4	1,220.1	112.7	16.8
Processes	6,041.1	5,533.0	91.6	76.1
Fugitive	0.0	0.0	0.0	0.00
<b>Total Scope 1</b>	<b>7,123.5</b>	<b>6,753.1</b>	<b>94.8</b>	<b>92.8</b>
<b>Scope 2</b>				
Electricity	23.01	23.72	103.1	0.3
<b>Total Scope 2</b>	<b>23.01</b>	<b>23.72</b>	<b>103.1</b>	<b>0.3</b>
<b>Scope 3</b>				
U4 Upstream Transportation & Distribution	4.14	16.21	391.5	0.2
U5 Wastes Generated in Operations	312.82	403.1	128.9	5.5
U6 Business Travel	49.59	56.27	113.5	0.8
U7 Employee Commuting	23.60	17.84	75.6	0.2
<b>Scope 3 Upstream Total</b>	<b>390.15</b>	<b>493.43</b>	<b>126.5</b>	<b>6.8</b>
D9 Downstream Transportation & Distribution	12.86	5.28	41.1	0.1
<b>Total Scope 3</b>	<b>403.01</b>	<b>498.71</b>	<b>123.7</b>	<b>6.9</b>
<b>Grand Total</b>	<b>7,550</b>	<b>7,275</b>	<b>96.4</b>	

### Notes

D9 downstream transportation and distribution is for the supply from DSM sites of produced aggregates, including those taken to another DSM site.

The emissions from transport in Scope 3, U4, U5 and D9 excludes DSM transport emissions as this is included in scope 1 emissions.

## 6 Emission Source Breakdown 2021 - 2022

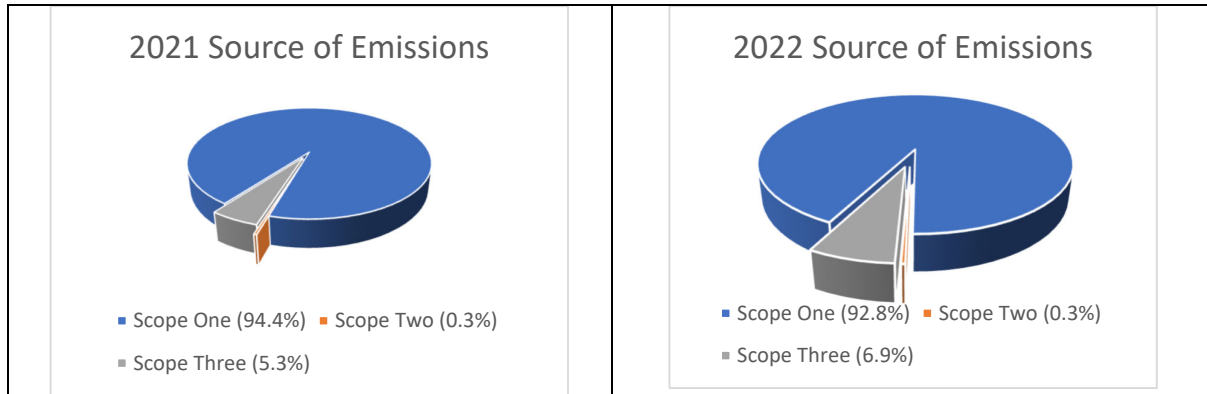
Emission Source	CO <sub>2</sub> e (Tonnes)	
	2021	2022
<b>Scope 1</b>		
Transport	<b>1,082.4</b>	<b>1,220.1</b>
Diesel	1,072.5	1,207.0
Petrol	9.8	13.1
Processes	<b>6,041.1</b>	<b>5,532.9</b>
Gas Oil	6,006.5	1,706.5
Diesel		3,698.5
Petrol	0.82	0.79
HVO	0.2	4.65
Propane	17.8	108.4
Natural Gas (Arden Road)	15.7	14.1
<b>Scope 2 Electricity (Arden Road)</b>	<b>23.01</b>	<b>23.7</b>
<b>Scope 3</b>		
<b>U4 Upstream Transportation &amp; Distribution (purchased aggregate etc)</b>	<b>4.14</b>	<b>16.21</b>
<b>U5 Wastes Generated in Operations</b>	<b>312.82</b>	<b>402.62</b>
Contract haulier waste movements not to landfill	241.91	398.16
Contract haulier waste movements to landfill	69.10	4.62
Landfill emissions	1.80	0.32
<b>U6 Business Travel</b>	<b>49.59</b>	<b>56.27</b>
Hotel Stay	48.01	55.07
Mileage claims	1.58	1.20
U7 Employee Commuting (Arden Road based staff only)	23.60	17.84
<b>Scope 3 Upstream Total</b>	<b>390.15</b>	<b>493.43</b>
D9 Downstream Transportation & Distribution (removed aggregates)	12.86	5.28

The emissions from the haulage of aggregate (D9) & (U4) and wastes (U5) carried out by DSM are included in scope one.

