



RED

ENVIRONMENTAL
MANAGEMENT
REPORT 2021

A company of 
Impact

Prepared by the Sustainability Solutions & Climate Change Team

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Foreword

Growth can be exciting, sometimes uncomfortable, and always a challenge. Growth can also reveal talent & life previously unrealised. It can create momentum, innovation, and excitement all in equal measures. In 2021, RED experienced growth like we have never seen before, increasing the number of team members by nearly 250 people.



Martin Sieh
CEO



The shifting markets, lockdowns, and trials of covid in 2020 became the norm from which RED chose to push through. This year, 2021 did nothing to hold us back! Our purpose continues to be our driving force, 'make sustainability happen today'. We live this purpose every day through the value we deliver to our clients, the great technical solutions that we create, and all the dedication and effort brought forward across the entire company.

In 2021, RED focused new initiatives to further our commitment for a sustainable future. The establishment of the Research & Development team, the creation of a new team, focused on providing Energy Transition Services to align our services with our client's net zero journey and employee programs to assist in the recovery from the Covid crisis. All of this is creating links between innovative practical delivery of projects and net zero interventions.

We are very pleased to say that RED have grown, whilst remaining sustainable. In both a per capita & gross measure, RED has reduced its carbon footprint in 2021 in comparison to our baseline of 2019.

We did this given the backdrop of new staff, the restarting of business travel and the reopening of offices around the world. RED is expectedly a net carbon positive contributor but through our parent company ENGIE Impact, we centrally offset all the carbon that we generate.

What is even more rewarding is the rebound effect our sustainability training and inductions have created. Every day, we see staff responding to the questions sustainability raises. They seek to improve the answers, challenging the norms, and work towards a higher rate of success. There is no doubt in our mind that the current RED staff members have the skills and motivation to tackle climate change.

Sincere thanks to the team behind this report. (EF, RY, EK, OH, AV, AC, DC, CDG + the whole of the Wednesday Workshop Team).

RED is expectedly a net carbon positive contributor to the footprint of our parent company ENGIE Impact.

1.0

Introduction

Introduction

This report is the second in series of annual reports to be disseminated by the RED sustainability team. The aim is to use this report to communicate to our stakeholders the carbon footprint of RED, our net-zero emissions plans and how well we are executing them. This will then allow the management to review methods ensuring we achieve actual reductions in our carbon footprint incrementally to zero. The process will address, not only carbon, but also any other GHG emissions. These all along with creating a positive-impact status with regards to waste, water usage and other indirect environmental considerations. The baseline is set from 2019 measured performance and the report discusses the progress against our overarching targets on an annual basis for the foreseeable future.

All subsequent reports will provide comprehensive review and analysis of our environmental performance across our offices, with RED's sustainability goals and ISO 14001 and 50001 certification commitments (limited to UK sites). This Annual Environmental Statement given through this report is aligned with the ENGIE Impact Environmental Policy & Energy Management System.

Our Purpose: Make Sustainability Happen Today



As the sustainability consulting division of ENGIE, ENGIE Impact partners with corporations, governments and municipalities around the world to address the transformations necessary to reduce their carbon footprint on their net zero journey. Through strategic consulting, global reporting and analytics, and market-leading technical engineering, ENGIE Impact becomes an implementation partner for organisations working toward ambitious sustainability goals.

By being involved in each aspect of the decarbonization journey from establishing actionable roadmaps to managing on-the-ground execution ENGIE Impact can help reduce carbon contributions and control energy expenditures. We go beyond consulting, staying for the long run making the journey less complex, more reliable and financially viable.

www.ENGIEimpact.com

1.1 Performance Figures Dashboard

RED performance throughout the last three years was used to estimate this year's performance. The following main figures show the breakdown of use categories and annual performance based on target percentage reduction.

