

# Haworth Tompkins Carbon Footprint Report 2020

## HT Carbon Footprint Report 2020

### Document Title:

HT Carbon footprint report 2020

### Document location:

Y:\9000 Office Admin\01-Admin\08-  
PracticeManagement\WorkingGroups\8 -  
StudioEnvironment\Carbon Footprint\Carbon  
Footprint 20-21\03-Report

### Authors:

Diana Dina, Fred Howarth, Rowan Riley, Caroline  
McTurk

Issued to: -

Date: October 2021

Revision: -

# Contents

## Executive Summary

### A. Introduction

### B. HT office carbon footprint

### C. Reduction measures & Climate Action Plan: Race to Zero

### D. Conclusions

## Appendices

### Appendix A – Methodology

## Executive summary

As founding signatories of the Architects Declare movement, Haworth Tompkins are committed to act to reduce their environmental impact both as a business, and through their design work.

Haworth Tompkins are members of UKGBC, AECB, and the International Living Future Institute (ILFI), and support the work of LETI and Architects Declare (AD) working groups including coordination of the recently published AD Practice Guide.

**Since 2019, Haworth Tompkins have been monitoring and recording their business impact by measuring their office carbon footprint.**

**This report relates to the operations of our two London premises, Greenwood Place (GWP) and Holmes Road (HR), between 5th April 2020 and 5th April 2021.**

The aims of this report are:

- to identify the activities linked to the majority of greenhouse gas emissions (GHG) expressed in tonnes CO<sub>2</sub>e, linked to HT business operations
- to present possible solutions to reduce the GHG emissions and commit to achieve a significant reduction by 2030, compared to the 2019 baseline, by signing up to the *Race to Zero* challenge
- recommend ways to offset 2020 GHG emissions in a way that is meaningful for the environment.

**The office carbon footprint during April 2020/April 2021 is estimated at 67 tonnes CO<sub>2</sub>e, or approx. 0.66 tonnes CO<sub>2</sub>e/person.** This compares with 73tonnes CO<sub>2</sub>e (0.9t per person) in the previous year (pre-pandemic).

**The emissions will be offset via a tree-planting scheme, using a £80/tonne carbon cost.**

**This 2020/2021 Office carbon footprint analysis includes:**

- Scope 1 emissions: gas;
- Scope 2 emissions: electricity;
- Scope 3 emissions: water use, project related transport and couriers, staff commuting, staff home working, model-making deliveries, transmission & distribution losses and 'well to tank' emissions linked to the supply of electricity and gas used in the office.

Haworth Tompkins

No. of employees 2020/2021 (average): 103  
Governance: Employee Ownership Trust (EOT)

Reporting:

Design work targets: START Toolkit  
Business operations impact: HT Office Carbon Footprint

Period: April 2020 - April 2021  
HT Office GHG emissions:  
67tonnes CO<sub>2</sub>e (0.66 tonnes CO<sub>2</sub>e/person)

# Executive summary

## Key findings:

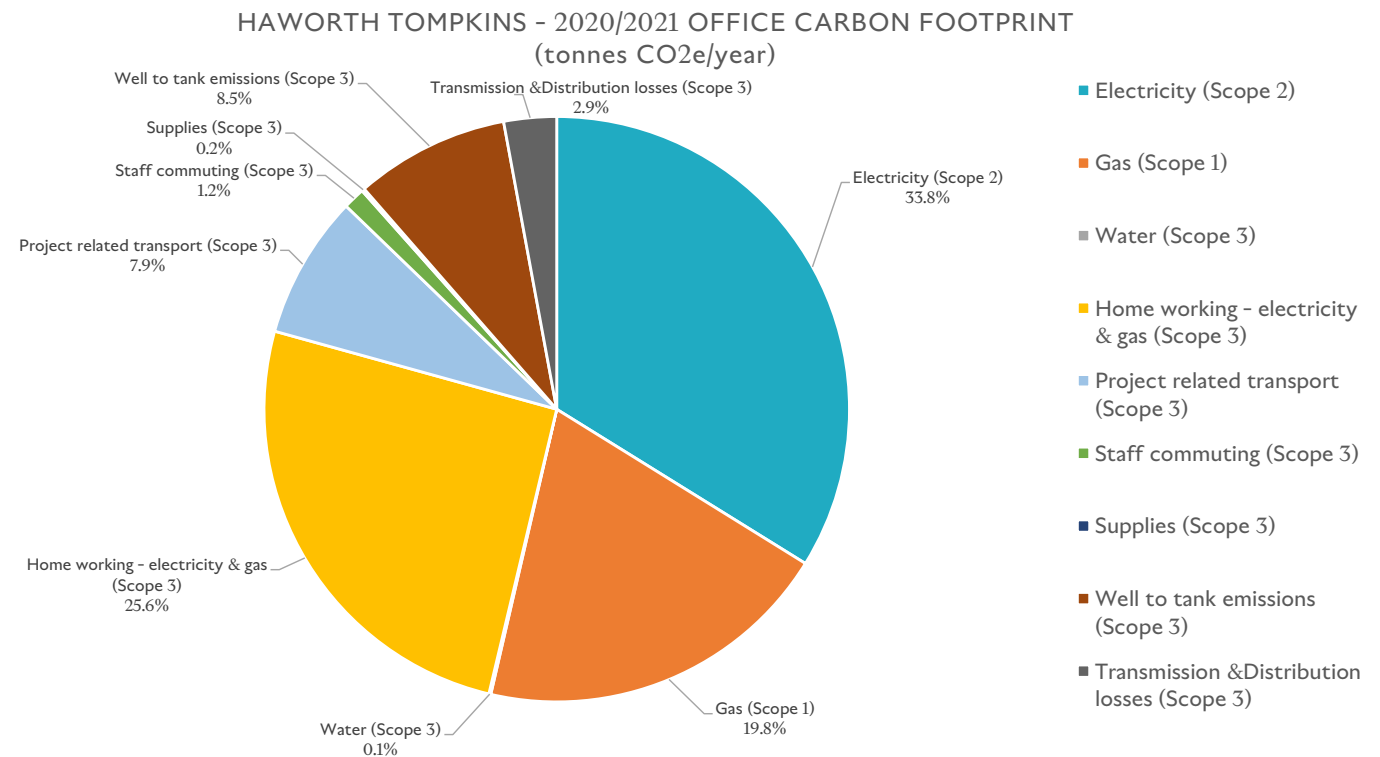
- the largest proportion of emissions are due to electricity use, gas use, home working and project-related commuting

