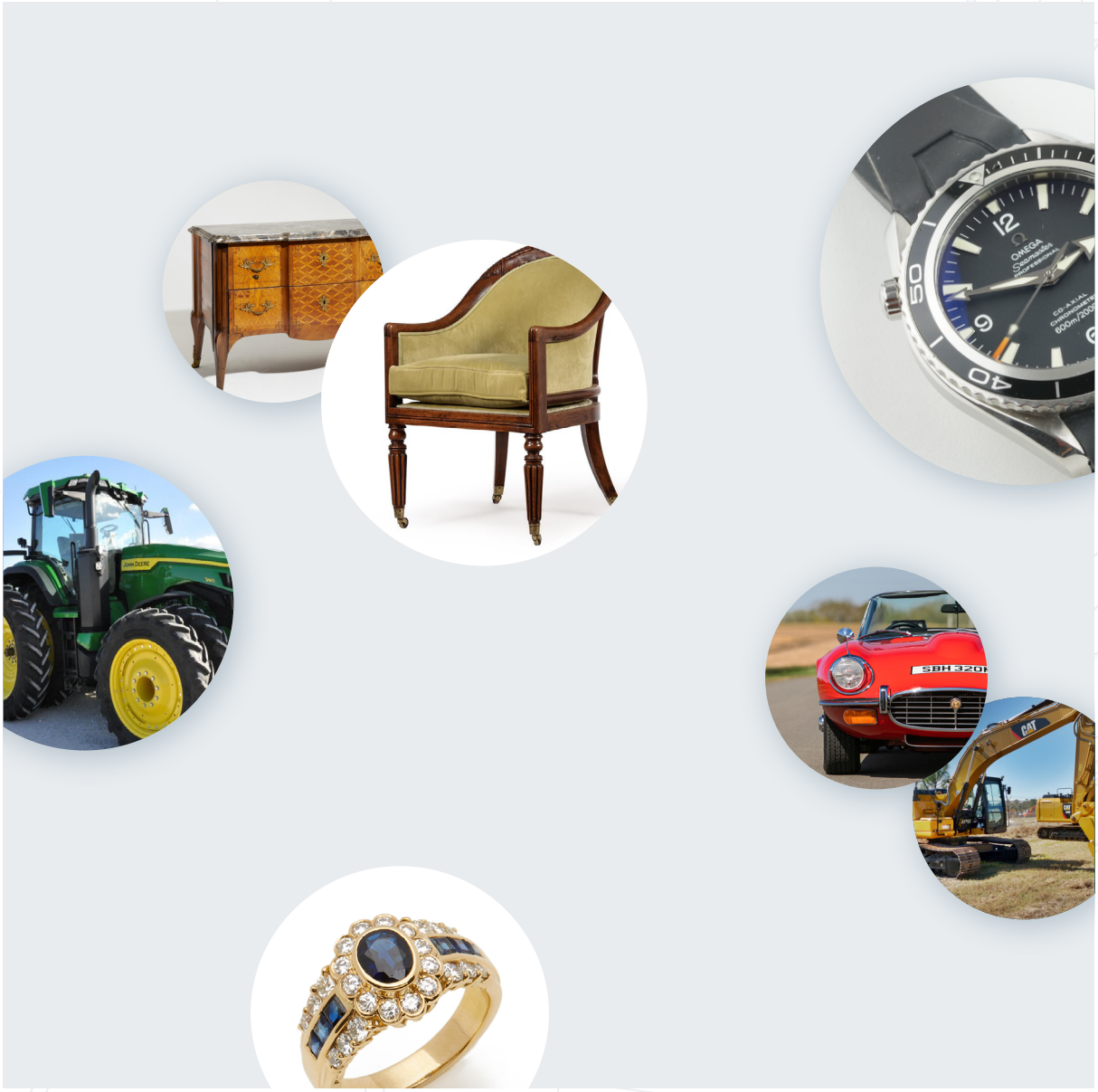
2022 CARBON IMPACT REPORT



Unlocking the value of the second-hand market, for good

atg AUCTION TECHNOLOGY GROUP

Contents

> We are passionate about spreading the word that auctions - and buying second-hand in general - can massively help reduce greenhouse gas emissions.

Foreword

As the world shifts to a more resource efficient, low carbon economy, the ability to extend product lifespans and maintain value within a circular economy is increasingly important.

The auction industry is the ultimate re use industry, giving millions of items multiple lives each year. Together, the industry plays a vital role in accelerating the growth of the circular economy, with online auctions facilitating a growing market for second hand goods.