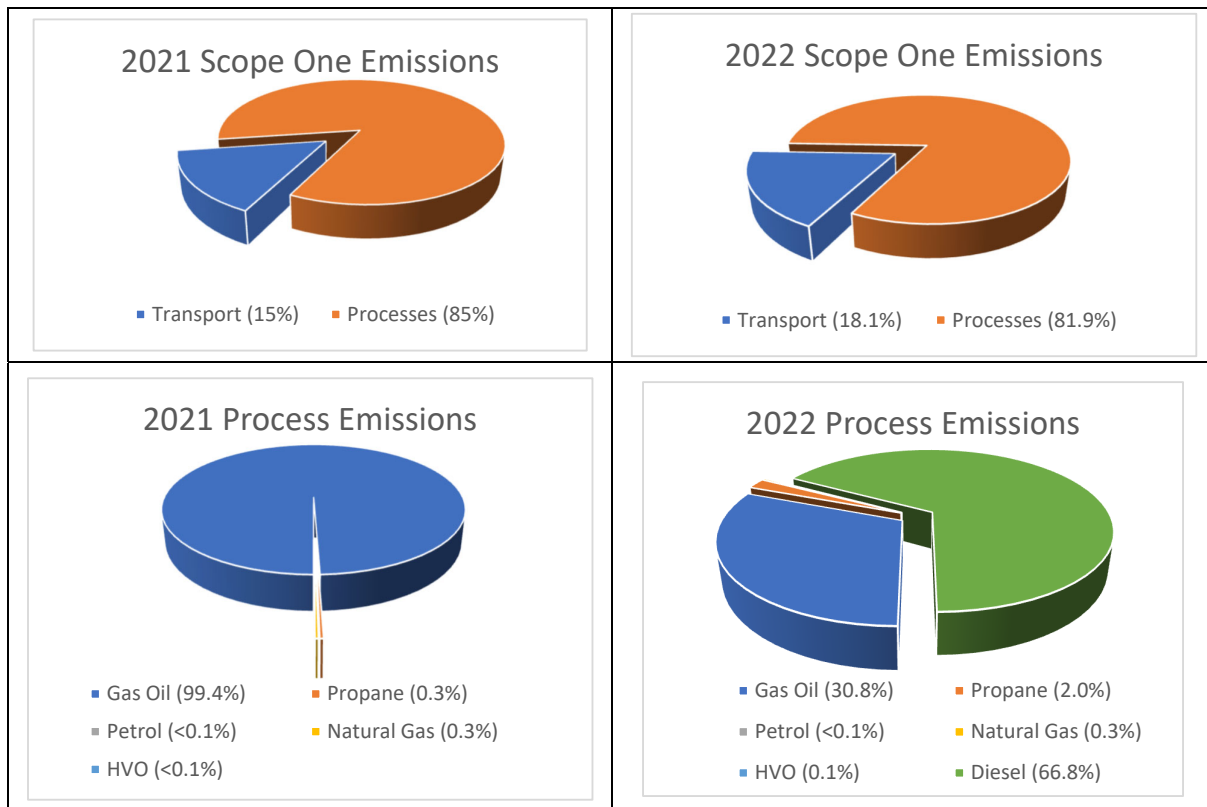
## 7 Scopes One and Two Details

### Scope One

The vast majority of DSM’s carbon emissions (2021 – 94.4% and 2022 – 92.5%) come from the use of fuels for process operations and transport and included in scope one. It does not include emissions from sub-contractors working on sites. These emissions would be reported on Scope 3 category U1, which presently is not required to be reported by The Cabinet Office Document PPN 06/21.



Scope one emissions are divided in to two groups, process emissions and transport emissions. Process emissions are the single largest source of emissions in scope one (2021 85% and 2022 82%).







There were three significant changes to the composition of the process fuels used between 2021 and 2023.

- The over sixfold increase in the use of propane in 2022 compared to 2021 has been attributed to steel processing at Eggborough. The quantity of associated emissions produced is still negligible.
- The banning of gas oil for use on site from April 2022 onwards, replaced by Diesel with slightly lower emissions.
- The planned increase in the use of HVO, which has significantly lower emissions than fossil fuels, but a higher unit cost.

**Process Emission Details**

Fuel	Property	2021	2022
<b>Gas Oil</b>	Litres Used	2,177,401	618,307
	CO <sub>2</sub> e Emissions (tonnes)	6,006.5	1,706.5
<b>Diesel</b>	Litres Used	0	1,444,735
	CO <sub>2</sub> e Emissions (tonnes)	0	3,698.5
	CO <sub>2</sub> e Savings over Gas Oil (tonnes)		288.9
<b>HVO</b>	Litres Used	5,612	130,668
	CO <sub>2</sub> e Emissions (tonnes)	0.2	4.65
	CO <sub>2</sub> e Savings over Gas Oil (tonnes)	15.2	356.0
	% of Total Liquid Fuels Used	0.25	6.0
<b>All Liquid Fuels</b>	Litres Used	2,183,013	2,193,710

- Process emissions also include a small amount of natural gas used for heating at Arden Road.
- No scope one fugitive emissions were created (air conditioning units at Arden House did not require recharging in 2022).

Given the variable nature of DSM’s works no conclusions can be drawn regarding the amount of fuels used, and hence the amount of emissions produced.

