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Verification Report
for Standard
Chartered Bank

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Verification Report of Standard Chartered's 2021 Global Carbon Report Prepared for Standard Chartered plc by Global Documentation 6th January 2022

1.0 INTRODUCTION

Each year Standard Chartered plc (SC) publishes its Sustainability Report, to include data relating to its carbon emissions, water consumption & waste generation. This data is collected, calculated & produced internally.

Global Documentation was tasked to provide independent assurance (limited level) for the reporting period 1st October 2020 to 30th September 2021 on the following information:

- Carbon emissions: Scope 1 (combustion of fuels: gas and diesel) & Scope 2 (purchased electricity, heat, and cooling), in tonnes of CO₂e
- Waste production: general waste & recycling, in kg or tonnes
- Water consumption, in m³.

This report & Verification Statement gives an overview of the findings of the project to verify the data presented. We have conducted our verification in accordance with ISO 14064-3 (Guidance for the verification and validation of greenhouse gas statements); the methodology has been expanded to also include waste & water.

The reporting criteria used by SC was their 'Carbon Emission Criteria 2019' (original year's version), which explains the processes used for calculating carbon emissions. All data is presented in the spreadsheet '2021 Global Carbon Report', with detailed primary data given in the spreadsheet "Environment Dashboard_2021".

Initial discussions had been previously held to understand the boundaries of the assessment (offices, branches) & activities (energy, waste, water).

The organisational boundary of the project covers SC's significant sites, denoted 'GEMS' (sites included in the Global Energy Management System) and also smaller sites (less than 10,000 ft² 'non-GEMS'), for activities where SC has 'operational control'. Thus, this project covers buildings' operations only, no transport, fugitive or other associated emissions.

158 GEMS sites and 810 non-GEMS sites were included in the assessment, covering 45 countries within the four main regions: AME - Africa & Middle East; ASA - Asia; EA - Europe & Americas; GCNA - Greater China.

Data has been collected for GEMS and non-GEMS sites & recorded in the Credit360 reporting system. This shows monthly data for energy (depicting if electricity [renewable, non-renewable, landlord provided etc], gas, diesel etc), water and waste (general waste, recycling). Evidence is uploaded to support the figures provided, e.g., invoices, spreadsheets of meter readings etc. Data for non-GEMS sites is also recorded in Credit360; supporting evidence is not usually uploaded and was requested for specific sites examined.

While every effort is made to gather data for each site, not all sites actually have reported data



for energy, water and waste; this is particularly evident for non-GEMS sites. Thus, extrapolation is made to ensure under reporting is not done. Extrapolation calculations are made using floor area of reported sites and compared to total floor area of all sites (i.e. total reported data divided by reported sites floor area, times by total sites floor area). This ensures a country covers all its sites.

Countries where no sites at all have data are termed 'non-reporting countries' and data is extrapolated from the whole estate.

The verification process covered:

- Identification of key sites, regions and countries material to overall totals for data examination
- Comparison of figures given in "Global Carbon Report" and "Environment Dashboard" spreadsheets against primary data in Credit360
- Identification of evidence uploaded to Credit360 to support figures given
- Review of carbon calculations methodology and formulae
- Checking of emissions factors used (UK factors for gas, diesel etc) and international factors for electricity
- Queries relating to data completeness and errors, supporting evidence and calculations
- Identification of proportion of sites with no data provided, requiring extrapolation
- Understanding of sites from the termed 'non-reporting countries', also requiring extrapolation
- Review of methodology and formulae for extrapolation of missing data.