We are passionate about spreading the word about the sustainable impact of auctions and buying second hand in general. To fully understand just how much of a positive impact our activities make to the environment, we tasked independent climate change consultancy Small World Consulting, led by leading carbon metrics expert Mike Berners Lee, to measure how much greenhouse gas emissions or carbon footprint are saved by the sale of a basket of 15 top items sold at auctions run on our marketplaces each year.

Through our inaugural Carbon Impact Report, we are excited to show how every business and consumer can make a real change by not buying new. Of course, we also acknowledge that there are environmental impacts of our operations that we must address, which is why we have also published our own greenhouse gas emissions data here.

This report reveals just the tip of the iceberg when it comes to the impact that the auction industry can have in reducing carbon emissions. It is up to all of us to do what we can to tackle the urgent climate change crisis, reducing our environmental impact as much as we can.

We are extremely proud to play such a critical role in accelerating the growth of the circular economy, and restoring the health of our planet in order to protect future generations.

John-Paul Savant
Chief Executive Officer, ATG

01.

Our purpose: unlocking the value of the second-hand market, for good

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Our purpose: unlocking the value of the second-hand market, for good

By giving millions of items multiple lives, the auction industry plays an important role in accelerating the growth of the circular economy and reducing the need to buy new.

ATG exists to unlock the value in the second, third and infinite reuse of the world s items, from the everyday to the high value. We bring millions of auctions items, curated by trusted experts, to a global pool of interested bidders searching online across an incredible range of specialised and unique second hand items.

9.5m

items sold in our 2021 financial year*

Lots sold offline and online at auctions listed on ATG marketplaces.

ATG at a glance

7
digital marketplaces*

3,800
auction houses
use our platforms*

14m
lots listed in FY21

120m
site visits in FY21

£6.3bn
of items sold in FY21
(total hammer value)

Including LiveAuctioneers

Accelerating the growth of the circular economy at scale

We connect bidders to an under explored world of millions of secondary items curated by thousands of trusted auctioneer experts. **How our virtuous circle works...**

800k
Bidders

Collectors, professionals, dealers, consumers, and businesses worldwide benefit from access to millions of unique & specialised items in a trusted, convenient environment.

3,800
Auction Houses

Specialised auctioneers across two verticals benefit from an integrated suite of marketplace technology and access to a global bidder base.

Consignments

Consignors benefit from auctioneer expertise in valuations, storage, curation, and sale of assets, with maximum exposure

Our seven digital marketplaces create a network effect

For auction houses, we make their businesses global extending their buyer reach, reducing costs, ensuring they achieve optimal asset sale prices. **Their growth helps to support a lower carbon future**.

For buyers, we make it convenient to access the widest range of curated second hand items in the world **making it easier to not buy new** .

Industrial & Commercial

proxibid / BidSpotter / BidSpotter.co.uk / i-bidder.com

Art & Antiques

thesaleroom / liveauctioneers / LOT-TISSIMO

This is the story of how ATG is a truly sustainable business.

By leading the transformation of the auction industry online, we are unlocking the value of the circular secondary goods market, all for the benefit of auctioneers, their consignors, buyers, and our planet.

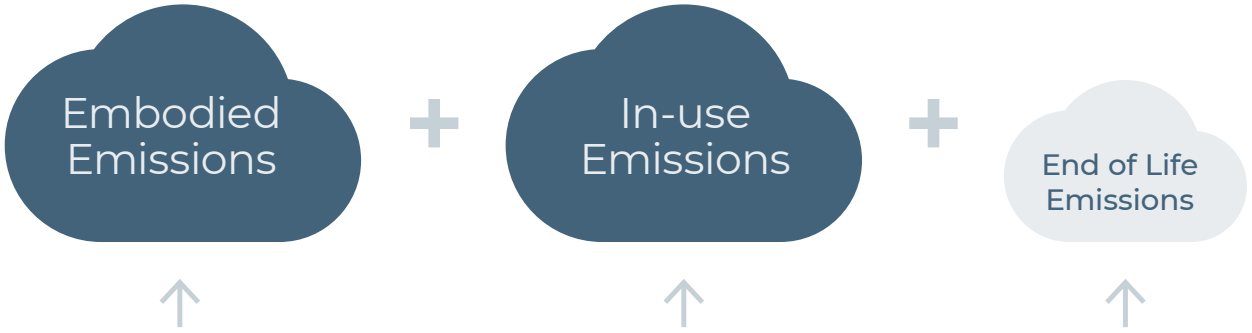
02.

The opportunity for the auction industry to help reduce the world's carbon emissions

02.

The auction industry has a huge opportunity to help reduce the world's carbon emissions

So just how do we calculate the carbon footprint of an item?