Until hydrogen becomes a viable energy source the reduction measures that can be applied for process emissions are:

- Operating all equipment in the most efficient manner using modern well-maintained plant.
- Using HVO as a fuel replacement for fossil fuels
- Using mains electricity where possible instead of using generators.

Scope one transport emissions are the second largest source of emissions for DSM (2021 14% and 2022 17%).

DSM has no control of the location of its contract sites and the distance between them and the nearest waste disposal sites. There are factors that can be controlled that effect the level of emissions created by transport operations.



These include:

- Miles travelled, which can be:
  - Reduced by on-line meetings.
  - Reduced in total by vehicle sharing.
  - Reduced by giving consideration between contract sites and waste disposal sites, see also section 8.
- The amount of emissions produced:
  - Reduced by use of more fuel-efficient vehicles.
  - Reduced by good driving practices.
  - Reduced by having vehicles serviced as specified and use of low rolling resistance tyres at the correct pressure.
  - Use of public transport where appropriate.

### **Scope Two**

Scope two emissions contribute only a very small proportion of DSM's total emissions at around 0.3% of the total emissions. For 2021 and 2022 only the emissions from electricity use at Arden Road have been measured.

Included within the total electricity used is that used for electric vehicles or plug in hybrids, as the supply to the two charging points at Arden Road is not separately metered. Externally obtained electricity for vehicle is also ignored due to the very low levels involved at present. When and if measured the amount and associated emissions would be reported in scope one transport, not in scope two.

Mains electricity used on contract sites has not been measured as the amount involved, if any, is negligible.

Moving forward the proportion of mains electricity in the energy used by DSM will increase, with a corresponding decrease in the use of other fuels.

- This will be caused by:
  - Increase numbers of electric and plug in hybrid vehicles used.
  - Use of mains electricity on site instead of generated electricity.

Given the low level of both the electricity used and the associated emissions reduction measures are not considered a high priority.

- Measures that could be considered are:
  - Purchasing only "Green Electricity".
  - Inclusion of manual override switches to office lights where the motion switching causes the lights to remain on when not needed.
  - Changing the settings on Arden House perimeter lights so they only come on at appropriate times.

## 8 Scope Three Details

Scope three emissions comprise between 5.3% (2021) and 6.9% (2022) of DSM’s total emissions.

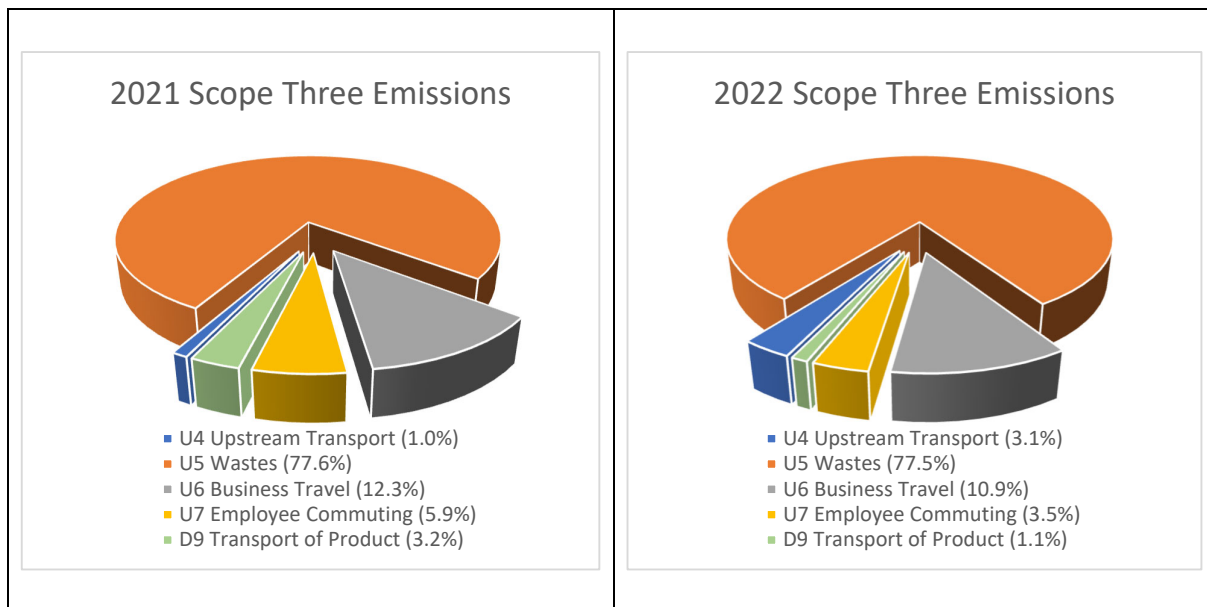
Within scope three only five of the fifteen individual groups are measured as required by The Cabinet Office Document PPN 06/21.

The groups not measured are:

- Upstream.
  - U1 Purchased goods and services.
  - U2 Capital goods.
  - U3 Fuel and energy related activities.
  - U8 Upstream leased assets.
- Downstream.
  - D10 Processing of sold products.
  - D11 Use of sold products.
  - D12 End of life treatment of sold products.
  - D13 Downstream leased assets.
  - D14 Franchises.
  - D15 Investments.