- there are significant changes compared to the previous report (April 2019/April 2020), reflecting the adjustments to working conditions during the height of the pandemic:

- large carbon savings linked to project related travel, with no flights during this period
- the carbon emission savings related to a reduction in staff commuting have been replaced, in a comparable amount, by the emissions linked to home working

## Climate Action Plan

Haworth Tompkins have signed up to the **Race to Zero challenge via the SME Climate Hub** (<https://smeclimatehub.org/sme-climate-commitment/>), aiming to halve their **GHG emissions by 2030** compared to the 2019 baseline, offset annually the remaining emissions through efficient measures, and **achieve net zero emissions before 2050**.



HT 2020 office carbon footprint (67 tonnes CO<sub>2</sub>e/year ; 0.66 tonnes CO<sub>2</sub>e/person/ year)

## A. Introduction

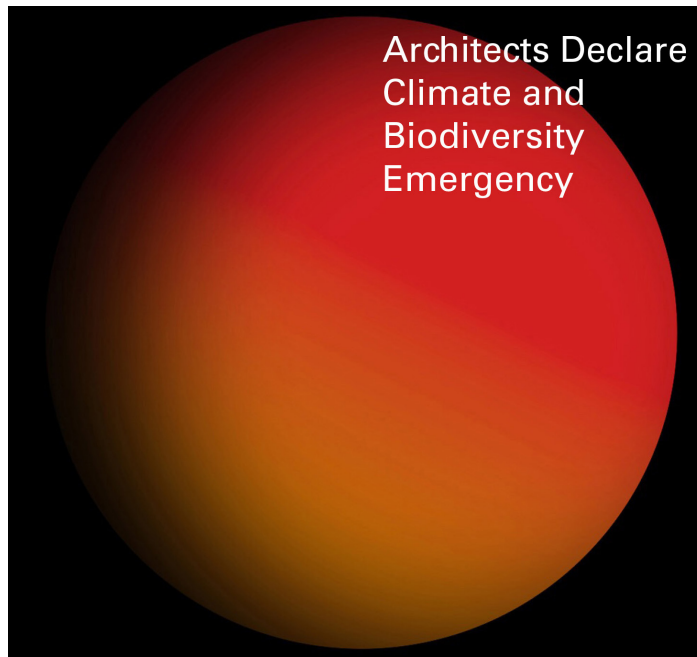
### Emergency response

Haworth Tompkins are founding signatories of the Architects Declare Climate and Biodiversity Emergency movement which acknowledges the impact of the construction industry on global climate and biodiversity. The AD declaration sets out a list of goals to minimise carbon emissions in the built environment. **HT are committed to acting now to reduce their carbon emissions both through the projects they design, and the way the business operates.**

### Office carbon footprint

HT started an annual process of calculating the office carbon footprint<sup>1</sup> in 2019, to become more aware of its impact on the environment.

**The current report covers the operations of HT's two London premises, Greenwood Place (GWP) and Holmes Road (HR), between 5th April 2020 and 5th April 2021.** The goal is to become more aware of the carbon emissions that arise from operating the business, and to find ways to improve this and minimise the office carbon footprint. [1] <https://www.haworthtompkins.com/studio/regenerative-design/our-carbon-footprint-report-2019>



# A. Introduction

## Location and premises

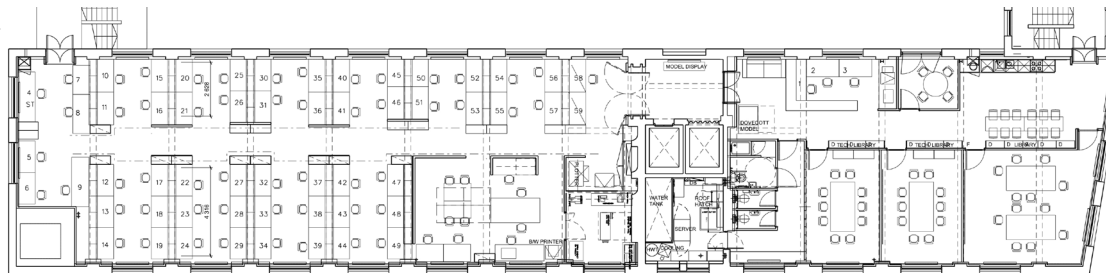
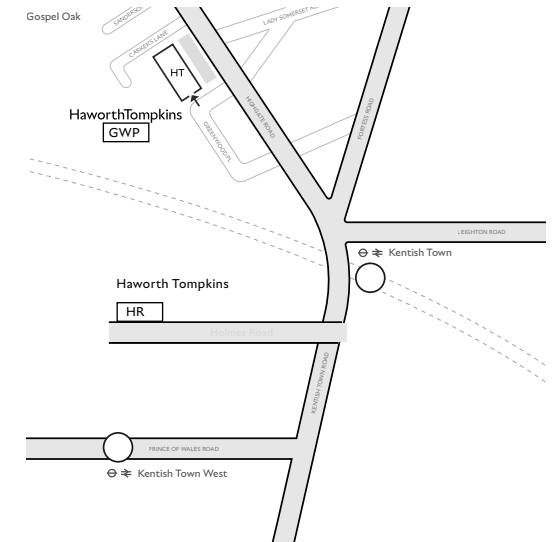
HT operates across two premises: Greenwood Place (GWP) - main office, and Holmes Rd (HR) office. Both are included in this analysis. HT are assessing options to bring all staff together in one location.