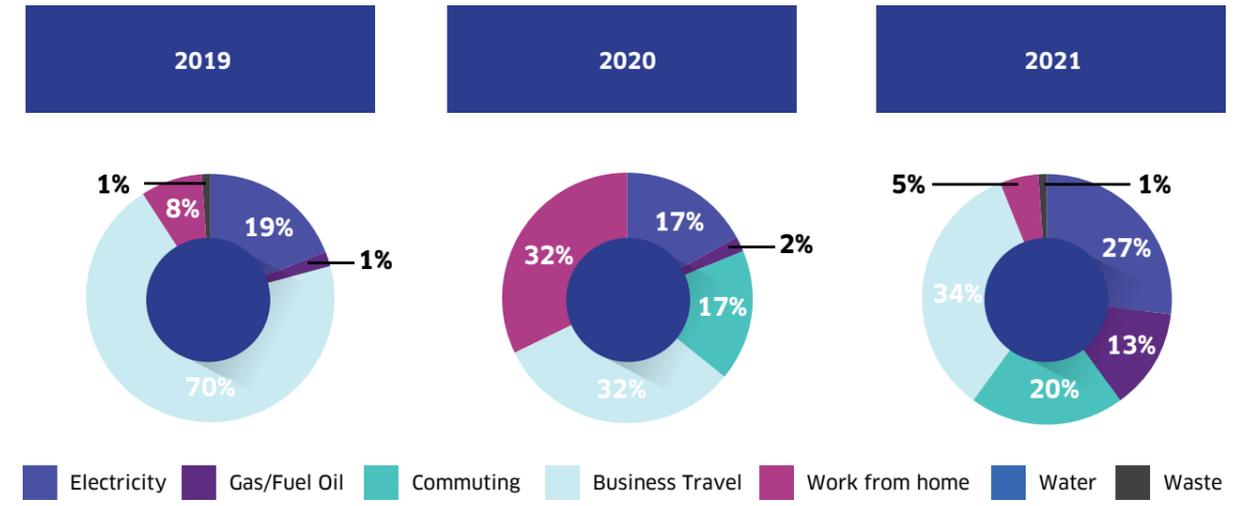


Figure 1 Last three years performance by category in percentage of Tonnes CO₂

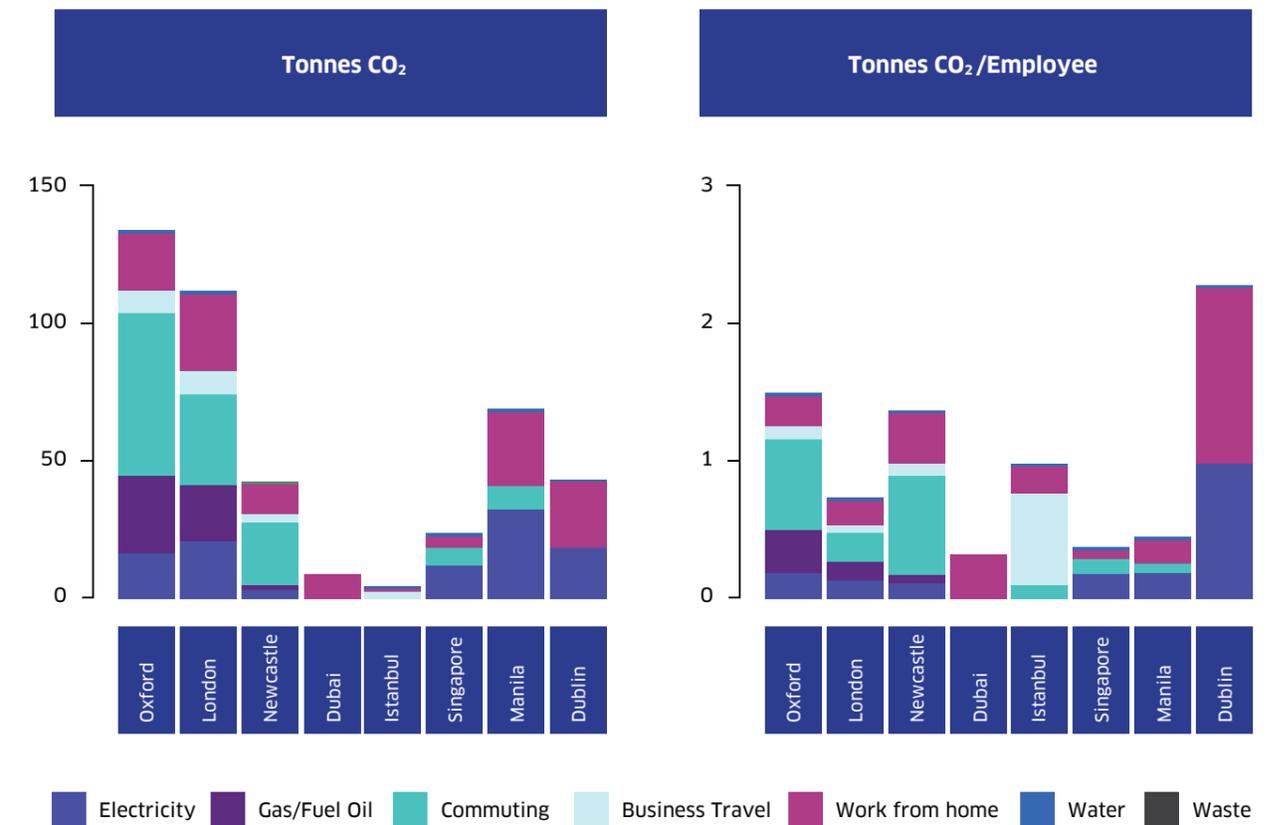


Figure 3 Carbon emissions of 2021 with and without normalisation for RED sites

1.2 Annual Targets and Future Monitoring Plans

RED's threshold for annual saving is a minimum reduction in CO₂ emissions by 5%. This includes the categories managed by the company itself. The savings to work from home are not accounted here within but also are expected to go along with the regular sustainability inductions and information shared with staff.



Figure 4 Annual targets and expected savings

A monitoring plan has been put in place to track progress against the annual targets. This covers all emissions categories including energy, travel, water, and material waste. The plan is based on using smart meters and procedures to minimise manual work and eliminate errors. Further information on targets for each office are identified below. **Figure 5** shows the indicative basis for the investment with a return on investment that excludes the saved working hours in gathering data.



Figure 5 RED environmental target and monitoring plan in lined with expected investment and return

1.3 Management Systems

To assist in achieving our goals, RED has implemented an ISO 14001 Environmental Management System (EnMS) and an ISO 50001 Energy Management System (EMS) which are both certified through a third party and apply to the UK offices only. The EMS and EnMS are integrated into business processes and designed to assist in achieving the sustainability goals. They are regularly reviewed at Management Review meetings by the senior management team and the policies are signed off by the CEO (See Appendix A and B). As part of the EMS we have a number of objectives which are reviewed on annual basis. These objectives relate to our identified environmental aspects.

Our environmental aspects are:

- Design activities
- Electricity consumption
- Paper consumption
- Procurement
- Employee transport
- Waste management



To achieve these objectives an emphasis on monitoring and measuring is crucial. As the business grows and expands, it's important to use normalisation of energy and resultant emissions. Thus, the performance is evaluated using key energy performance indicators (EnPI) as set out in the EnMS, these are as follows:

- EnPI 001: kWh of electrical energy used per m² of office space
- EnPI 002: kWh of heating fuel energy used per m² of office space
- EnPI 003: Total kWh of energy used per employee

This will help to ensure the focus in applying future measures will be on areas of the business that contribute to significant CO₂ emissions.

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2.0

About RED

About RED

RED is a global company of specialist building services and ICT engineers. RED has led the drive towards the zero-carbon goal for over a decade. This has been based on, an insistence, from the start, on providing step-change low carbon solutions which are also commercially viable. RED services cover the entire life cycle of any construction project with broad capability offering, that is saving our clients the time, costs, and effort. RED services range from: Mechanical, Electrical & Public Health Engineering, Process Design & Advisory Consultancy, Specialist Engineering services, Sustainability Solutions, ICT Design & Consultancy, Digital & Virtual Engineering.

The key facts that describe RED are:

- Experienced team working across all construction sectors.
- History of measured performance improvement helping to reduce operation costs and CO₂ emissions.
- Due diligence and audits have supported organisations across the world and aided in environmental performance reporting for fortune 500 companies.
- Advanced analytical tools and policies created to entrench continuous improvement cycles.

RED as part of ENGIE Impact contributes worldwide to meeting the sustainable growth challenge, with our strategy and core services primarily aligning with ten of the 17 SDGs that tie closely with our unique operational risks.

3.0

RED Sustainability Goals

3.0 RED Sustainability Goals

At RED work goes under one purpose: to 'Make sustainability happen today'. The Sustainability Solutions and Climate Change (SS&CC) team are working with our colleagues on achieving our sustainability goals. RED are a net positive carbon contributor to our parent company, ENGIE Impact who will offset those emissions in order to achieve the groups sustainability goals.

- Carbon Negative by end of 2021
- Balance water footprint internationally by 2023
- Reduce upstream and waste to landfills to achieve zero waste by 2023

In order to assist in achieving the groups goals, RED has set targets specific to our own operations:

- 5% potential demand reduction year on year
- 5% potential cost reduction year on year
- 5% potential carbon reduction year on year

The subsections below give more details on the means used to achieve the above goals.

3.1 Office Energy Audits

The energy audit is a site survey and examines energy conservation energy flows via data collection, measurement, and analysis. It identifies the opportunities for system optimisation and reducing carbon footprint. Office level data was collected on a monthly basis, and as the first step of the energy audit, it is planned to have consumption meters with trending function installed for the major energy usage in a “pilot” office. This includes metering of electricity, gas and other fossil fuels if applicable. This trending allows the operator to understand the hourly energy profile and energy delivered to each system, subsequently, EEMs (Energy Efficient Measures) can be identified and applied for the carbon neutral transition.

3.2 Office Waste Audits

Waste audits are carried out to assess RED’s current practices relating to office waste and recycling rates and to identify key levers to increase recycling. This has started in 2021 by the Oxford office audit with results shared with sustainability team and office management. The results are going to be used along with further audits to inform RED’s waste of material contribution to carbon footprint as a category and RED’s impact on the environment. Oxford office is further planned to undergo preparations to be TRUE certified office.

The TRUE (Total Resource Use and Efficiency) Certification is the new GBCI’s product aimed at dealing with material waste. The TRUE certification program enables facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health. TRUE scheme was released in 2016 and has been put into practice by giant companies e.g., Tesla, HP. ENGIE Impact aims to pilot TRUE to attain its waste targets in the US and in Europe. RED Bicester office is the candidate to pilot the TRUE process.



4.0

RED Sites

4.0 RED Sites

RED operates throughout its core offices across Europe, Middle East (EMEA) and Asia (APAC) regions and utilises its global experts to support local delivery in country through ENGIE Impact sites.