Scope three emissions are predominantly from transport operations. As DSM’s transport emissions are from purchased fuel scope three transport emissions are from contract hauliers only.

Within the scope there were some significant variations between the CO<sub>2</sub>e emissions in some of individual groups. This is illustrated in the flowing pie charts and detailed below.



#### U4 Upstream Transport (Purchased Goods)

- 2022 saw over a fourfold increase in emissions compared to 2021 (16.21 tonnes to 4.14 tonnes CO<sub>2</sub>e). This is attributed principally to the transportation of 6A aggregate into Windsor Street Gasholder site, an aggregate type that could not be obtained locally.

#### U5 Waste Disposal

##### Wastes moved by contract hauliers to disposal sites other than landfills.

Waste Type	2021				2022			
	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes
Brick & Concrete	2,437	44,006	26,598	40.99	2,121	39,642	15,143	24.21
<i>Mean Load</i>		18.1	10.9			18.7	7.1	
Soft Strip	289	2,131	7,316	11.27	384	3,926	14,467	23.13
<i>Mean Load</i>		7.4	25.3			10.2	37.7	
Wood	49	450	2,699	4.16	9	29	105	0.17
<i>Mean Load</i>		9.2	55.1			3.2	11.7	
Soils	1,603	28,854	16,347	25.19	71	1,854	5,936	9.49
<i>Mean Load</i>		18.0	10.2			26.1	83.6	
Oils	2	1	34	0.05	5	7	99	0.16
<i>Mean Load</i>		0.51	17			1.4	19.8	
Restoration Soils	1,842	33,140	10,457	16.11	1,049	17,798	3,211	5.13
<i>Mean Load</i>		18.0	5.7			17.0	3.1	
Metals	2,151	34,297	92,554	142.62	3,863	64,640	210,097	335.88
<i>Mean Load</i>		15.9	43.0			16.7	54.4	
Blacktop	23	414	753	1.16				
<i>Mean Load</i>		18.0	32.7					
Tyres	4	59	228	0.35				
<i>Mean Load</i>		14.8	57.0					
All Wastes	8,400	143,352	156,986	241.91	7,502	127,896	249,058	389.17
<i>Mean Load</i>		17.1	18.7			17.0	33.2	

Notes:

- All movements on one way distance, average laden, rigid lorries > 17 tonnes unladen weight
- Waste movements not weighed, soils and Brick & Concrete assumed 18 tonne loads.
- As the data has been obtained from DSM's accounts waste moved by sub-contractors as part of their site works, is not included.
- The increase in metal loads moved in 2022 was due to Eggborough Power Station.

Waste Type	2021				2022			
	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes
All Wastes Excluding Metals	6,249	109,055	64,432	99.29	3,639	63,256	38,961	53.29
<i>Mean Miles</i>			10.31				10.71	
2022 / 2021 %	58.2	58.0	60.5	53.7				

In the comparison between 2022 / 2021, the calculated ratio of the CO<sub>2</sub>e levels varies from the ratio of the mileage figures due to a factor change for emissions for vehicles.

Although the mean trip distance both years was very similar it was noted that in 2022 some trips seemed unduly long. Most notably were six loads of soft strip moved 297 miles to Swadlincote from Truro, whilst other loads of the same material from the same site were only moved between 11 and 34 miles. Whilst there may have been a reason for such a long-haul distance, it suggests transport distances and hence carbon footprint may not have been considered.

Waste Type	2021				2022			
	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes
Metal Wastes	2,151	34,297	92,554	142.62	3,863	64,640	210,097	335.88
<i>Mean Miles</i>		15.9	43.0			16.7	54.4	
2022 / 2021 %	179.6	188.5	227.0	235.5				

In the comparison between 2022 / 2021, the calculated ratio of the CO<sub>2</sub>e levels varies from the ratio of the mileage figures due to a factor change for emissions for vehicles.

The increase in the amount of metal waste produced in 2022 compared to 2021 is attributed mainly to steel being removed from Eggborough Power Station. In both years the maximum load distance was high at 101 miles in 2021 and 155 miles in 2022.



**Wastes moved to landfills.**

Waste Type	2021				2022			
	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes	Loads	Tonnes	Miles	CO <sub>2</sub> e Tonnes
Soft Strip								
DSM Hauled	63	684	n/a	n/a				
<i>Landfill Emissions</i>				0.60				
<i>Mean Load</i>		10.9	n/a					
Contract Haulier	18	180	471	0.73	1	5	41	0.07
<i>Landfill Emissions</i>				0.16				0.01
<i>Mean Load</i>		10.0	26.2					
Asbestos								
DSM Hauled	11	129	n/a	n/a	92	1,055	n/a	n/a
<i>Landfill Emissions</i>				0.00				0.00
<i>Mean Load</i>		11.7	n/a			11.5	n/a	
Contract Haulier	937	10,737	40,248	62.02	38	203	1,548	2.47
<i>Landfill Emissions</i>				0.00				0.00
<i>Mean Load</i>		11.5	43.0					
Soils								
DSM Hauled								
<i>Landfill Emissions</i>								
<i>Mean Load</i>								
Contract Haulier	59	1,189	4,122	6.35	22	362	1,298	2.08
<i>Landfill Emissions</i>				1.05				0.32
<i>Mean Load</i>		20.2	69.9			16.5	59.0	
All Wastes								
DSM Hauled	74	813	n/a	n/a	92	1,055	n/a	n/a
<i>Landfill Emissions</i>								0.00
<i>Mean Load</i>		11.0				11.5		
Contract Haulier	1,014	12,106	44,841	69.1	61	570	2,558	4.60
<i>Landfill Emissions</i>				1.21				0.33
<i>Mean Load</i>		11.9	44.2			9.3	47.3	