The sum of all the greenhouse gas emissions produced from every step of **manufacturing** the item

The sum of all the greenhouse gas emissions produced whilst **using** the item

The sum of all the greenhouse gas emissions produced from **repurposing, recycling, or disposing** of the item. Usually very small compared to embodied and in use emissions

A carbon footprint is measured in CO2e.

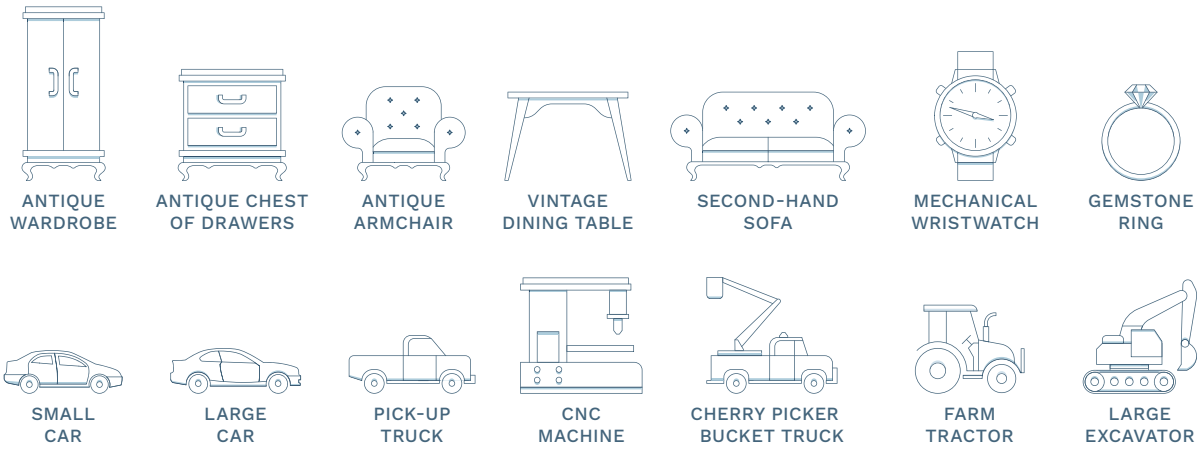
What on earth is CO2e?

CO2e = carbon dioxide equivalent

i.e. an item s or an action s overall contribution to global warming, taking into account all greenhouse gases including CO2, methane and nitrous oxide.

The potential carbon saving of a basket of second-hand auction items

To calculate the carbon footprint saved by not buying new, we compared the carbon footprint of these popular second hand items sold at auctions run on ATG s marketplaces globally with the carbon footprint of their new equivalent.



together, these items saved

1 million tonnes

of greenhouse gas emissions in our 2021 financial year.*

and these make up just 6 of the total number of items sold on our marketplaces in 2021.

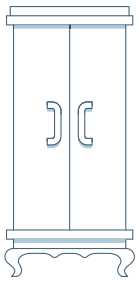
1 million tonnes of greenhouse gas emissions = Equivalent of **50 million trees** growing for one year

Compared to a worst case scenario in which all these items were discarded.

The items chosen c.600,000 items out of 9.5m lots sold in total online and offline in financial year 2021.

Carbon saving illustrated: Art & Antiques

Carbon emissions CO2e saved by auctions in 2021



ANTIQUE WARDROBE

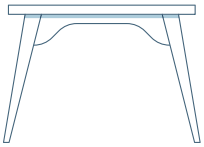
2,968
tonnes saved

ANTIQUE CHEST OF DRAWERS

2,994
tonnes saved

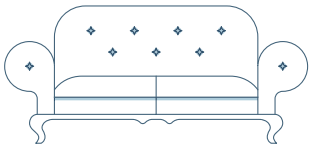
ANTIQUE ARMCHAIR

2,695
tonnes saved



VINTAGE DINING TABLE

6,336
tonnes saved



SECOND-HAND SOFA

7,213
tonnes saved

MECHANICAL WRISTWATCH

59,463
tonnes saved

GEMSTONE RING

143,628
tonnes saved

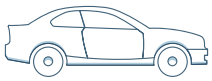
Carbon emissions saved by the sale of these popular items at auctions run on ATG s marketplaces globally.