RED sites in EMEA are five offices in the UK and Ireland, plus an office in Dubai and Istanbul covering the Middle East services. The sites in Asia include Singapore, Manila and very recently Hong Kong.

The engineering and consulting services by RED are geographically based with continuous collaboration and cooperation between sites. RED international standard way of working is generally based on:

- Global delivery strategy
- Diverse time zones
- Efficient project delivery



Figure 6 RED global existence with representations over continents

Office	Year	Number of Office Staff	Floor area (m ²)	Point of Contact
<u>Cork, Ireland</u>	2019	n/a	170	<u>Killian O'Neil</u>
	2020	n/a		
	2021	3		
	2022	6		
<u>Dubai, UAE</u>	2019	10	135	<u>Gemma Walton</u>
	2020	13		
	2021	20		
	2022	33		
<u>Dublin, Ireland</u>	2019	n/a	578	<u>Killian O'Neil</u>
	2020	n/a		
	2021	19		
	2022	19		
<u>Istanbul, Turkey</u>	2019	3	105	<u>Kerim Oktay</u>
	2020	3		
	2021	4		
	2022	5		
<u>London, UK</u>	2019	65	557	<u>Alex Vella</u>
	2020	105		
	2021	143		
	2022	163		
<u>Manila, Philippines</u>	2019	79	856	<u>Jo Montoya</u>
	2020	109		
	2021	156		
	2022	248		
<u>Newcastle, UK</u>	2019	27	130	<u>David Ridley</u>
	2020	18		
	2021	30		
	2022	32		
<u>Oxford, UK</u>	2019	51	456	<u>Olly Hanson</u>
	2020	73		
	2021	89	539	
	2022	90		
<u>Singapore</u>	2019	18	149	<u>Yimin Huang</u>
	2020	54		
	2021	68	546	
	2022	60		

Since report has been issued, the total number of office staff may have changed.

Table 1 RED sites—variable numbers of employees and floor area, and sustainability responsible



5.0

RED Performance by Category

RED Performance by Category

The following subsections summarise our environmental performance during 2019-2021. Our environmental performance targets will be based on improvements against the 2019 baseline year.

5.1 Energy Use and Carbon Emission

The energy consumption by RED sites has considerably varied due to the COVID-19 breakout. **Figure 8** shows the breakdown of use category for the 2019 and 2020. As can be seen, the work-from-home (WFH) category is introduced and estimated to represent a nearly 50% of the total consumption. The estimation of WFH contribution to emissions is based on rough individual consumption through employees written diary. This method will be investigated and improved in future reports.

It should also be noted that the estimated CO₂ emissions given here, throughout this report, are absolute values from data collection and did not involve estimations and/or their corresponding smoothing methods.

Carbon emissions factors of 2021 used in the calculations are listed in Table 2:

Country	Electricity	Gas	Heating Oil	Water kg/m ³ *	Commuting kg/km*	Air travel kg/km*
Ireland	0.295			0.000298	0.2	0.115
Philippines	0.702					
Singapore	0.389					
Turkey	0.466	0.202				
UAE	0.52					
UK	0.21	0.184	0.246			

Table 2 Carbon emission factors for the different RED sites

*Not a country-based value

In addition, the changes brought to workplace policies, by the so-called social distancing, have also reduced the capacity of RED sites. This will keep the WFH as a significant category within the coming years breakdown of energy use. The typical normalisation used in this report by total number of employees on annual basis (e.g., **Figure 9**) will also need further input to declare RED's emissions as accurate against occupancy. This will also be accounted for future reporting of RED performance. The WFH carbon footprint was estimated for 2021 based on 2020 figures and in proportion of number of employees per each site.

	2019 Baseline		2020		2021		2022	
Consumption	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂
Electricity (kWh)	250896.2	99.5	186492.6	70.6	359288.1	114.7	341,324	109
Gas / Fuel Oil (kWh)	99693.8	20.3	41463.8	8.8	235644.7	50.4	223,862	48
Work-from-home (kWh)	0.0	0.0	308606.3	73.5	408401.4	120.2	387,981	114

Table 3 Main energy consumptions' categories, carbon emissions and future projection

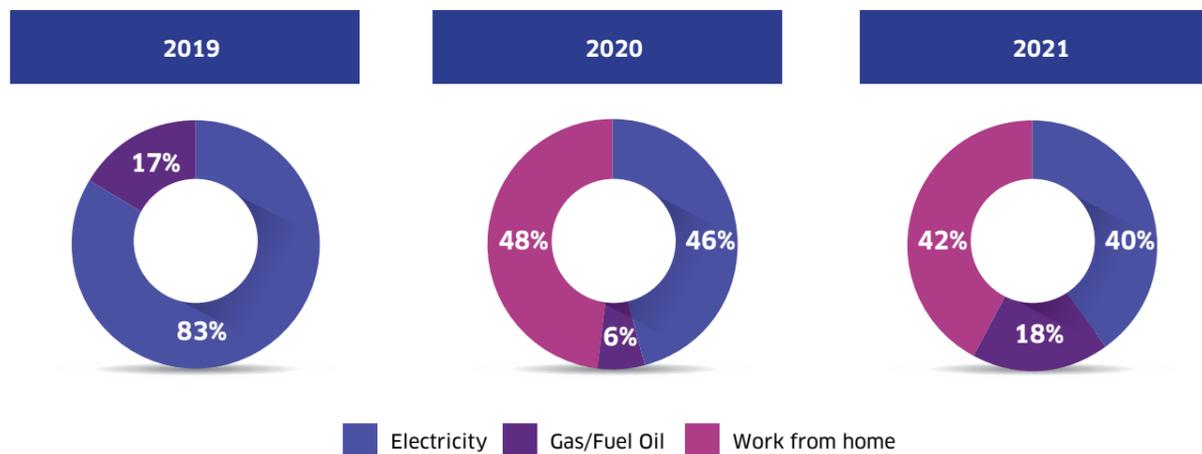


Figure 7 Breakdown of energy consumption for last three years

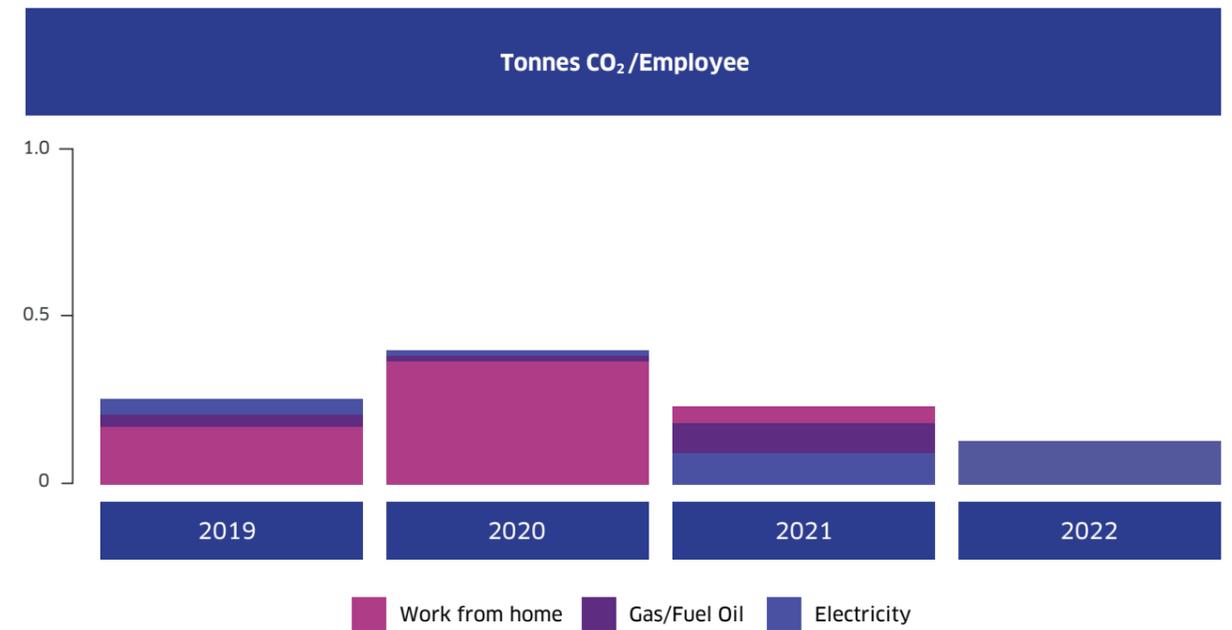


Figure 8 Annual carbon emissions due to energy consumption with normalisation and future projection