Notes:

- All movements on one way distance, average laden, rigid lorries > 17 tonnes unladen weight
- As the data has been obtained from DSM’s accounts waste moved by sub-contractors as part of their site works, is not included.
- The large number of waste asbestos loads moved in 2021 was from Eggborough Power Station.

Wastes moved to landfill are generally those that cannot be sent to treatment centres due either to the nature of the material not being suitable for recycling or recovery or the disproportionate cost of doing so.

Due to the nature of DSM’s core works we have no control over the type of waste we produce. The amount of waste (tonnes) sent to landfill (or high temperature destruction) and sent to transfer stations, restoration sites and end users is summarised in the following table.

Disposal Route	2021			2022		
	DSM Hauled	Contract Haulier	Total	DSM Hauled	Contract Haulier	Total
Landfill / High Temperature Destruction	813	12,106	12,919	1,055	570	1,625
Amount Moved %	6	94		65	35	
Re-Use, Transfer Stations, Restoration Soils	3,474	143,352	146,826	5,504	127,896	133,400
Amount Moved %	2	98		4	96	
Total Tonnage	4,287	155,458	159,745	6,559	128,466	135,025
Amount Moved %	3	97		5	95	
Amount RRR’d / Total %			92			99

Notes:

- The above table does not include materials left on site.
- DSM moved asbestos to Arden Road Transfer Station is not included.

**U6 Business Travel**

- The emissions from 2021 and 2022 are similar showing overall an increase of 13.5% from 49.59 to 56.27 tonnes of CO<sub>2</sub>e.
- Mileage claims emissions dropped from 1.58 to 1.20 tonnes of CO<sub>2</sub>e., (5,967 to 4,435 miles).
- Hotel stay emissions increased from 48.01 to 55.07 tonnes of CO<sub>2</sub>e., (3,469 to 5,220 room/nights).
- Based on a Berlingo van, from a carbon footprint perspective only, stopping by sites at around 100 miles from home has the same carbon footprint as daily travelling.
- The use of any public transport for direct business purposes has not been measured as the amount undertaken is negligible.



## U7 Employee Commuting

Applies only to staff commuting to Arden Road in their own vehicles or by public transport.

- 2022 saw a 25% decrease in emissions compared to 2021 (17.84 to 23.60tonnes of CO<sub>2</sub>e).
- This has been attributed to an updated survey of staff, and staff driven reduction actions such as car sharing and use of bicycles.

## D9 Transporting of Product

- 2022 saw over halving (41%) decrease in emissions compared to 2021 (5.28 tonnes to 12.86 tonnes CO<sub>2</sub>e).
- In 2021 surplus 6F2/6F5 was removed in significant quantities from:
  - Mckechnie Brass to Windsor Street Gasholders.
  - Canal Street Leeds to Leeds General Infirmary.
  - Braintree to another user.
- In 2022 surplus 6F2/6F5 was removed in significant quantities from:
  - GKN Kings Norton to Lighthorn Heath.

These figures relate only to products moved by contract hauliers that appear in the accounts. There is uncertainty about the accuracy of these figures as material moved by contract hauliers at no cost, or purchased material is probably not fully included.





## 9 Performance Metrics

The formal carbon reduction plan reduction target is set on total CO<sub>2</sub>e regardless of other factors such as changes in turnover.

The principal headline figures are given in the following table:

Year	Total CO <sub>2</sub> e (Tonnes)	Turnover (£)	Rate of Emissions (Tonnes CO <sub>2</sub> e per £1m turnover)
2021	7,550	55,851,382	135.2
2022	7,275	51,974,400	140.0

produced s are required to be based on actual emissions regardless of other factors such as turnover.