Carbon saving illustrated: Industrial & Commercial

Carbon emissions CO2e saved by auctions in 2021

SMALL CAR

42,289
tonnes saved

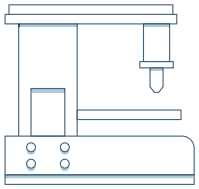


LARGE CAR

195,272
tonnes saved

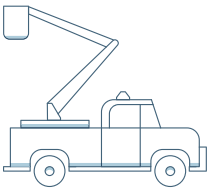
PICK-UP TRUCK

119,760
tonnes saved



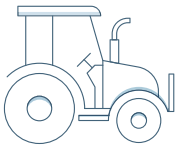
CNC MACHINE

85,365
tonnes saved



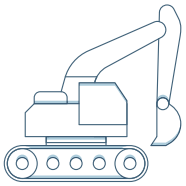
CHERRY PICKER BUCKET TRUCK

105,480
tonnes saved



FARM TRACTOR

58,334
tonnes saved



LARGE EXCAVATOR

231,768
tonnes saved

Carbon emissions saved by the sale of these popular items at auctions run on ATG s marketplaces globally.

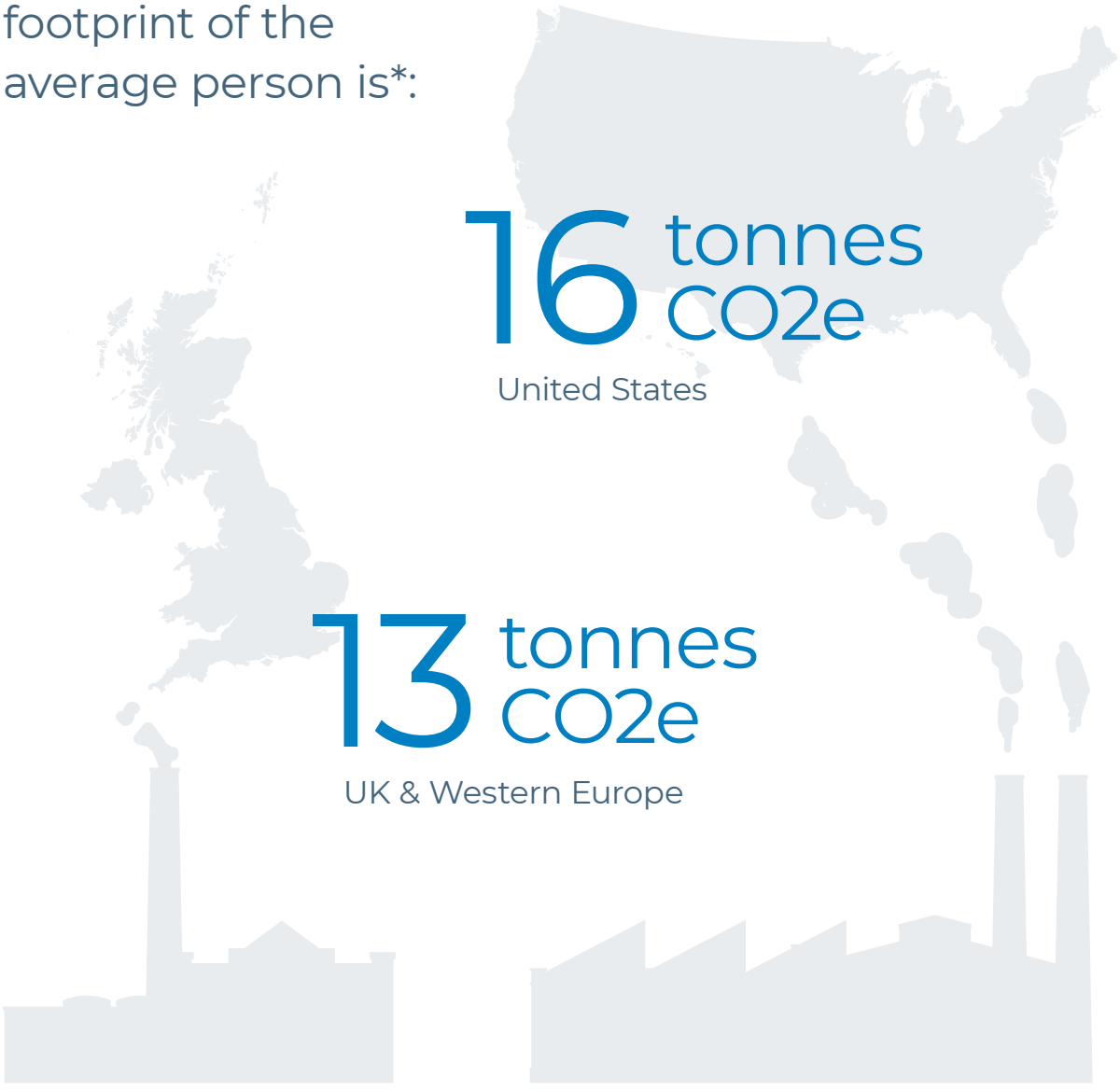
03.

The opportunity for buyers to make an impact

03.