5.2 Water Consumption

The water consumption by RED sites is based on an estimated average use by employees. This average is a universal value used by ENGIE Impact. Relying on that average in this report was justified as most of RED sites are included on shared common services with neighbours in same facility. However, the use of metered data will be part of RED's scope for potential improvement to incorporate in future reports.

	2019 Baseline		2020		2021		2022	
Consumption	m ³ /employee	Tonnes CO ₂ employee	m ³ /employee	Tonnes CO ₂ employee	m ³ /employee	Tonnes CO ₂ employee	m ³ /employee	Tonnes CO ₂ employee
Water (annual) ^a	12	0.003576	12	0.003576	12	0.003576	12	0.003576

Table 4 Water annual consumption average per employee

^aEstimated average per employee, not measured values. RED employees' numbers were: 173, 253, 368, 532 for the years 2018-2021, respectively.

5.3 Materials and Waste

The materials and waste are handled on local basis at RED site. This is part of RED's implementation of ISO14001; however, the listed data below are only estimate based on example audits and are not monitored by any other means.

Consumption	2019 Baseline		2020		2021		2022	
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂
Material Waste	-	3	-	1.25	-	3	-	2.85

Table 5 Carbon emissions due to the handling of material waste and future projection

*Estimated values based on a generalised example of sites audit

Tonnes CO₂/Employee



Figure 9 Annual carbon emissions due to handling of waste with normalisation and future projection

5.4 Commuting and Business travel

Commuting and business travel represent the highest category contributing to RED's emissions. This is evaluated to be in range from 60-80% of total emissions. This was also the case during 2020 with the COVID-19 restrictions in place. Further evaluation is needed based on 2021 data at the year closing with details to be published in next year report.

Consumption	2019 Baseline		2020		2021		2022	
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂
Commuting (km)	1,897,000	379	672,600	135	651,421	130	618,850	123
Air Travel (km)	391,304	45	1,193,217	137	179,618	21	170,637	20

Table 6 Carbon emissions due to travelling and future projection

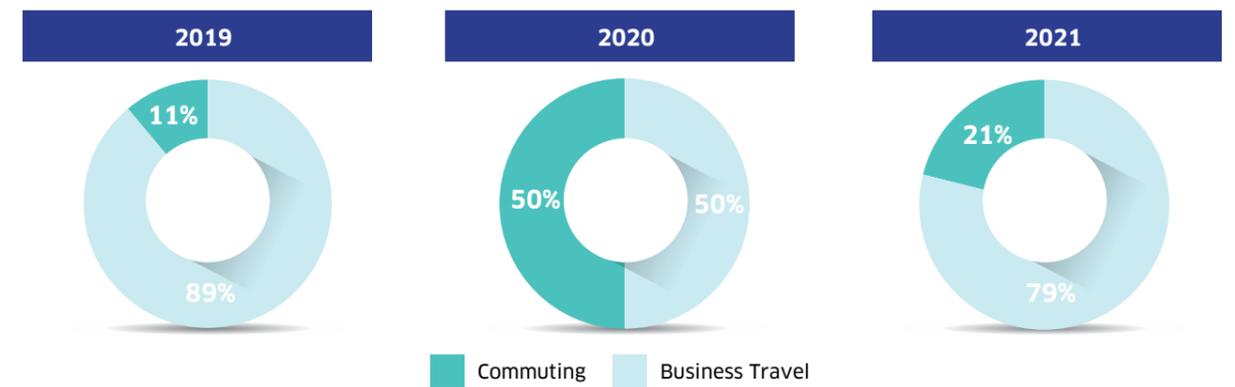


Figure 10 Breakdown of travelling reasons for last two years

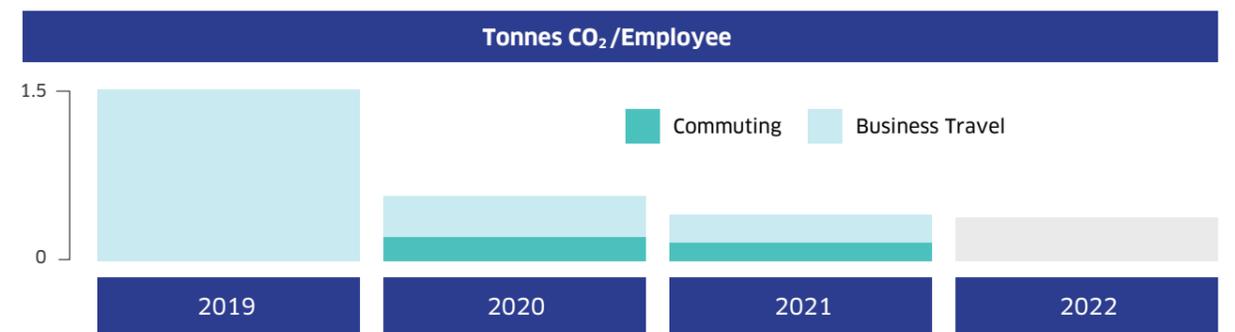


Figure 11 Annual carbon emissions due to travelling with normalisation and future projection

6.0

RED Performance by Site



6.1 Oxford

Office Characteristics

Lease type: **3-year contract**
 Total Floor Area: **456 m² (end of 2019)**
 Number of Staff: **51 (end of 2019)**
 Total Floor Area: **539 m² (end of 2020)**
 Number of Staff: **73 (end of 2020)**
 Number of Staff: **89 (end of 2021)**

Systems

Heating: **Oil fired and DX**
 Airconditioning: **VRF DX system**
 Power: **Day/Night rate**
 Water: **estimate per sq. meter**
 Renewables: **indirect**



Contact

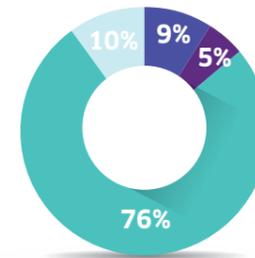
Sustainability Champion: Oliver Hanson
Admin contact: Rachel Bambrook
Office Manager: Carolyn Pegg

Carbon Emissions

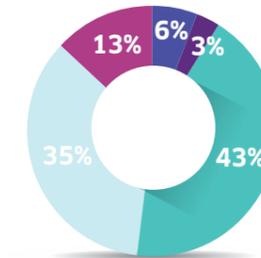
Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	59,216	15	38,026	9	81,082	17	126
Gas / Fuel Oil (kWh)	31,707	8	18,455	5	113,486	28	
Commuting (km)	611,000	122	298,250	60	298,250	60	
Business Travel (km)	136,522	16	416,261	48	59,528	7	
Work from home (kWh)	0	0	88,650	18	108,080	22	
Water (m3)	612	0	876	0	36	0	