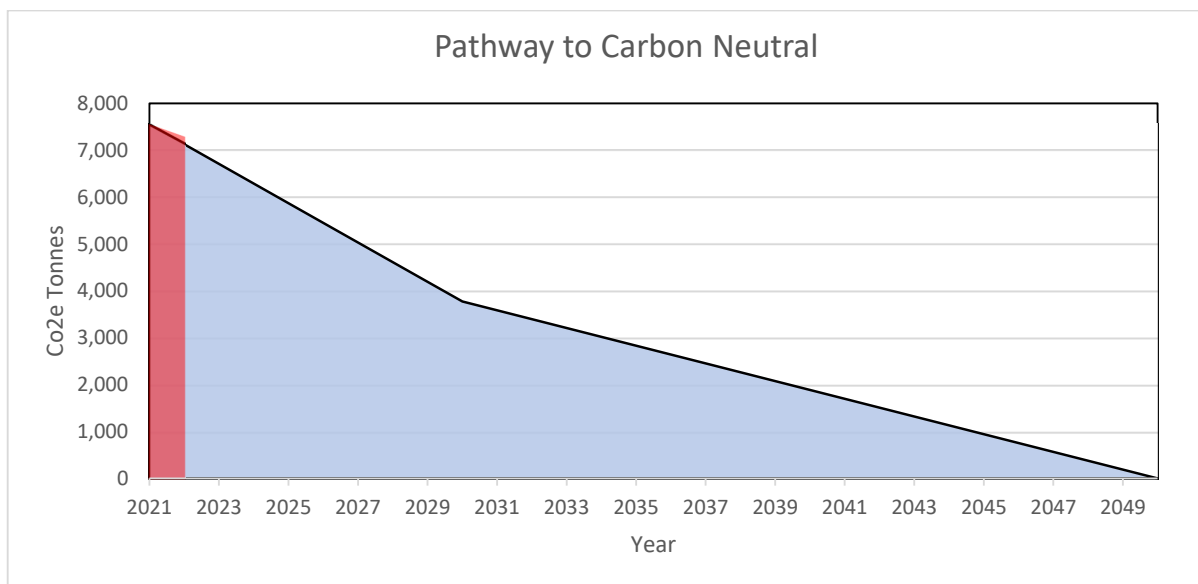
The following metrics have been produced to:

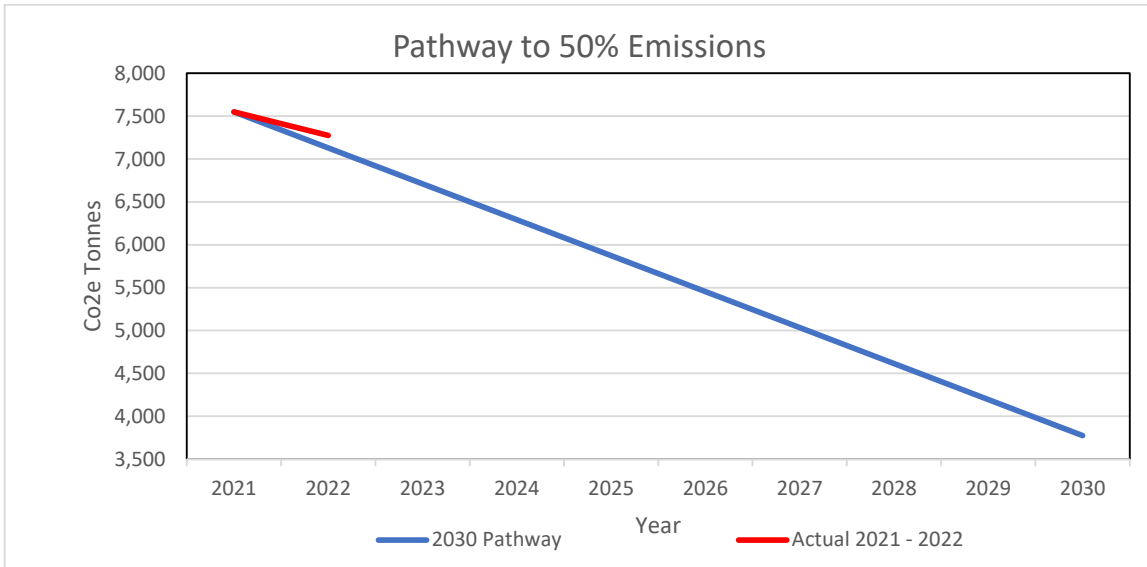
- Assist in determining the effectiveness of carbon reduction actions taking out the effect of turnover change.
- Monitor the level of actual performance against target performance.

The metrics chosen will change over time as more reliable data is able to be obtained.

The metrics used in this report follow:

### Overall Emissions

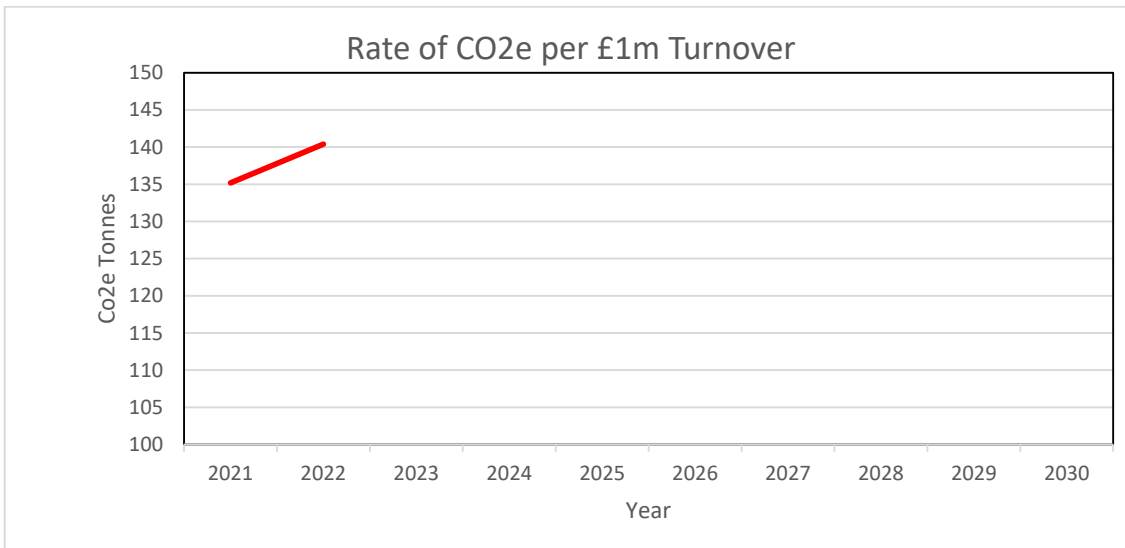




Comparing these headline figures for 2021 and 2022 the following performance levels can be calculated:

- Total CO<sub>2</sub>e emissions down by 3.6% in 2022 compared to 2021.
- Turnover down by 6.9% in 2022 compared to 2021.
- CO<sub>2</sub>e emission rate compared to turnover up by 3.6% in 2022 compared to 2021.
- On a straight line basis to be on the path for halving emissions by 2030 an annual reduction of 5.5% would be required.

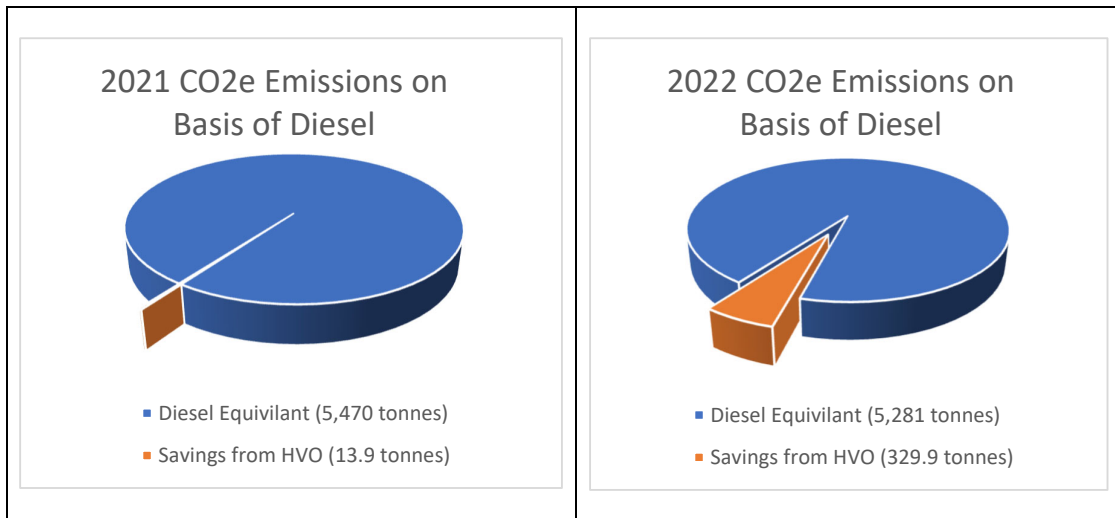
#### Rate of Emissions Compared to Turnover



The upward trend in the rate of CO<sub>2</sub>e produced compared to turnover is at first glance disappointing, but probably has no significance. The reasons for this conclusion are:

- The scope of works carried out by DSM, normal demolition, muck shifting, de-construction, all have different energy demands and therefore rate of emissions compared to turnover.
- Different operation types have different levels of profitability not linked to fuel use.
- There is not a direct link between profitability and energy use, and hence CO<sub>2</sub>e emissions, due to:
  - Work type
  - Market conditions
  - Weather conditions / structure type

### Fossil Fuel Replacement



The largest source of CO<sub>2</sub>e produced by DSM is from scope one process fuels. Within the area over 90% of the emissions come from gas oil and diesel. Gas oil was no longer able to be used from April 2022 onwards. To normalise the figures for future comparison the above graphs have had the CO<sub>2</sub>e from gas oil used calculated on the basis it was diesel fuel.



## 10 Emission Reduction Plans and Targets

DSM is committed to reducing its carbon emissions to the lowest practicable levels in the shortest period of time. To do this robust data on the actual level of emissions is vitally important and this is one of the principal reasons external certification to ISO 14064-1 (2018) is being sought.

Details on the data calculation protocols are given in the annual SECR reports.

Given the nature of our core works large plant and HGVs are required to be used. The energy density required by these items of equipment makes substitution by hybrid or electrical power not feasible. Medium- and long-term DSM's strategy is to substitute such hydrocarbon powered units with hydrogen powered units. The rapid development of suitable engines and a green hydrogen supply network is being monitored so that an early transition can be started.

Some hybrid plant is being used but regeneration energy is only obtained from slewing actions, which unlike for example general excavation works, only a limited amount is carried out.

Short term DSM is therefore concentrating on areas where carbon emission reductions are possible. These include:

- Continuing a vehicle and plant replacement programme with environmental performance being a principal consideration.
- Avoiding business travel wherever possible by use of electronic conferencing, vehicle sharing etc.
- Monitoring driving standards by in cab technology to minimise fuel usage.
- Operating a strict no idling policy.
- Replace fossil fuels with HVO fuel at a level that is financially viable.