Buyers have the chance to make a big impact by not buying new

The annual carbon footprint of the average person is*:



16 tonnes CO2e

United States

13 tonnes CO2e

UK & Western Europe

The global average is around **7 tonnes CO2e** per person.

Source: Small World Consulting

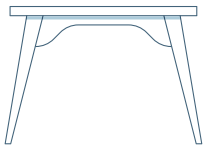
You can make a big impact by not buying new

Buying just one of these items second hand saves this amount of CO2e

Furniture

ANTIQUE ARMCHAIR

0.16
tonnes saved

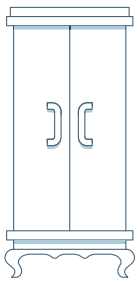


VINTAGE DINING TABLE

0.46
tonnes saved

ANTIQUE CHEST OF DRAWERS

0.32
tonnes saved

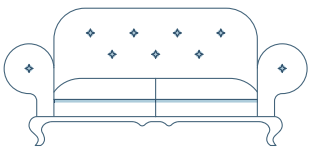


ANTIQUE WARDROBE

0.46
tonnes saved

BONUS EFFECT

A new wardrobe has a footprint of around **460kg CO2e**. If a new wardrobe needs replacing twice as often as a second hand one, you could be responsible for an additional **920 kg CO2e** almost 1 tonne if you buy new.



SECOND-HAND SOFA

0.56
tonnes saved

BONUS EFFECT

Reupholstering a second hand sofa has a footprint of around **177 kg CO2e** much lower than the footprint of a new sofa.

BONUS EFFECT

Antique furniture often has a longer lifespan than new furniture - it's usually made from higher quality raw materials, with a higher quality of craftmanship. And it is repairable and restorable.

You can make a big impact by not buying new

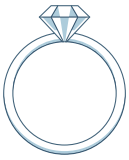
Buying just one of these items second hand saves this amount of CO2e

Watches & Jewellery

MECHANICAL WRISTWATCH

0.8
tonnes saved

BONUS EFFECT
If well looked after, mechanical watches can last upwards of 60 years. A standard mechanical service and repair will have a footprint of around **12 kg CO2e** much lower than buying a new one.



GEMSTONE RING

0.42
tonnes saved

BONUS EFFECT
By buying jewellery second hand, the social environmental impacts of mining for precious metals stones are avoided.

Second-Hand Cars & Commercial Vehicles

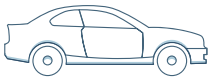
Unlike items such as furniture, in use emissions are an important part of the total footprint of a car. However, the embodied emissions of a car typically rival the exhaust emissions over its lifetime.

So although electric cars will play a part in a low carbon world, the emissions from manufacturing are large and therefore will still have a huge impact.

Because of this, the better fuel efficiency of the use phase of a new hybrid car does not make up for its embodied emissions.

SMALL CAR

6.8
tonnes saved



LARGE CAR

4
tonnes saved

PICK-UP TRUCK

12
tonnes saved

BONUS EFFECT

Buying a second-hand petrol car is STILL greener than buying a new hybrid model.

Businesses buying machinery and business assets can make big one-off carbon savings by buying second-hand

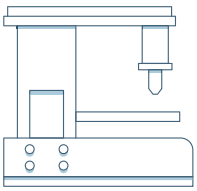
Buying just one of these items second hand saves this amount of CO2e

Industrial & Commercial

While the total carbon emissions over the full lifetime of a well-cared-for tractor or CNC machine is significant because of in use emissions , there is a significant one off carbon saving when buying second hand instead of new, as these numbers illustrate. This is because new machinery has a very large embodied footprint.

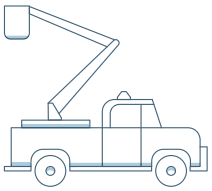
But good maintenance is key. For example, a tractor used for a full lifespan of 6,000 hours has a carbon footprint of 8.9 tonnes CO2e per 100 hours used. If the same tractor is discarded and not re used after 1,000 hours it would have a total emissions of 10.9 tonnes CO2e per 100 hours two tonnes more per 100 hours.

This emphasises the importance of looking after the items well and using them until their end of life.



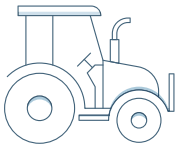
CNC MACHINE

21
tonnes saved



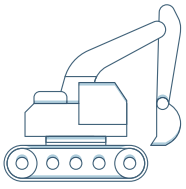
CHERRY PICKER BUCKET TRUCK

20
tonnes saved



TWO-YEAR-OLD TRACTOR

2.4
tonnes saved



LARGE EXCAVATOR

36
tonnes saved

BONUS EFFECT

For businesses looking to purchase a vehicle to use until a hydrogen-powered or electric machine is available, buying second-hand is the lowest-carbon option by far, as new machinery has a very large embodied footprint.