Table 7 Carbon emissions by category for the last 3 years and future projection

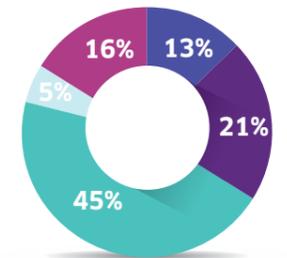
2019 - 161 Tonnes CO₂



2020 - 139 Tonnes CO₂



2021 - 133 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

Figure 12 Breakdown of carbon emissions categories for last two years

Tonnes CO₂



Figure 13 Annual carbon emissions with normalisation by site floor area and future projection

Tonnes CO₂ /Employee



Figure 14 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Oxford office offers specific opportunities for improvement due to its rural location. As a result, for 2022 we will target improvements to the office space and commuting opportunities for employees.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 TRUE certification for waste management.
- 4 Garden space development for staff wellbeing, including use of composting.
- 5 Investigate on site water collection / recycling opportunities to reduce water consumption.
- 6 Investigate use of smart EV charging for vehicle parking spaces closest to the office.

6.2 London (Head Office)

Office Characteristics

Lease type: **2-year contract**
 Total Floor Area: **557 m²**
 Number of Staff: **65 (end of 2019)**
 Number of Staff: **105 (end of 2020)**
 Number of Staff: **163 (end of 2021)**

Systems

Heating: **Gas central heating**
 Airconditioning: **Chilled water system**
 Power: **Day/Night rate**
 Water: **estimate per sq. meter**
 Renewables: **indirect**



Contact

Sustainability Champion: Alex Vella
Admin contact: Helga Silva
Office Manager: Clarissa Bird

Carbon Emissions

Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity ¹ (kWh)	51,608	13	64,936	15	100,992	21	
Gas / Fuel Oil ² (kWh)	53,856	10	15,826	3	111,588	21	
Commuting (km)	646,000	129	165,250	33	165,250	33	106
Business Travel (km)	170,435	20	519,739	60	75,616	9	
Work from home (kWh)	0	0	102,900	21	140,140	28	
Water (m3)	780	0	1,260	0	58	0	

Table 8 Carbon emissions by category for the last 3 years and future projection

¹Electricity is 100% backed by REGO (Renewable Energy Guarantees Origin) and gas is 100% carbon offset

²Gas data for 2019 and 2020 were missing December-March winter months and assumption was made to fill in using 2021 data

2019 - 172 Tonnes CO₂

2020 - 132 Tonnes CO₂

2021 - 112 Tonnes CO₂

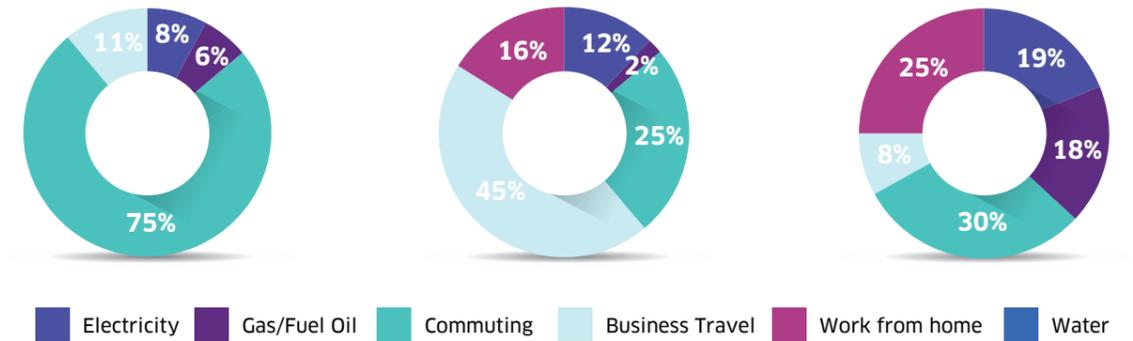


Figure 15 Breakdown of carbon emissions categories for last three years



Figure 16 Annual carbon emissions with normalisation by site floor area and future projection

Figure 17 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The London office is located centrally and thus offers limited opportunity to improve energy consumption. As a result, for 2022 we will target improvements to monitoring and measurement waste management.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Consider increased opportunities for division of lighting sensors due to occupancy levels and daylight sensors for lighting in all areas.

6.3 Newcastle

Office Characteristics

Lease type: **3 years contract**
 Total Floor Area: **130 m²**
 Number of Staff: **27 (end of 2019)**
 Number of Staff: **18 (end of 2020)**
 Number of Staff: **32 (end of 2021)**

Systems

Heating: **Gas central heating**
 Airconditioning: **NA**
 Power: **Day/Night rate**
 Water: **estimate per sq. meter**
 Renewables: **indirect**



Contact

Sustainability Champion: David Ridely
Admin contact: Christine Gorman
Office Manager: Christine Gorman

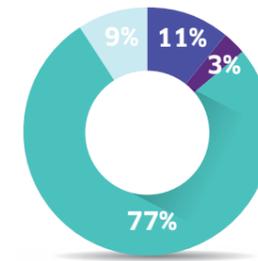
Carbon Emissions

Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	33,333	9	2,704	1	18,257	4	
Gas / Fuel Oil ¹ (kWh)	14,130	3	7,011	1	10,571	2	
Commuting (km)	289,000	58	110,200	22	110,200	22	40
Business Travel (km)	55,652	6	169,739	20	25,742	3	
Work from home (kWh)	0	0	34,550	7	57,583	12	
Water (m3)	324	0	216	0	332	0	

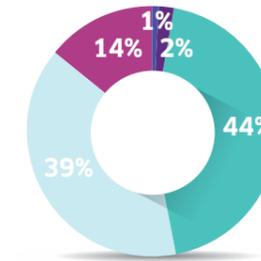
Table 9 Carbon emissions by category for the last 3 years and future projection

¹Gas included in lease hence no bills were available. Tabulated values are based on an estimate by ENGIE Impact

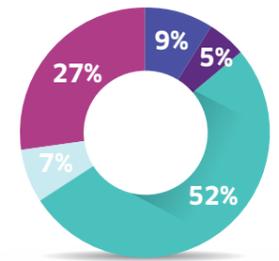
2019 - 75 Tonnes CO₂



2020 - 50 Tonnes CO₂



2021 - 43 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

Figure 18 Breakdown of carbon emissions categories for last three years

Tonnes CO₂



Figure 19 Annual carbon emissions with normalisation by site floor area and future projection

Tonnes CO₂/Employee



Figure 20 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Newcastle office offers opportunities for improvement through particularly engaged local staff. As a result, for 2022 we will target improvements to monitoring and measurement and commuting opportunities.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Consider increased opportunities for division of lighting sensors due to occupancy levels and daylight sensors for lighting in all areas.
- 5 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.4 Dubai

Office Characteristics

Lease type: **Open lease contract**
 Total Floor Area: **135 m²**
 Number of Staff: **10 (end of 2019)**
 Number of Staff: **13 (end of 2020)**
 Number of Staff: **33 (end of 2021)**

Systems

Heating: **NA**
 Airconditioning: **DX**
 Power: **consumption-based rate**
 Water: **estimate per sq. meter**
 Renewables: **indirect**