Key personnel within in the project included:

- Darren Sear – SC – Head of Engineering, Energy and Environment
- Taby Joshua Abraham – SC – Senior Manager - Energy & Environment (APAC)
- Anya Ledwith – Eshcon / Global Documentation – data verification (carbon, waste & water)

Documents provided:

- | | |
|-----------------------------------|-------------------|
| • Environmental Dashboard 2021 v1 | received 5.11.21 |
| v2 | received 24.11.21 |
| • Global Carbon Report v1 | received 20.12.21 |
| v2 | received 4.1.22 |
| v1 | received 6.1.22 |

2.0 CARBON EMISSIONS

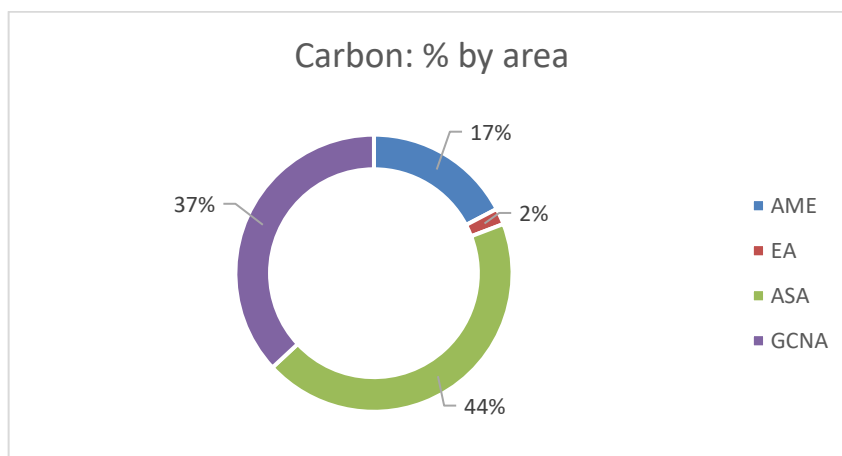
Scope 1 & Scope 2 carbon emissions arising from energy in buildings, for the reporting period 1st October 2020 to 30th September 2021 amounted to **85,662 tonnes of CO₂e**.

Carbon emissions are categorised as: Scope 1 emissions – combustion of fuels (gas and diesel); and Scope 2 emissions – purchase of electricity, heat, and cooling. Fugitive emissions (e.g., from refrigerant gases) are not included. Scope 3 emissions are not included within this assessment.

Table 1 – Scope 1 & 2 Carbon Emissions (tCO₂e)

Region	GEMS Scope 1 Reported Data	GEMS Scope 2 Reported Data	Non-GEMS Scope 1 Reported Data	Non-GEMS Scope 2 Reported Data	Non-GEMS Extrapolated Data	Total	%
AME	1,672	8,365	713	3,159	877	14,787	17%
EA	0	1,580	-	40	1	1,620	2%
ASA	276	31,309	31	5,812	21	37,449	44%
GCNA	140	18,046	1	12,524	801	31,513	37%
Non-Reported Countries					293	293	0%
Total	2,089	59,299	745	21,535	1,700	85,662	
%	2%	69%	1%	25%	2%		

Figure 1 - Scope 1 & 2 emissions, by region



Not all sites reported data. For these sites, emissions are extrapolated using the reported data compared to floor area (as explained above). Total extrapolated emissions (1,700 tCO₂e) account for 2% of total emissions (this has improved from 10% last year).

94% of emissions arise from Scope 2 reported data (electricity consumption); with extrapolated emissions likely to be mostly Scope 2, then total Scope 2 will be approximately 96% of emissions. Relatively few sites use gas & diesel is used in small quantities (e.g., for back-up generators and some sites for heating), so Scope 1 emissions comprised just ~4% of total emissions.



83% of the reported electricity is non-renewable & 17% is renewable (mostly purchased in rather than generated on site), up from 9% last year.

44% of emissions arose from ASA & 37% GCNA.

Emissions have fallen by 27% (117,443 tCO₂e in 2020¹), much of this has been due to the increased purchased of renewable energy. Although overall energy usage is also down: GEMS sites used around 135,496 MWh of electricity (down 5% from 142,485 MWh).