04.

ATG is taking responsibility for its own impact

04.

ATG is taking responsibility for its own impact

Environmental sustainability is at the heart of our operations

The auction industry plays an important role in accelerating the growth of the circular economy with the evolution of online auctions facilitating the market for second hand goods.

Our services ensure that millions of items are resold for re use or repurpose each year, extending their value within the economy and preventing waste.

However, as for any business, there are environmental impacts to our operations that we are committed to minimising.

Our first year commitment

We completed our first annual greenhouse GHG emissions review in 2021, accounting for emissions from **Scope 1**, **Scope 2**, and measurable emissions from **Scope 3**.

This is a vital first step to allow us to identify our largest emission sources and where we need to focus future efforts.

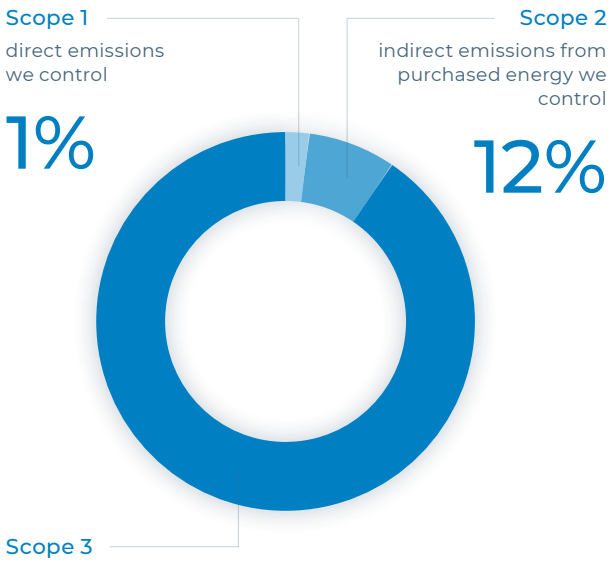
The Greenhouse Gas Protocol uses three measures to categorise GHG emissions:

Scope 1: direct emissions from owned or controlled sources

Scope 2: indirect emissions from the generation of purchased energy

Scope 3: all indirect emissions not included in scope 2 that occur in our value chain

ATG emitted 2,187 tonnes of CO2e in our 2021 financial year with a carbon intensity of 31.2 tCO2e per £m revenue



Our future commitment

Our next steps are to:

Target our largest emission sources and set out reduction strategies

Fully understand our climate related risks in order to disclose these under the Taskforce for Climate Related Financial Disclosures TCFD guidelines

Review how to achieve net zero emissions, looking to offset our avoidable emissions, whilst continuing to work to reduce them

05.

Methodology

Methodology 1: Product carbon footprint numbers

The product carbon footprint numbers in this report have been prepared for ATG by carbon research consultants Small World Consulting, led by carbon metrics expert Mike Berners Lee. Small World Consulting s assessment of the product carbon footprint numbers of the items listed in this report have been estimated using data from process based life cycle analysis PBLCA , environmental input output analysis, and sometimes a hybrid of the two.

Defining a carbon footprint

Carbon footprint is used to describe the best estimate of the **full climate change impact** of something. Here, carbon footprints have been measured in CO2e **carbon dioxide equivalent**. This is a way of describing an item s or an action s overall contribution to global warming, taking into account all greenhouse gases including CO2, methane and nitrous oxide.

Process-based life cycle analysis (PBLCA)

PBLCA is the most common approach to carbon footprinting. It works by identifying the key processes that have to happen for a product to be created. The footprint of the product is the sum of the emissions of all those processes added together

Environmental input-output analysis

This method is a neat alternative and complement to PBLCA. It is sometimes called a top down approach because it starts by looking at the whole economy. It uses macroeconomic modelling to understand the way in which the activities of one industry trigger activities and emissions in every other industry. The input output model captures the ripple effects in a way that is 100 per cent complete.