Contact

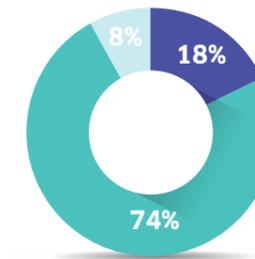
Sustainability Champion: Gemma Walton
Admin contact: Cheryl Ceráfica
Office Manager: Loyal Villamayor

Carbon Emissions

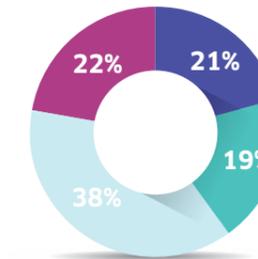
	2019 Baseline		2020		2021		2022
Consumption	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	13,269	7	10,673	6	16,420	9	
Gas / Fuel Oil (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Commuting (km)	147,500	30	25,250	5	38,846	8	34
Business Travel (km)	28,696	3	87,478	10	134,582	15	
Work from home (kWh)	0	0	11,288	6	17,367	3	
Water (m3)	120	0	0	0	0	0	

Table 10 Carbon emissions by category for the last 3 years and future projection

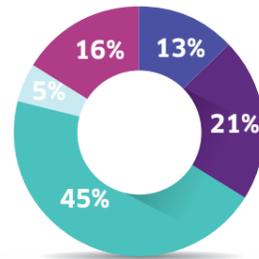
2019 - 40 Tonnes CO₂



2020 - 27 Tonnes CO₂



2021 - 35 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

Figure 21 Breakdown of carbon emissions categories for last three years

Tonnes CO₂



Figure 22 Annual carbon emissions with normalisation by site floor area and future projection

Tonnes CO₂/Employee



Figure 23 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Dubai office offers opportunities for improvement through data management. As a result, for 2022 we will target improvements to monitoring and measurement.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Consider increased opportunities for division of lighting sensors due to occupancy levels and daylight sensors for lighting in all areas.
- 5 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.5 Singapore

Office Characteristics

Lease type:	3-year lease
Total Floor Area:	149 m² (end of 2019)
Number of Staff:	18 (end of 2019)
Total Floor Area:	546 m² (end of 2020)¹
Number of Staff:	54 (end of 2020)
Number of Staff:	60 (end of 2021)

Systems

Heating:	NA
Airconditioning:	VRV/DX
Power:	fixed rate
Water:	estimate per sq. meter
Renewables:	indirect



Contact

Sustainability Champion:	Yimin Huang
Admin contact:	Hwee Hoon Ang
Office Manager:	Hwee Hoon Ang

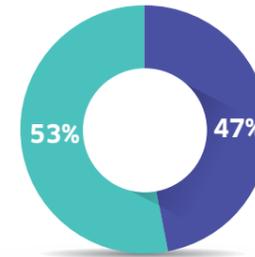
Carbon Emissions

Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	31,105	12	27,738	11	31,762	12	
Gas / Fuel Oil (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Commuting (km)	67,000	13	33,400	7	33,400	7	23
Business Travel (km)	0	0	0	0	0	0	
Work from home (kWh)	0	0	9,589	4	12,075	5	
Water (m3)	216	0	648	0	10	0	

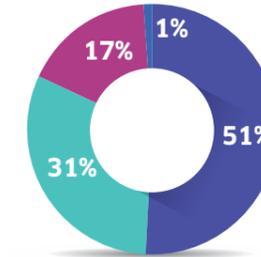
Table 11 Carbon emissions by category for the last 3 years and future projection

¹New office leased in 2020.

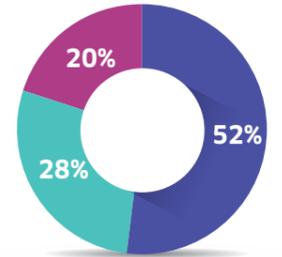
2019 - 26 Tonnes CO₂



2020 - 21 Tonnes CO₂



2021 - 24 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

Figure 24 Breakdown of carbon emissions categories for last three years

Tonnes CO₂



Figure 25 Annual carbon emissions with normalisation by site floor area and future projection

Tonnes CO₂/Employee

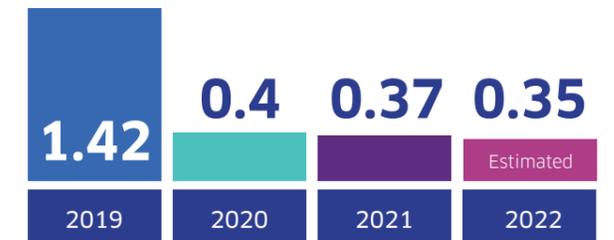


Figure 26 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Singapore office offers opportunities for improvement through data management. As a result, for 2022 we will target improvements to monitoring and measurement.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Consider increased opportunities for division of lighting sensors due to occupancy levels and daylight sensors for lighting in all areas.
- 5 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.6 Istanbul

Office Characteristics

Lease type: **3-year lease**
 Total Floor Area: **105 m²**
 Number of Staff: **3 (end of 2020)**
 Number of Staff: **5 (end of 2021)**

Systems

Heating: **Gas fired**
 Airconditioning: **DX split unit**
 Power: **fixed rate**
 Water: **estimate per sq. meter**
 Renewables: **indirect**



Contact

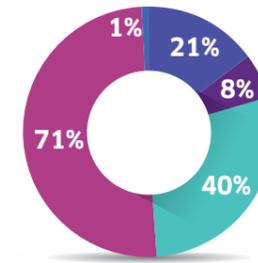
Sustainability Champion: Kerim Oktay
Admin contact: NA
Office Manager: Kerim Oktay

Carbon Emissions

Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	N/A	N/A	451	0	156	0	
Gas / Fuel Oil (kWh)	N/A	N/A	172	0	0	0	
Commuting (km)	N/A	N/A	0	0	4,071	0	3.7
Business Travel (km)	N/A	N/A	0	0	18,733	3	
Work from home (kWh)	N/A	N/A	1,524	1	2,031	1	
Water (m3)	N/A	N/A	36	0	48	0	

Table 12 Carbon emissions by category for the last 3 years and future projection

2020 - 1.4 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

2021 - 3.9 Tonnes CO₂

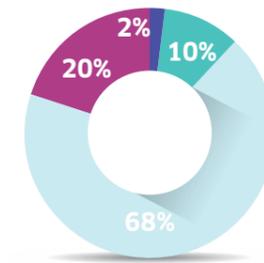


Figure 27 Breakdown of carbon emissions categories for last two years

Tonnes CO₂



Figure 28 Annual carbon emissions with normalisation by site floor area and future projection

Tonnes CO₂/Employee



Figure 29 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Istanbul office offers opportunities for improvement through data management and the high proportion of business travel. As a result, for 2022 we will target improvements to monitoring and measurement and commuting options.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.7 Manila

Office Characteristics

Lease type:	3-year lease
Total Floor Area:	656 m² (end of 2018)
Number of Staff:	109 (end of 2019)
Total Floor Area:	856 m² (end of 2019)
Number of Staff:	156 (end of 2020)
Number of Staff:	248 (end of 2021)

Systems

Heating:	NA
Airconditioning:	DX
Power:	fixed rate
Water:	estimate per sq. meter
Renewables:	indirect