2.1 Data Quality - Carbon

In terms of completeness of data, 2 GEMS sites provided no data (1% - down from 25 last year – although both were closed during the year) and 35 active non-GEMS sites (4% - down from 84). For sites with no data, emissions are extrapolated using floor area (total reported emissions divided by sites reporting data, multiplied by total floor area). This is a reasonably methodology to ensure a truer picture is given of total emissions, although separating out by GEMS/Non-GEMS and Scope 1/2 would be more accurate.

Of the GEMS data reported (61,389 tCO₂e), 38,578 tCO₂e or 63% was checked, using a sampling approach, focussing initially on larger sites across a range of countries and regions.

Data quality for GEMS was overall good with evidence provided (e.g., electricity invoices, spreadsheets with meter readings or summary of kWh used for a range of sites). The quantity and quality of the evidence provided has improved this year.

Of the emissions checked, 88% had good data and evidence; 12% had queries (e.g., no evidence provided, minor anomalies with figures, many of which were then rectified). The AME and EA regions tended to have issues, mostly with providing evidence.

¹ NB: last year's emissions have not been recalculated, as would be standard methodology for comparisons.

Table 2 – Carbon data verification

GEMS	No. sites	No. sites checked	kWh checked	tCO ₂ e checked	TOTAL Reported tCO ₂ e	% tCO ₂ e checked
AME	43	11	14,851,568	3,961	10,037	39%
EA	8	3	6,977,996	797	1,580	50%
ASA	63	23	39,417,317	17,707	31,585	56%
GCNA	44	20	31,704,383	16,114	18,186	89%
Total	158	57	92,951,264	38,578	61,389	63%
%		36%	69%	63%		

Non-GEMS						
AME	193	7	1,254,311	621	3,872	16%
EA	9	0	-	-	40	0%
ASA	222	7	873,024	540	5,842	9%
GCNA	386	11	1,739,982	1,027	12,526	8%
Total	810	25	3,867,317	2,187	22,280	10%
%		3%	9%	10%		

At some sites, evidence was not given as bills, but calculations of consumption based on floor area. Each site or country provided monthly info for these, so evidence was deemed sufficient.

Evidence for electricity & gas was better than for diesel, which was often estimated (although generally low quantities and will not make a material difference to carbon calculations).

Some anomalies were initially found during the initial data review and queried. Many items were corrected. In some cases, there had been a missing month's figure in the C360 data dump provided – since then, the figures had mostly been updated in C360. Thus, anomalies were cleared.

Of the Non-GEMS data reported (22,280 tCO₂e), 2,187 tCO₂e or 10% was checked, using a sampling approach, focussing on larger sites (i.e., with over 100 tCO₂e).

Evidence for non-GEMS sites were not automatically uploaded onto Credit 360, but are held by CBRE, presumably due to the sheer number of sites. For sample of sites requested, evidence was then uploaded onto C360 for review; all these sites gave good quality evidence.

None of the non-GEMS sites checked used gas and only a few diesel.

It is noted that the evidence provided for non-GEMS sites has improved since last year, giving greater confidence in the quality and completeness of the data.

2.2 Carbon Calculations

The calculations of the Scope 1 and Scope 2 emissions were checked, as well as the emissions factors for each country and the primary evidence for each emissions source.

A zero emissions factor has been used for sites with renewable energy, on the assurance of



SCB stating that energy procurement contracts there are indeed 100% renewable energy.

The results of the carbon calculations and extrapolations are given in the Global Carbon Report spreadsheet. Minor errors were found, e.g., extrapolated data for non-reporting countries using different floor area figures for carbon, versus water or waste. These have been subsequently rectified.

Further examination of the spreadsheets used to make the overall carbon calculations would be useful and it can be easy for errors in formulae to arise.

The level of extrapolated data has fallen significantly since last year, with non-GEMS sites particularly providing better quality and complete data.