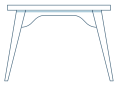
General Assumptions

- All product carbon assessment contains considerable uncertainty. Each carbon estimate has been based on a series of product based assumptions.
- If a buyer chooses to buy an item new, the embodied emissions are their responsibility, as they triggered the manufacture of that product.
- If someone buys second hand, all of the embodied emissions have already been written off by the person who first bought the product, so the embodied emissions are not the second hand buyer s responsibility. For this report, all the embodied emissions of a new product have been added to their original purchaser, so that second hand goods contained no embodied carbon.
- End of life emissions have not been included in this report, as these are usually a very small part of the total carbon footprint.
- Furniture, watches and jewellery have no in use footprint, so assessment of the products is focused mainly on embodied emissions of a new item.
- For cars, the average UK car owner keeps a car for around 4 years and drives 7200 miles per year. Therefore, it is assumed that these cars will be kept for 4 years and driven 7,200 miles every year. We have included the carbon footprint of standing and running, which includes all emissions associated with owning and using a car, excluding fuel usage. Standing emissions include road tax, insurance, cost of capital, depreciation, and breakdown cover. Running cost emissions include tyres, service labour costs, replacement parts, and parking and tolls. In use emissions refer to fuel consumption.
- For machinery and business assets, it is assumed that once you purchase a work vehicle you will use it for the rest of its life expectancy, so the footprint of use is calculated over the remaining lifetime of the product. Table 1B demonstrates the assumptions made around the life expectancy of an item after it is bought, and the resulting carbon saved by not buying new.

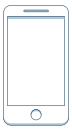
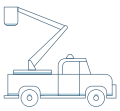
About Mike Berners-Lee

Mike is Founder and Director at Small World Consulting. A leading expert in carbon metrics for organisations, Mike is also the author of two books, There is No Planet B: A Handbook for the Make or Break Years , How Bad Are Bananas The carbon footprint of everything , and co author of The Burning Question . He is a professor at Lancaster University s Environment Centre, where his research includes carbon metrics and sustainable food systems.

THE ITEMS WE COMPARED (TABLE 1A)

 DINING TABLE	SOLD AT AUCTION IN 2021 Ercol blonde elm dining table	HAMMER PRICE £360
	SOLD NEW (PRICES AS AT FEB 2021) Ercol Plank Table	PRICE £1009
 ARMCHAIR	SOLD AT AUCTION IN 2021 Victorian walnut armchair with royal burgundy velvet upholstery	HAMMER PRICE £240
	SOLD NEW (PRICES AS AT FEB 2021) Marks Spencer New Highland Button armchair	PRICE £649
 SOFA	SOLD AT AUCTION IN 2021 Grande two seat sofa upholstered in red and gold damask fabric	HAMMER PRICE £420
	SOLD NEW (PRICES AS AT FEB 2021) Duresta Mayfair sofa from Furniture Village	PRICE £2291
 WARDROBE	SOLD AT AUCTION IN 2021 Edwardian satin walnut wardrobe	HAMMER PRICE £30
	SOLD NEW (PRICES AS AT FEB 2021) John Lewis wardrobe import from China	PRICE £999
 CHEST OF DRAWERS	SOLD AT AUCTION IN 2021 George III mahogany straight front chest of drawers, early 19thC	HAMMER PRICE £380
	SOLD NEW (PRICES AS AT FEB 2021) John Lewis five drawer oak chest (import from China)	PRICE £699
 MECHANICAL WRISTWATCH	SOLD AT AUCTION IN 2021 Omega Constellation stainless steel gentleman s bracelet watch	HAMMER PRICE £440
	SOLD NEW (PRICES AS AT FEB 2021) Omega Constellation Co Axial Master Chronometer	PRICE £5,190
 GEMSTONE RING	SOLD AT AUCTION IN 2021 18ct gold five stone diamond ring, with five brilliant cut 1.5ct diamonds	HAMMER PRICE £1,500
	SOLD NEW (PRICES AS AT FEB 2021) Five stone round brilliant double claw setting diamond ring, from Samara James of Hatton Garden	PRICE £2,298

THE ITEMS WE COMPARED (TABLE 1A CONT.)