Contact

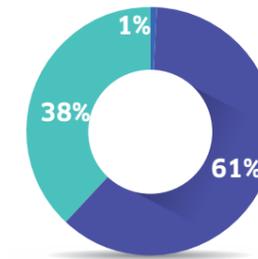
Sustainability Champion:	Jok Montoya
Business manager:	Jennylyn Flores
Office Manager:	Lauraine Montesa

Carbon Emissions

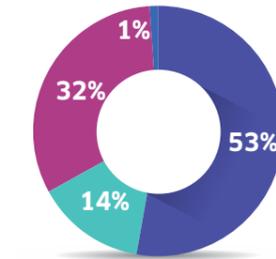
Consumption	2019 Baseline		2020		2021		2022
	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	62,365	44	41,966	29	46,728	33	65
Gas / Fuel Oil (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Commuting (km)	136,500	27	40,250	8	40,250	8	
Business Travel (km)	0	0	0	0	0	0	
Work from home (kWh)	0	0	25,556	18	36,575	26	
Water (m3)	948	0	1,308	0	58	0	

Table 13 Carbon emissions by category for the last 3 years and future projection

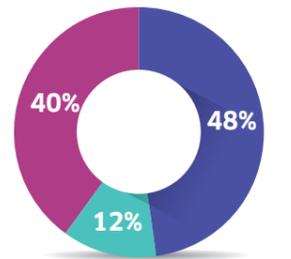
2019 - 71 Tonnes CO₂



2020 - 56 Tonnes CO₂



2021 - 68 Tonnes CO₂



Electricity Gas/Fuel Oil Commuting Business Travel Work from home Water

Figure 30 Breakdown of carbon emissions categories for last two years

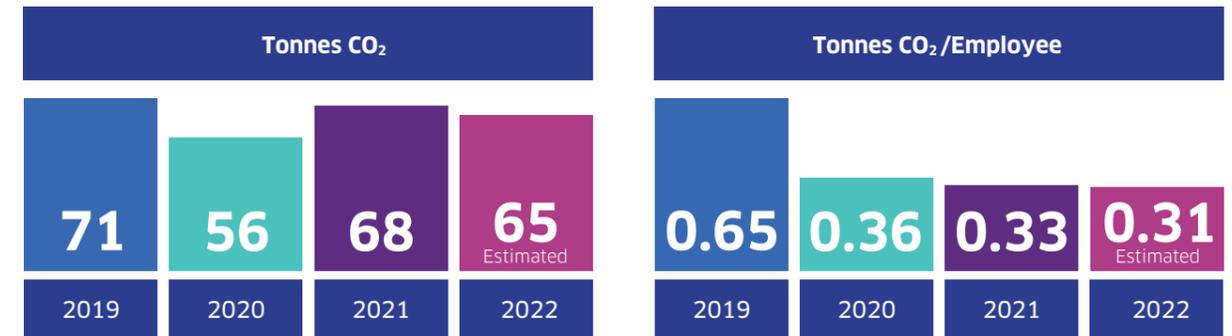


Figure 31 Annual carbon emissions with normalisation by site floor area and future projection

Figure 32 Annual carbon emissions with normalisation by number of employee and future projection

Targets for 2022

The Manila office offers opportunities for improvement through data management, particularly as the return to work has not commenced for this office. As a result, for 2022 we will target improvements to monitoring and measurement.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Consider increased opportunities for division of lighting sensors due to occupancy levels and daylight sensors for lighting in all areas.
- 5 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.8 Dublin

Office Characteristics

Lease type: **3-year lease**
 Total Floor Area: **578 m²**
 Number of Staff: **26 (end of 2019)**
 Number of Staff: **28 (end of 2020)**
 Number of Staff: **19 (end of 2021)**

Systems

Heating: **DX**
 Airconditioning: **NA**
 Power: **Day/Night rates**
 Water: **Metered**
 Renewables: **NA**



Contact

Sustainability Champion: Killian O'Neil
Admin contact: Juliana Braga
Office Manager: Julie Walsh

Carbon Emissions

	2019 Baseline		2020		2021		2022
Consumption	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Usage Unit	Tonnes CO ₂	Target Tonnes CO ₂
Electricity (kWh)	N/A	N/A	N/A	N/A	63,891	19	
Gas / Fuel Oil (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Commuting (km)	N/A	N/A	N/A	N/A	0	0	41
Business Travel (km)	N/A	N/A	N/A	N/A	0	0	
Work from home (kWh)	N/A	N/A	N/A	N/A	34,550	24	
Water (m3)	N/A	N/A	N/A	N/A	286	0.1	

Table 14 Carbon emissions by category for the last 3 years and future projection



Targets for 2022

The Dublin office offers opportunities for improvement through data management. As a result, for 2022 we will target improvements to monitoring and measurement.

The following are specific targets to be discussed on board level:

- 1 Investigate smart metering and automation for all utilities, thus providing great clarity on consumption.
- 2 Investigate opportunities for monitoring staff numbers in the office in line with return to office plans, thus assisting in office right sizing plans.
- 3 Conduct regular waste auditing and monitoring of waste figures.
- 4 Review the potential for low and zero carbon transport options for short journeys either commuting or site visits local to the office.

6.9 RED New Sites



Cork, Ireland

Office Characteristics

Lease type: **3-year lease**
Total Floor Area: **170 m²**
Number of Staff: **6 (end of 2021)**

Systems

Heating: **DX**
Airconditioning: **DX**
Power: **TBC**
Water: **estimate per m²**
Renewables: **NA**



Contact

Sustainability Champion: Killian O'Neil
Admin contact: Juliana Braga
Office Manager: Julie Walsh

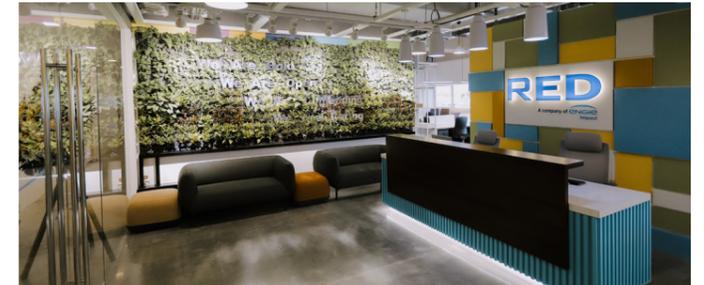
Clark, Philippines

Office Characteristics

Lease type: **Coming soon**
Total Floor Area: **Coming soon**
Number of Staff: **Coming soon**
Number of Staff: **Coming soon**
Number of Staff: **Coming soon**

Systems

Heating: **Coming soon**
Airconditioning: **Coming soon**
Power: **Coming soon**
Water: **Coming soon**
Renewables: **Coming soon**



Contact

Sustainability Champion: Coming soon
Admin contact: Coming soon
Office Manager: Coming soon

Guildford, UK

Office Characteristics

Lease type: **Coming soon**
Total Floor Area: **Coming soon**
Number of Staff: **Coming soon**
Number of Staff: **Coming soon**
Number of Staff: **Coming soon**

Systems

Heating: **Coming soon**
Airconditioning: **Coming soon**
Power: **Coming soon**
Water: **Coming soon**
Renewables: **Coming soon**



Contact

Sustainability Champion: Coming soon
Admin contact: Coming soon
Office Manager: Coming soon

7.0

RED Performance by Employee

RED Performance by Employee



The emissions rate by employee is the main key performance index RED uses to evaluate its carbon footprint. Whilst the performance by categories is used to highlight areas for potential improvement, the performance by employee is used to provide a comparable figure among corporates.