### Greenwood Place (GWP)

- Former industrial building
- Entire 5th floor of a GF+5 storey building
- 513m<sup>2</sup> GIA
- Gas fired boiler with radiators; utilities included in rent, no control over utilities suppliers
- Natural ventilation via windows (single glazed, metal frame)
- Uninsulated solid brick walls

### Holmes Road (HR)

- Recent build
- Ground floor office with residential accommodation above.
- 205m<sup>2</sup> GIA
- Gas fire boiler with underfloor heating; utilities included in rent, no control over utilities suppliers
- Natural ventilation through a couple of high level openable windows (double glazed with Alu frames); almost 100% glazed north facade, large % glazing on South East facade
- Overheating in summer can require localised fans and floor standing purifier units at times. Cross-ventilation was tried this past year. Passive or low energy ventilation solutions need to be found as introducing AC in the near future would increase the carbon footprint of the office



Greenwood Place office plan (GWP)

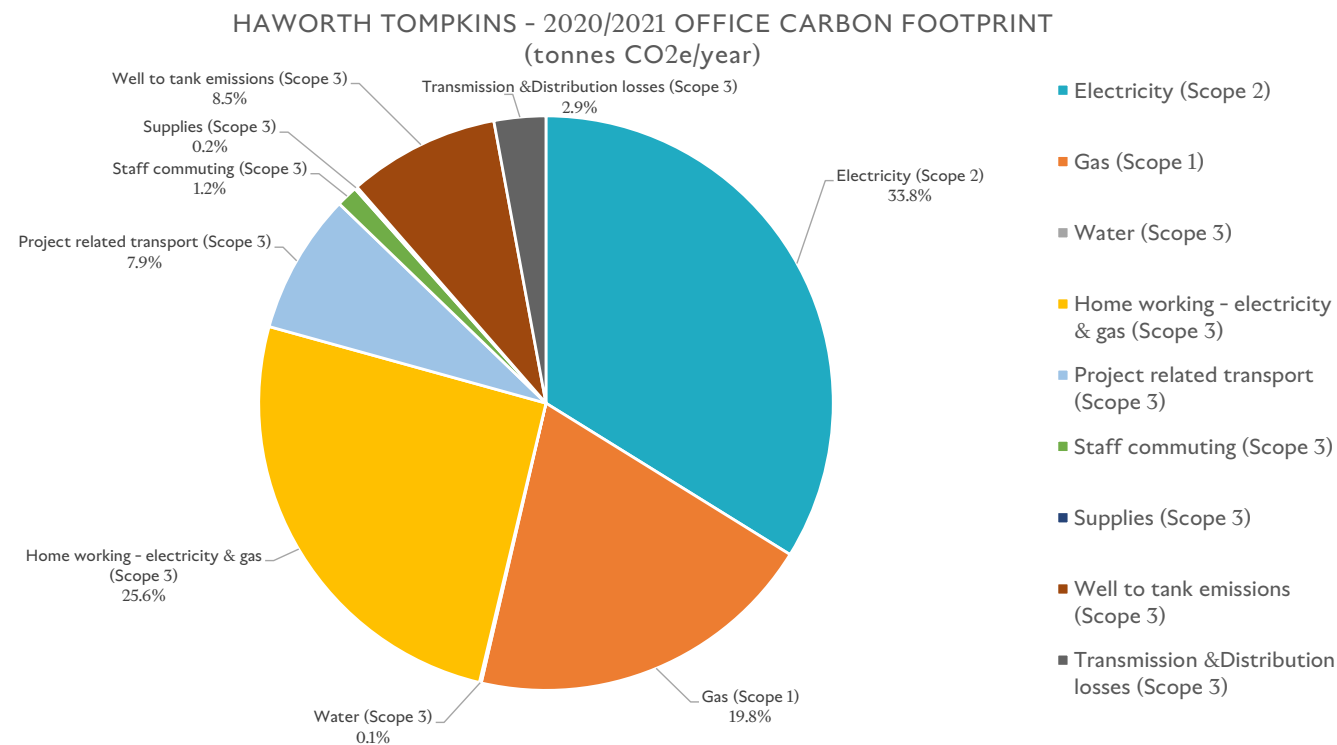


Holmes Road office plan (HR)

## B. HT office carbon footprint

The analysis shows that HT's main sources of greenhouse gas (GHG) emissions, expressed in CO<sub>2</sub> equivalent, between April 2020/April 2021 were:

- electricity use
- gas use
- home working (electricity and heating, based on number of employees and using average estimates: <https://bulb.co.uk/blog/how-to-measure-the-carbon-impact-of-working-from-home>)



HT 2020 office carbon footprint ( 67 tonnes CO<sub>2</sub>e/year ; 0.66 tonnes CO<sub>2</sub>e/person/ year)

The report covers the height of the COVID-19 pandemic, several lock-downs, and significant changes to the pattern of work and practice operations:

- little to no commuting to the office
- remote working from home via connection to computers in the office (left on much longer than before the pandemic)
- little project-related commuting, no flights

The current report presents a more in-depth analysis than the previous 2019 study, adding details regarding: model-making deliveries, transmission & distribution losses and 'well to tank' emissions linked to the supply of electricity and gas used in the office.