It is accepted that due to the lack at present of suitably powered equipment DSM's rate of carbon reduction in the early years may not be below the calculated straight line reduction values. When suitable plant and hydrogen supply become available the rate of reduction will accelerate.

The timeline of completed and planned actions is given below:

### Undertaken

#### Pre 2021.

The following actions were taken:

- Replacement of gas heating system at Arden House with a more efficient system.
- Installation of LED lighting in Arden House all with motion detector switches.
- Replacement of all Arden Road floodlights with LED lights on programmable timers.
- Take into account fuel efficiency in all new plant and vehicle purchases.
- Commence detailed monitoring of carbon emissions.



## 2021

Prior to the planned more widespread introduction a small scale trial of the use of HVO for plant use was commenced in November 2021. The trial is being undertaken using a single machine at Eggborough Power Station to prove the fuel's suitability on a demolition site and identify any issues identified in its use. The HVO used will be restricted to used non palm oil derived oils.

The results for the HVO used in 2021 are outlined below:

- Amount of HVO used 5,612 litres
- CO<sub>2</sub>e emission reduction compared to gas oil 13.64 tonnes
- Proportion of HVO used compared to total site gas oil and HVO used 0.26%

Carry out a trial has been concluded on "Lightfoot" a live time monitoring device on company vehicles. The results of an eight-week trial on eight vehicles indicates a reduction of between 77 and 125 tonnes of CO<sub>2</sub>e will be achieved in a full year when the scheme is fully rolled out.

- The scheme incentivises drivers to improve their driving style by verbal notification and inclusion in a reward scheme.
- Discussions are underway with our insurance company about introducing the scheme.

## 2022

The board of DSM set the ambitious target for 2022 that 30% of fossil fuel used for plant will be replaced by HVO. The replacement level achieved was 6.3%, the shortfall was principally due to the increasing differential price between fossil fuels and HVO.

Vehicle fleet and plant fleet investment continued with a high emphasis in the selection process of fuel efficiency. The first hybrid D Rig was purchased.

## 2023

1 Due to the nature of DSM's works a significant reduction in the level of carbon emissions from our plant and HGV's is not seen as being practicable until green hydrogen is readily available within the UK. Until then carbon emissions reduction actions are designed to minimise emissions from these sources by a combination of:

- HVO substitution
- Operating in the most efficient manner
- Investing in new more efficient plant and vehicles
- Training of staff so they fully understand the issue of climate change and actions they can take to address this critical issue to mankind.



The replacement of site used fossil fuels by HVO will continue. No overall target rate of replacement has been set due to the following factors:

- Issues with using HVO in some modern diesel engines, (this may be due to the higher cleaning potential of HVO loosening sediments in tanks and fuel lines).
- Variable but high-cost premium of HVO over fossil fuels.
- Restrictions on quantities to be delivered by some suppliers.

Taking these factors into account the minimum replacement rate for 2023 – 2024 is estimated at 8%

2 Continuing the light vehicle renewal programme to replace higher emission vehicles with lower emission alternatives including hybrids and full electric vehicles.

3 Introducing “Lightfoot” to all vehicles in DSM’s fleet. This interactive driving monitoring system in live time reports to the driver any poor / fuel inefficient driving actions. The system has the potential to reduce fuel consumption by up to 5%.

4 investigating the use of temporary electrical supplies on larger contracts to allow less polluting mains electricity to be used for site welfare and potentially to charge electric / hybrid vehicles.

5 Install more electric vehicle charge points at Arden Road to facilitate more electric and hybrid vehicles.

6 Formalise enquiries will waste carriers and goods carriers regarding the fuel type used in their vehicles, and explain advantages to switching to HVO.

7 Improve the selection process for waste disposal points with regard to distance from site. Set KPIs for maximum and mean distance for each contract.

## 11 Carbon Offsetting

DSM has not to date undertaken any carbon offsetting, either by purchasing credits or by joining a Diesel / HVO Renewable Energy Guarantee of Origin scheme.



## 12 Declaration and Sign Off

This carbon reduction plan has been completed in accordance with The Cabinet Office Document PPN 06/21 and associated guidance and reporting standards for carbon reduction plans.

Emissions have been reported and recorded in accordance with:

- The reporting standard for carbon reduction plans and the GHG reporting protocol corporate standard.
- The relevant year's UK Government Greenhouse Gas Conversion Factors
- All the data in this plan has been produced using:
- Scope one and two emissions have been calculated in accordance with the SECR requirements.
- Scope three emissions (required sub-set) have been calculated in accordance with the standard for carbon reduction plans and corporate value chain (scope 3) standard.

The scope three sub-set emissions required to be included are detailed in the Cabinet Office Document – Technical Standard for Completion of Carbon Reduction Plans.

This Carbon Reduction Plan has been reviewed by the board of directors.

Signed on behalf of DSM Demolition Ltd

A handwritten signature in black ink, appearing to read 'Andrew Fletcher', is written over a horizontal line.

**Andrew Fletcher**

**Managing Director**

Date 22 August 2023