Figure 37 shows the annual performance of RED and future projection for 2022. The projection with this summed figure could not be based on regression with partly missing data and difficulties associated with the COVID-19 interruptions to use profiles. In addition, the prediction could not be broken down to the different categories with the above listed reasons. Future reporting will target to enhance data gathering methods and eliminate errors.

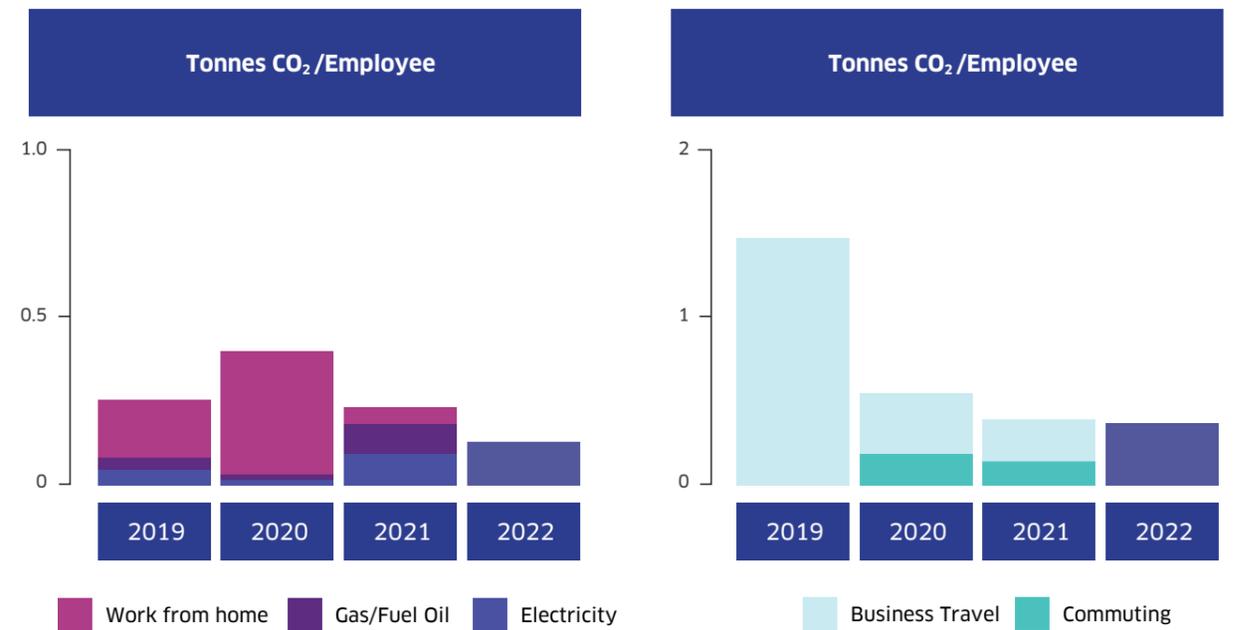


Figure 35 Total sum of carbon emissions normalised by number of employees over last years and future projection

8.0

Summary

8.0 Summary



This report is the second of our annual Environmental statements which will be disseminated by the RED sustainability team to the wider company and externally. The report deals with RED environmental performance and specifically their operational CO2 emissions from all RED sites.

The breakout of COVID-19 in 2020 has brought new input and changed the methods in quantifying and validating the outcome. The aim, however, is to keep the methodological rigor, provide an accurate estimate throughout this report and leave final verifications and validations for future reports in a post-pandemic year. The report is therefore presenting the original sustainability goals and performance whilst pointing out the current drawbacks and plans to improve future predictions. The drawbacks were mainly due to the interruptions in energy use profiles during COVID-19 restrictions and the lack of historical data from part of RED sites. These two drawbacks (i.e., missing data and interrupted use profiles) are typical challenges for data analysis, yet in this case were greatly visible.

The RED performance, in this report, was broken down by category of use or consumption, by site, and by employee. This basically shows the different perspectives of analysis and visualises the potential improvement in categories or sites. The data normalisation was mainly based on number of employees and additionally on square meter of site floor area. Hence, the performance indicators in this report were the emissions per employee (as the main KPI) and emissions per floor area unit as a secondary one. The latter was shown to reflect on the remarkably variable density of sites' occupancy and differences between Asian and European sites.

The RED performance was finally stated in sum by employee that represents the single value indicator to evaluate RED's annual performance. The total emissions by RED in 2021 is 384 (missing Dubai data) Tonnes CO2 whilst that normalised by the number of employees is 0.8 Tonnes CO2/ employee.

9.0

9.0 Next Steps

9.0 Next Steps



A monitoring plan to be shared with all RED sites.

This is to be based on smart metering and automatic data logging to minimise manual work and eliminate errors.



Feedback from sites with sought initial and running investment.

Office managers to respond with a plan that includes equivalent technical solutions that suits their local settings.



Discussion and budget allocation.

Sustainability team to respond to sites plans and allocate budget.



Go live with data gathering.

Data platforms are ready for each site and data streaming is inspected.



Start editorial work of next year report.

Editorial work and ways of presentation are improved for next year report.

Appendix A



ISO 14001 Environmental Management System (EnMS) Summary

Our ISO 14001 EMS covers the environmental impact of our offices within the UK. As part of the EMS we have a number of objectives which are reviewed on an annual basis. These objectives relate to our environmental aspects, which are as follows:

- Design activities
- Electricity consumption
- Paper consumption
- Procurement
- Employee transport
- Waste management

Identified as part of our risk assessment, these aspects reflect the activities of our organisation (UK based) that we have identified as having the greatest impact on the environment.

Appendix B



ISO 50001 Energy Management System (EMS) Summary

Our ISO 50001 EnMS covers our energy use within our UK based offices. As part of our ISO 14001 EMS, a number of objectives related to our energy use are set and reviewed on an annual basis. To help us achieve our objectives an emphasis on monitoring and measuring is crucial. As the business grows and expands, it is important to use normalisation of energy and resultant emissions. Thus, the performance is evaluated using key energy performance indicators as set out in the EnMS, these are as follows:

- EnPI 001: kWh of electrical energy used per m² of office space
- EnPI 002: kWh of heating fuel energy used per m² of office space
- EnPI 003: Total kWh of energy used per employee

To ensure we have a quantitative reference enabling us to effectively track our performance over time, these 3 EnPI's are compared against our energy baseline year of 2019.

Sustainability Solutions & Climate Change Team



Connect with the Team



Iain MacDougall

Head of Sustainability
Solutions & Climate Change



Oliver Hanson

Associate



Ehab Foda

Senior Engineer



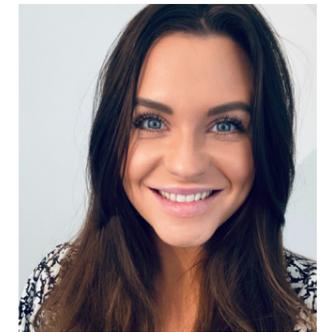
Amelia Cunnane

Sustainability Engineer



Helga Silva

Senior Management
Team PA



Stacey Wilkins

Executive Assistant



Robert Yates

Principal LEED Engineer



Alexandra Vella

Principal Engineer



Elinor Kent

Sustainability Engineer



Dalvina Chin

Graduate



Charles De Guzman

Sustainability Engineer



Monette Louise Cabiles

Sustainability Engineer



2021 Environmental Management Report