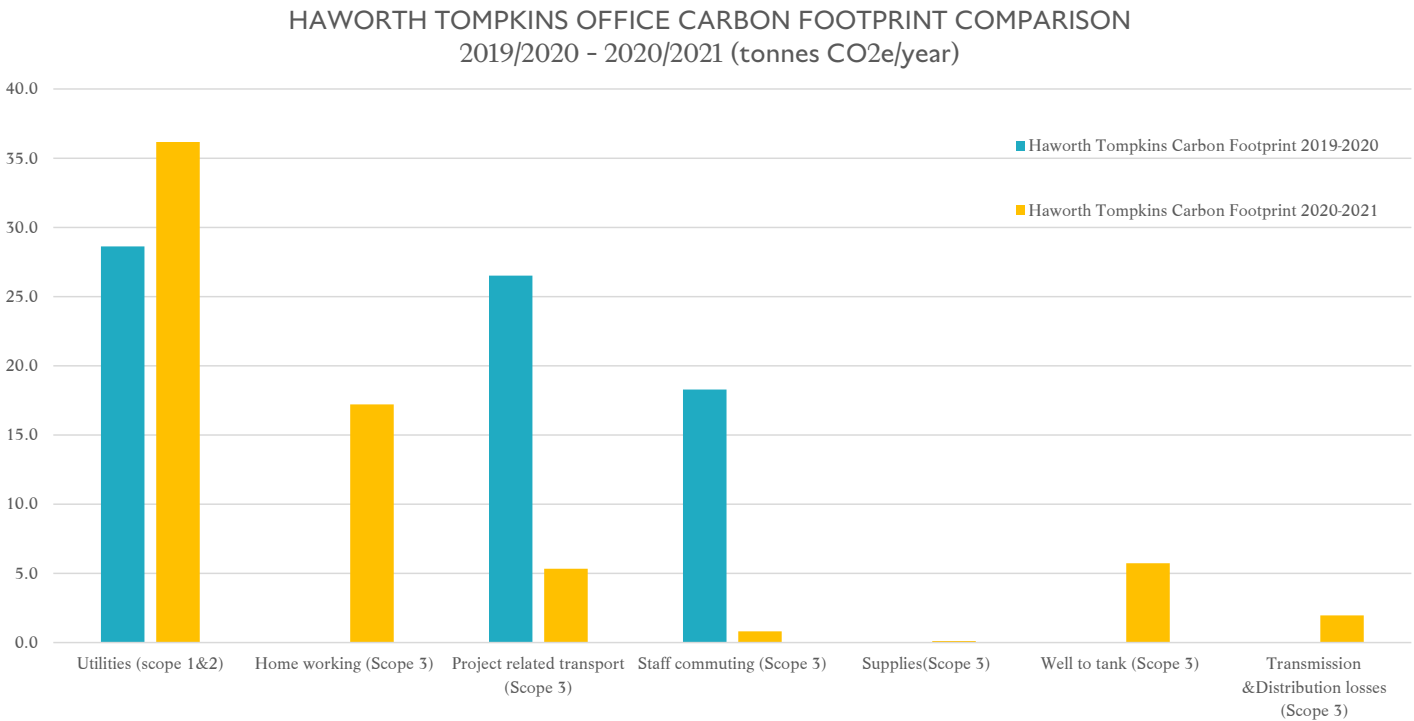
**The HT office carbon emissions will be offset via a tree-planting scheme, using a £80/tonne carbon cost.**



## B. HT office carbon footprint

A comparison to the previous year’s carbon footprint reflects the changes in work patterns during the pandemic and also improved data:

- **significantly reduced GHG emissions linked to project-related travel compared to 2019 (no flights in 2020)**
- **reduced GHG emissions linked to staff commuting in 2020 are balanced off by emissions related to home working (in a similar amount)**
- **slightly higher emissions linked to utilities in 2020:** higher electricity use due to computers left on in the office for remote working, and higher gas use in one of the premises compared to 2019, very likely due to more accurate data available in 2020 (manual meter readings) compared to 2019 (landlord bills based on estimates), and using pro-rata figures for the floor HT occupy (as the meter is for the entire building). The electricity use in GWP is higher than HR office: this may be explained by the server room including cooling, and additional computers for new staff to log on remotely during lockdown.



Comparison between HT office carbon footprint 2019 vs 2020

## C. Reduction measures and Climate Action Plan: Race to Zero

The carbon reduction measures beyond 2020 will focus on the key items identified in the 2019 report, and include the new ways of working and commuting post-pandemic identified in this report (e.g. working partly from home, partly from the office) and changes envisaged (slightly higher staff commuting numbers and slightly lower working from home numbers than in 2020).

The *Studio environment* and *Sustainability & Regenerative design* working group therefore recommended that the practice signs up to the **Race to Zero challenge via the SME Climate Hub** (<https://smeclimatehub.org/sme-climate-commitment/>), aiming to:

- **halve its GHG emissions by 2030** compared to the 2019 baseline, offset annually the remaining emissions through efficient measures,
- **achieve net zero emissions before 2050, and**
- **disclose our progress on a yearly basis**

### The SME Climate Commitment

Recognising that climate change poses a threat to the economy, nature and society-at-large, our company commits to take action immediately in order to:

1. **Halve our greenhouse gas emissions before 2030**
2. **Achieve net zero emissions before 2050**
3. **Disclose our progress on a yearly basis**

In doing so, we are proud to be recognised by the United Nations Race to Zero campaign, and join governments, businesses, cities, regions, and universities around the world that share the same mission.