 SMALL CAR	SOLD AT AUCTION IN 2021 Ford Focus Titanium 125 (petrol), 10 years old	HAMMER PRICE £3,350
	SOLD NEW (PRICES AS AT FEB 2021) Ford Focus Titanium hybrid petrol	PRICE £22,295
 LARGE CAR	SOLD AT AUCTION IN 2021 2014 Ford Fusion, 84,199 miles	HAMMER PRICE $4,500
	SOLD NEW (PRICES AS AT FEB 2021) New Ford Fusion	PRICE $22,000
 PICK-UP TRUCK	SOLD AT AUCTION IN 2021 2016 Ford F-150 Pickup Truck, 42,206 miles	HAMMER PRICE $27,000
	SOLD NEW (PRICES AS AT FEB 2021) New Ford F-150 Pickup Truck	PRICE $45,220
 MOBILE PHONE	SOLD AT AUCTION IN 2021 Apple iPhone 11	HAMMER PRICE £320
	SOLD NEW (PRICES AS AT FEB 2021) Apple iPhone 12	PRICE £724
 CNC MACHINE	SOLD AT AUCTION IN 2021 Anderson Stratos Pro XL CNC router	HAMMER PRICE $10,000
	SOLD NEW (PRICES AS AT FEB 2021) Stratos Pro XL CNC Router 2007	PRICE $30,000
 BUCKET TRUCK	SOLD AT AUCTION IN 2021 Altec AA55 bucket truck on 2015 Freightliner M2 106 4x4 utility truck, 29,504 miles	HAMMER PRICE $59,000
	SOLD NEW (PRICES AS AT FEB 2021) New Altec AA55 Bucket Truck	PRICE $200,000
 LARGE EXCAVATOR	SOLD AT AUCTION IN 2021 Kobelco SK350LC hydraulic excavator, 6,756 hours	HAMMER PRICE $46,000
	SOLD NEW (PRICES AS AT FEB 2021) New Kobelco SK350LC	PRICE $300,000
 TRACTOR	SOLD AT AUCTION IN 2021 2018 John Deere 6110M tractor, 1,091 hours	HAMMER PRICE $49,000
	SOLD NEW (PRICES AS AT FEB 2021) New John Deere 6110M tractor	PRICE $110,000

TOTAL CARBON SAVING FROM ITEMS PURCHASED ON ATG MARKETPLACES (TABLE 1B)

Item	Age usage when sold at auction	Usage period after bought at auction	Emissions saved tonnes vs. buying new	How many are sold at auctions that are promoted on our marketplaces	Total emissions saved in tonnes
DINING TABLE	n a	total life	0.46	13,774	**6,336**
ARMCHAIR	n a	total life	0.16	16,842	**2,695**
SOFA	n a	total life	0.56	12,812	**7,213**
WARDROBE	n a	total life	0.46	6,453	**2,968**
CHEST OF DRAWERS	n a	total life	0.32	9,297	**2,994**
WRISTWATCH	n a	total life	0.80	74,329	**59,463**
GEMSTONE RING	n a	total life	0.42	341,972	**143,628**
SMALL CAR	10 years	4 years	6.80	6,219	**42,289**
LARGE CAR	6 years	4 years	4.00	48,818	**195,272**
PICK-UP TRUCK	4 years	4 years	12.00	9,980	**119,760**
MOBILE PHONE	1.5 years	4 years	0.18	5,011	**906**
CNC MACHINE	14 years	30,000 hours	21.00	4,065	**85,365**
BUCKET TRUCK	5 years	50,000 miles	20.00	5,274	**105,480**
LARGE EXCAVATOR	6,756 hours	6,000 hours	36.00	6,438	**231,768**
TRACTOR	2 years	6,000 hours	2.40	24,306	**58,334**
			Total emissions saved in tonnes		**1,064,472**

Methodology 2: ATG greenhouse gas emissions numbers

The methodology used to calculate our own greenhouse gas, GHG inventory , is based on the World Resources Institute GHG Protocol A Corporate Accounting and Reporting Standard, Revised Edition2 the Protocol and follows the Protocol s guiding principles of relevance, completeness, consistency, transparency and accuracy. We were supported to do this by energy and sustainability consulting company ClearLead Consulting Ltd.

A financial control approach has been taken, meaning that the inventory covers emissions from all operations that are under the Group s financial control, including operations in the UK, US and Germany . Emission factors have been chosen based on the location of the emissions. However, where emission factors are not available, UK Government emission factors have been applied. Emissions are reported in line with the Group s 2020 21 financial year, the baseline year being the 2019 20 financial year.

Direct scope 1 and 2 emissions are based on primary data, however, to enable us to fully understand our indirect emissions some secondary data has been used and some assumptions made to calculate scope 3 emissions where primary data was unavailable . This has allowed us to calculate emissions from all relevant scope 3 categories, covering nine out of the GHG Protocol s 15 categories. The remaining scope 3 categories, including emissions from upstream and downstream leased assets, franchises, processing of sold products and investments, are not applicable to ATG, whereas insufficient data was available for upstream transportation and distribution.

Specifically, we have chosen to include emissions from the use of our online platforms, such as the energy consumed by customers devices, as well as remote working emissions, to ensure we account for all emissions that exist as a result of our operations. Taking this rigorous approach for our first year carbon footprint has provided a thorough understanding of the climate related impacts of our operations, which we plan to build upon in future years. In particular we aim to work with our supply chain to obtain supplier specific emission factors for goods and services procured.

Before the acquisition of LiveAuctioneers

2022 CARBON IMPACT REPORT

Unlocking the value of the second-hand market, for good

atg AUCTION TECHNOLOGY GROUP