Race to Zero - SME Climate Hub Commitment

## HT Climate Action Plan

**Office carbon emission reduction measures will focus on:**

1. **Flights** - practice-wide decision on maximum number of annual economy flights for international projects
2. **Electricity** - requires improvements to IT system & lighting in current premises
3. **Heating** - closely linked with improvements to the office building fabric & services (decision on retrofit existing offices, or move to new premises; for retrofit, focus on windows, insulation, heat recovery ventilation, fossil fuel free heating)
4. **Staff commuting** by actively supporting and encouraging green options

**A business decision on maximum number of annual international flights and on office premises will be key in reaching the proposed GHG emissions reduction targets (significantly improving existing premises, or finding adequate new office space).**

**The carbon emissions reduction measures recommended in this report refer to the 2019/2020 baseline** (as the year under analysis represents an unusual period due to the pandemic conditions), **however will reflect the current and near-future working patterns** (partly work from home, partly work in the office, for the majority of staff, but expecting more project-related travel than 2020).

## C. Reduction measures and Climate Action Plan: Race to Zero

### 1. Flights

HT has increasingly taken on more international projects. However, 2020 has shown that effective communication with local architects and clients can be carried out via remote technology. There still remains a need for the HT project team to see the site and meet the local team in person therefore, moving forward, the following possible carbon reduction measures have been identified and recommended in order to reach the Race to Zero commitments:

- **Agree to limit the number of annual flights (economy travel only) for international projects as below, (rest of travel by e.g. train & ferry):**

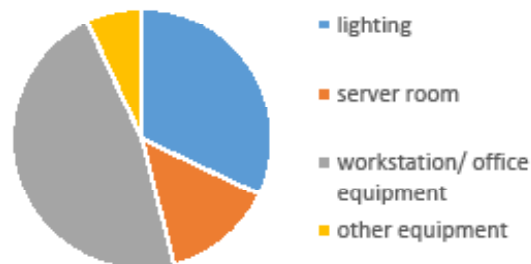
**It is recommended that at practice level there are no more than a maximum two long haul return flights plus a maximum of two short haul return flights per year, or a combination of alternative travel options leading to similar annual carbon emissions to the above - in order to reach our carbon reduction commitments.**

- Improve and use remote collaboration technology in the office to avoid travel, for instance online conference calls
- Diversify sectors to expand UK/ local projects
- Setup local office for duration of long international projects, improve collaboration with local architects

### 2. Electricity use

There is a high electricity demand for computers & IT equipment, for instance servers, especially since the working from home requires logging into the office computers which remain on for long periods of time. Switching from the current fluorescent lighting to LED fittings was delayed until a decision was made regarding the office premises. The following possible carbon reduction measures have been identified:

- **Identify IT solutions for allowing adequate connection for home working, but reducing the need for computers to be on unnecessarily**
- **Changing all light fittings to LED in both offices if a decision is made to remain in current premises** (an independent energy audit report carried out by Mesh energy has identified that behavioural changes and installing LED light fittings at GWP could reduce the energy consumption by 25% and more<sup>1</sup>. Same changes at HR would also offer significant reductions.) [1] 'Potential savings of 25% through operational changes, and further savings through lighting upgrades'. MESH, Energy Audit Report, January 2018
- GWP - engage other tenants and ask the landlord to switch to green supplier of electricity.
- HR - investigate potential for secure night time/early morning purging of exposed concrete thermal mass in the summer & cross ventilation



Mesh Energy Audit, energy usage in the Greenwood Place office, 2018

## C. Reduction measures and Climate Action Plan: Race to Zero

### 3. Gas

Both premises are currently heated by gas fired boilers. Effective measures to reduce the gas usage would depend on whether the practice remains in current premises for the long term. If so, a refurbishment of the building fabric should be discussed with the landlord in Greenwood Place, in order to achieve the GHG emissions savings envisaged by the Race to Zero commitments.

**A deep retrofit of existing premises in GWP, alongside a heat recovery ventilation system would help reduce the need for heating and would allow the practice to switch to a fossil fuel - free system in the near future.**

**Alternatively, if a decision is made to move to new premises, a fossil fuel- free heating system (heat pumps) would be recommended as requirement for a new office.**

GWP has uninsulated walls, and single glazing that has a poor thermal performance. The following recommendations have been identified:

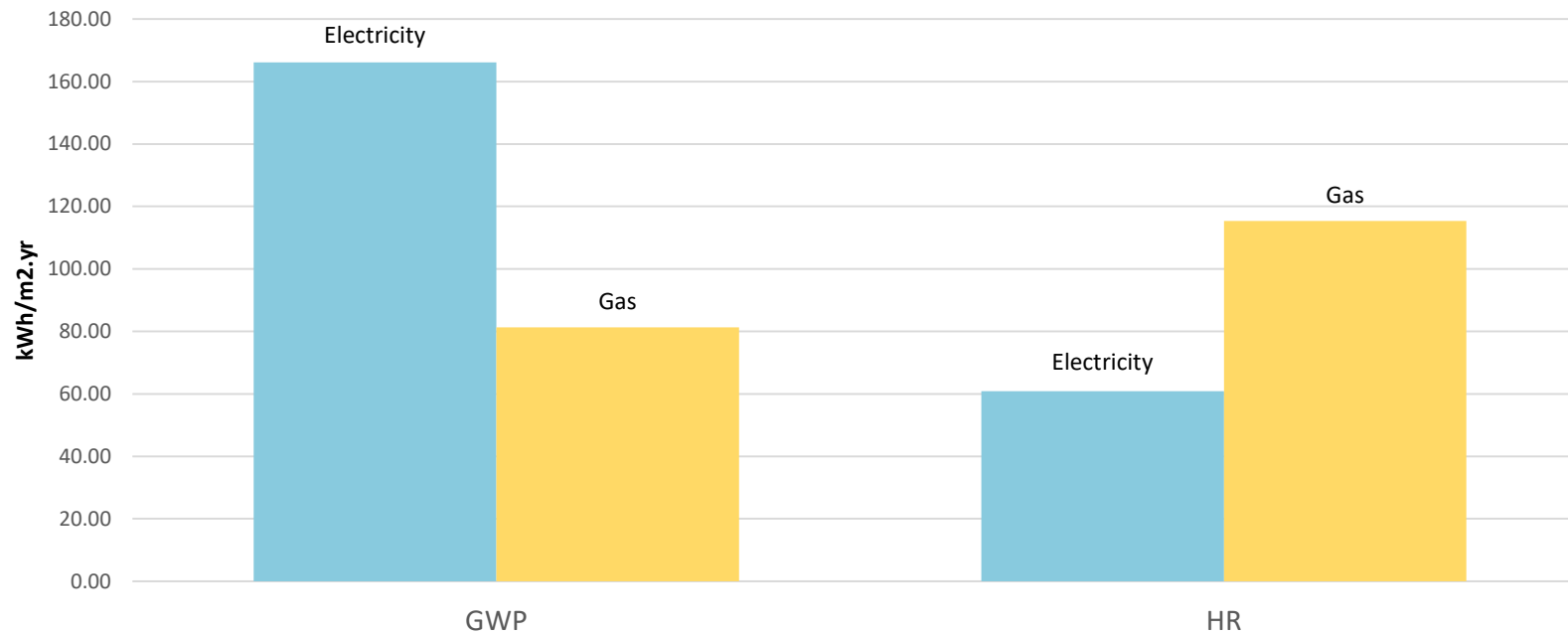
- **GWP - discuss fabric improvements with the landlord.** The internal gains from people and equipment help provide a high indoor temperatures (noted via recently installed environmental sensors in the office). Secondary glazing could be used in the winter to reduce the cold draughts for people sitting next to windows, and help turn down the thermostats on radiators. **This would help reduce cold draughts, improve the airtightness of the office which in turn would allow for heat recovery ventilation to be an effective solution to reduce heating requirements in the office, and would allow a switch to a fossil fuel free solution.**
- GWP - engage other tenants to request landlord switches to green supplier.
- GWP - install separate gas meter to accurately monitor current HT office consumption.

HR is a new build, with good fabric, good airtightness and glazing, however it does have almost 100% glazing on the north elevation and a large % glazing on the South-East elevation. As ventilation through top windows can result in cold draughts, there is a risk for turning the heating up to compensate, or reaching higher CO2 levels in the office if windows stay closed. The following recommendations could help reduce the GHG emissions linked to heating in HR:

- HR - research green gas supplier for HR
- **HR - research option to switch from gas boiler to air source heat pump linked to current underfloor heating system**
- **HR - research option to use heat recovery ventilation in winter, to reduce need for heating and therefore energy use**
- HR - set lower thermostat set-point if all staff agree, and encourage wearing an extra jumper during winter and accept a wider range of temperatures (to discuss and agree with the occupants)

## C. Reduction measures and Climate Action Plan: Race to Zero

**HAWORTH TOMPKINS - 2020/2021 ELECTRICITY +GAS USE IN TWO OFFICES: GREENWOOD PLACE AND HOLMES ROAD**

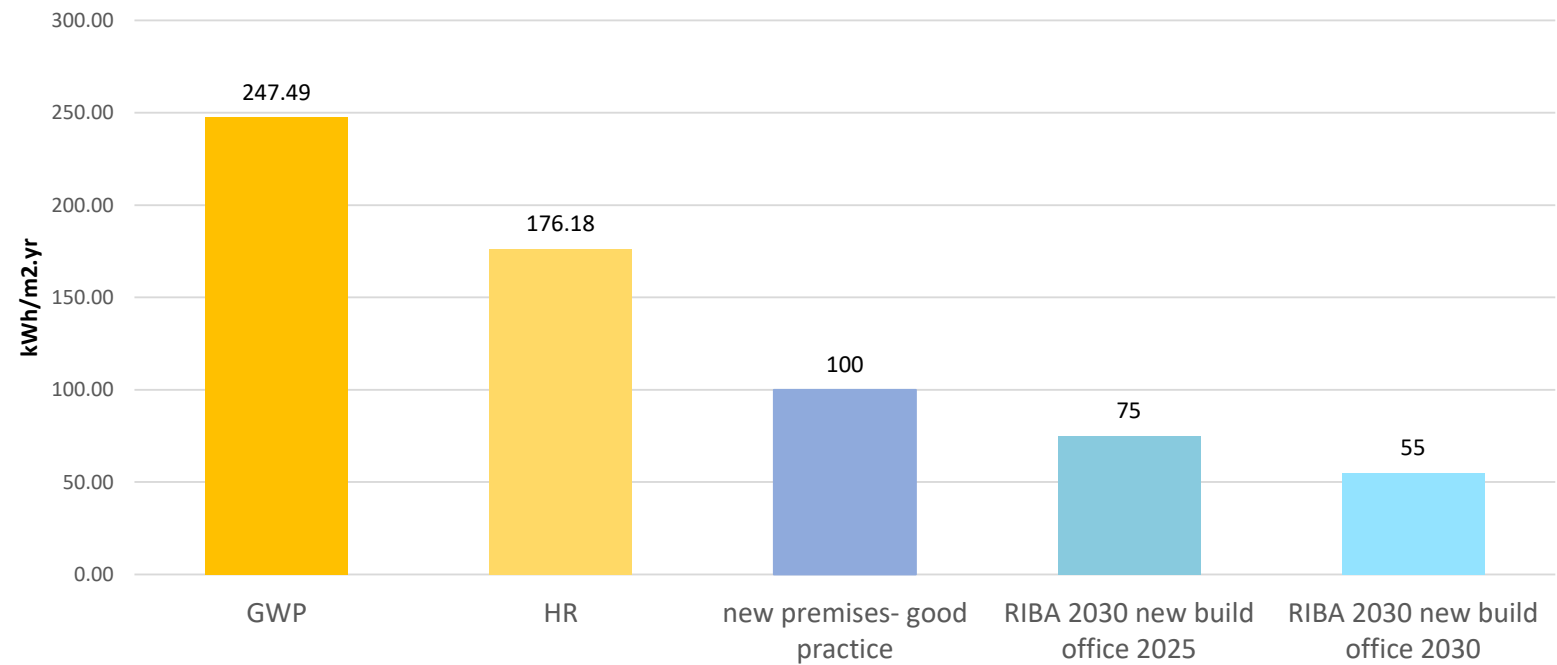


HT offices energy use: electricity and gas

## C. Reduction measures and Climate Action Plan: Race to Zero

A comparison between current HT offices energy use and the energy performance targets for new build office spaces (below) shows the need to engage in a practice-wide conversation regarding the deep refurbishment of current premises, or moving to a new build location, in order to reduce the overall office energy use and GHG emissions linked to that.

**HAWORTH TOMPKINS - 2020/2021 ENERGY USE (ELECTRICITY +GAS) IN TWO OFFICES:  
GREENWOOD PLACE AND HOLMES ROAD**



HT offices energy use compared to design targets for new build office space

## C. Reduction measures and Climate Action Plan: Race to Zero

In order to make significant savings to the current office related GHG emissions, further to reducing the electricity use, gas use, and project-related travel, additional measures would be required to improve the fabric of the office space and systems used, via:

- a deep retrofit of the existing GWP location + expanding on additional floor, or
- new office location

### Retrofit of existing office in GWP

GWP retrofit actions required to achieve significant energy and savings (in this order):

1. fabric improvements: double or secondary glazing, internal insulation (will lead to improved airtightness)
2. services: heat recovery ventilation (will reduce heating requirements to minimum), to complement existing natural ventilation
3. switching from fossil fuel based heating to an electric solution
4. renewable energy providers

The above will require a discussion and agreement with landlords.

### New office location

This would offer the opportunity to significantly improve the operational energy and the control that HT has over the office environment. The following are identified as key considerations when choosing a new office:

- Building fabric and systems performance
- Ability to upgrade the fabric of an existing building
- Ability to choose the utility provider and monitor consumption of HT office area
- Localised control over heating/ventilation systems
- Good transport links
- Facilities to encourage the use of bicycles (showers, lockers, changing room)
- Opportunity to install renewable energy sources

## C. Reduction measures and Climate Action Plan: Race to Zero

### 4. Commuting (bus, trains, bicycle)

As staff commuting will increase again post-pandemic (though expected to be at lower levels due to part home-working conditions), support and encouragement to take up greener commuting options should be considered:

- **Encourage staff to switch bus/public transport to bicycles/electric bicycles via the cycle to work scheme and by providing office electric folding bikes (can be used for commuting and for attending project meetings in London during working hours)**
- **HR - Consider providing access to showers**
- GP – discuss with the landlords the possibility to install an electric bike charging point in the parking area
- Let all new staff know there are loans and salary sacrifice options available for travel cards to make them more affordable
- Office electric car share

**The long term goal would be for green transport to become the majority for commuting.**

Below are identified improvements for all other categories measured:

#### **Taxis**

- Use hybrid and electric vehicle only, provide office electric folding bikes that can be used for meetings and site visits

#### **Couriers**

- Use hybrid and electric vehicle only, use cycle couriers as default

#### **Water**

- Install water efficient fittings and monitor consumption regularly throughout the year

**Other** opportunities to reduce the current office carbon footprint would include:

- Zero carbon office supply chains, reduce office waste, maximise local sourcing

#### **Personal responsibility and home working**

- Raise awareness by supporting/encouraging the staff to carry out a personal carbon footprint as an office challenge







## D. Conclusion

**Haworth Tompkins have been monitoring and recording their business impact by measuring the office carbon footprint since 2019. This report relates to the operations of our two London premises, Greenwood Place (GWP) and Holmes Road (HR), between 5th April 2020 and 5th April 2021. This analysis includes:**

- Scope 1 emissions: gas;
- Scope 2 emissions: electricity;
- Scope 3 emissions: water use, project related transport and couriers, staff commuting, staff home working, model-making deliveries, transmission & distribution losses and 'well to tank' emissions linked to the supply of electricity and gas used in the office.

**The office carbon footprint during this period is estimated at 67 tonnes CO<sub>2</sub>e, or approx. 0.66 tonnes CO<sub>2</sub>e/person. This compares with 73tonnes CO<sub>2</sub>e (0.9 tonnes CO<sub>2</sub>e/person) in the previous year (pre-pandemic). The analysis shows that HT's main sources of carbon emissions between April 2020/April 2021 were:**

- **electricity use**
- **gas use**
- **home working**

The emissions will be offset via a tree-planting scheme that will remove the same amount of carbon from the atmosphere as was emitted, using a £80/tonne carbon cost.

A comparison to the previous year's carbon footprint reflects the changes in work patterns during the pandemic and better data available:

- significantly reduced GHG emissions linked to project-related travel compared to 2019 (no flights in 2020)
- reduced GHG emissions linked to staff commuting in 2020 are balanced off by emissions related to home working (in a similar amount)
- slightly higher emissions linked to utilities (electricity and gas).

**The practice has signed up to the Race to Zero challenge via the SME Climate Hub (<https://smeclimatehub.org/sme-climate-commitment/>), aiming to halve its GHG emissions by 2030 and achieve net zero emissions before 2050.**

**Office carbon emission reduction measures recommended will focus on:**

- Flights** - practice-wide decision needed on maximum number of annual economy flights absolutely required for international projects at practice level, in order to reach our carbon reduction commitments
- Electricity** - requires improvements to IT system & lighting in current premises
- Heating** - closely linked with improvements to the office building fabric & services (decision needed on retrofit of existing offices, or move to new premises)
- Staff commuting** (actively supporting and encouraging green options)

**A business decision on annual international flights and on office premises will be key in reaching the proposed GHG emissions reduction targets (significantly improving existing premises, or finding adequate new office space).**







## Appendix A. Methodology

The carbon footprint has been calculating using 2020 UK Government GHG Conversion Factors for Company Reporting (<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>):

Conversion\_Factors\_2020\_-\_Full\_set\_for\_advanced\_users\_.xlsx

Data x carbon factor kgCo2e = Total kilograms Co2e

/ 1000 = total tonnes

/ number of employees = total tonnes per person

### Electricity

- In GWP there is a meter installed on the 5th floor (HT office) which accurately monitors the consumption of the office. Readings are recorded manually by HT on a monthly basis.
- In HR there is a meter installed by the utility provider that accurately monitors the consumption of the office. Monthly readings are recorded manually by HT on a monthly basis.

### Gas

- In GWP there is one meter for the entire building. HT have taken annual gas meter readings and assigning a pro rata use for the HT office (entire 5th floor) in 2020. Data from bills was used in 2019, which included estimated readings. Utilities are included in the rent.
- HR has a meter installed by the utility provider that accurately monitors the consumption. Monthly readings are recorded manually by HT on a monthly basis.

### Water

- In GWP there is one meter for the entire 5 storey building. HT have taken annual meter readings and assigning a pro rata use for the HT office (entire 5th floor) in 2020. Data from bills was used in 2019, which included estimated readings. Utilities are included in the rent.
- HR – Annual readings are recorded manually by HT in 2020 and going forward.

### Commuting

- Commuting distances and mode of transport were calculated through an office survey. To maintain a high return this was simplified to a daily ‘average mode of transport’ and ‘return distance’. The yearly total was calculated by the average working days in 2020.

## Haworth Tompkins Carbon Footprint 2020-2021

Scope	Category	Item	Units	Greenwood Place	Holmes Road	Total	Carbon Factor (kg CO2e)	Carbon Factor Reference	Carbon Footprint (tonnes CO2e)	Carbon Footprint per person (tonnes CO2e)	Category 2020/21	Comments
Scope 2	Utilities	HT offices - Electricity	kWh	85240.00	12471.35	97711.35	0.23314	20, S2, UK Electricity, F24	22.8	0.22	36.2	
Scope 1		HT offices - Gas	kWh	41721.73	23645.25	65366.98	0.20374	20, S1, Fuels, E37	13.3	0.13		
Scope 3		HT offices - Water	m3	183.96	27.80	211.76	0.344	20, S3, Water supply, E18	0.07	0.00		
Scope 3	Home working	Home working - Electricity	kWh			25794	0.23314	20, S2, UK Electricity, F24	6.0	0.06	17.2	estimate based on average no of staff and online data
Scope 3		Home working - Gas	kWh			54960.8	0.20374	20, S1, Fuels, E37	11.2	0.11		
Scope 3	Project related transport	Trains	km			1270.3	0.03694	20, S3, Business travel - land, E87	0.05	0.00	5.33	
Scope 3		Flights	km			0.00	varies	varies	0.00	0.00		
Scope 3		Taxis	km			1933.77	0.20369	20, S3, Business travel - land, E72	0.39	0.00		
Scope 3		Couriers	km			24014.63	0.20369	20, S3, Business travel - land, E72	4.89	0.05		
Scope 3	Staff Commuting	Car	km			0.00	0.16844	20, S3, Business travel - land, E53	0.00	0.000	0.81	
Scope 3		Bus	km			0.00	0.07856	20, S3, Business travel - land, E80	0.00	0.000		London bus (hybrid electric)
Scope 3		National rail	km			6922.22	0.03694	20, S3, Business travel - land, E87	0.26	0.002		
Scope 3		Light rail and tram	km			6381.48	0.02991	20, S3, Business travel - land, E89	0.19	0.002		
Scope 3		London Underground	km			947.00	0.0275	20, S3, Business travel - land, E90	0.03	0.000		
Scope 3		Bicycle	km			15933.91	0.021	European Cyclists Federation	0.33	0.003		
Scope 3	Supplies	Modelmaking Deliveries	km			522.55	0.20369	20, S3, Business travel - land, E72	0.11	0.0010	0.11	
Scope 3	Well to tank	Well to tank- Electricity	kWh	85240.00		85240	0.05429	20, S3, WTT, E124	4.63	0.0451	5.73	only for GWP. HR supplier provides 100% renewable energy
Scope 3		Well to tank- Gas	kWh	41721.73		41722	0.02649	20, S3, WTT, E36	1.11	0.0108		
Scope 3	Transmission & Distribution losses	Transmission & Distribution losses - Electricity	kWh			97711	0.02005	20, S3, Transmission & dist	1.96	0.0191	1.96	applies to all electricity provided
								TOTAL (tonnes CO2e)	67	0.66		

HaworthTompkins 33 Greenwood Place, London, NW5 1LB  
+44 (0) 20 7250 3225, [info@haworthtompkins.com](mailto:info@haworthtompkins.com)