2.3 Energy consumption

Energy consumption has been verified from data provided by the GEMS and non-GEMS sites globally. Evidence as per the carbon calculations taken as kWhs from utility invoices, landlord service charges and meter reads, all uploaded to Credit360 for review. All sites gave good quality evidence.

Renewable energy was indicated in the Credit360 evidence as either direct on-site, indirect from a supplier, indirect through a power purchase agreement or indirect via energy attribute certificates. All these renewable energy supplies comply with RE100 as providing additionality into the relevant country utility grid.

Total energy was down 15% to 183.0 GWh (from 215.6 GWh in 2020). Renewable energy was up 89% in 2021, comprising 15% (28.2 GWh) globally from 7% (14.9 GWh) in 2020.

2.4 Conclusion - Carbon

Non-conformities have not been given in this report, as queries raised were addressed during the project.

Our conclusion is that the energy data & carbon calculations reported are correct.

Recommendations are to further improve evidence provided for GEMS sites (particularly the AME and EA regions) and examine the calculations spreadsheets to ensure formula errors and inconsistencies do not arise.

2.5 Scope 3 Carbon

In addition to energy used in SC's branches, a significant amount of electricity is used in data centres supporting the bank's services – this is classed as Scope 3 emissions and has not been included in the Scope 1 & 2 emissions data above. Some figures for electricity consumption have been provided, though these have not been validated as no supporting evidence was available. Estimated emissions from data centres amounted to 43,132 tCO₂e – this is 50% of the bank's own Scope 1 & 2 emissions.

3.0 WATER

Water consumption amounted to **384,012 m³** - falling by 21% (483,326 m³ in 2020).

Table 3 – Water Consumption (m³) by region

Region	Reported Data	Extrapolated Data	Total	%
AME	53,293	15,314	68,608	18%
EA	15,458	-	15,458	4%
ASA	108,844	32,278	141,122	37%
GCNA	78,208	72,410	150,618	39%
Non-Reported Countries		8,207	8,207	2%
Total	255,803	128,209	384,012	
%	67%	33%		

Of the reported data, GEMS sites used 86% of the water; 43% was in ASA & 31% GCNA.

Some sites' data may not cover the entire year; in these cases, data is annualised up to 12 months from the data provided (included within the reported data figures).

Just 10 GEMS sites did not provide any water data, however most non-GEMS sites did not (680 in total, 510 of these were active). Therefore, extrapolated data was significant at 33%.

3.1 Data Quality - Water

Provision of water data has been more challenging than energy, particularly for non-GEMS. 10 GEMS (6%, down from 29 last year) and 680 non-GEMS (84%) did not provide any data.

Of the GEMS water data reported (219,311 m³), 135,686 m³ or 62% was checked – the sites chosen were the same as for carbon (see above, focussing initially on larger sites across a range of countries and regions).

Table 4 – Water data verification

GEMS	No. sites	No. sites checked	m ³ checked
AME	43	10	12,407
EA	8	3	13,999
ASA	63	24	58,229
GCNA	44	20	51,051
Total	158	57	135,686
%		36%	62%

TOTAL Reported m ³	% m ³ checked
45,682	27%
15,458	91%
94,828	61%
63,343	81%
219,311	62%

Non-GEMS			
AME	193	7	1,226
EA	9	0	-
ASA	222	7	314
GCNA	386	11	296
Total	810	25	1,837
%		3%	5%

7,611	16%
-	
14,015	2%
14,865	2%
36,492	5%

Data quality for GEMS sites was generally good with evidence provided (e.g., usually in spreadsheets with information provided by the landlord). The quantity and quality of the evidence provided has improved this year. Many sites do use estimations, but the calculations for these are often provided.

Of the water checked, 82% had good data and evidence; 18% had queries (e.g., estimates only, errors or no evidence provided).

AME sites, particularly, had no evidence provided, only estimated data.

One site (London) had a major error in the figure input, significantly overstating consumption – which has now been corrected in the reporting spreadsheets (though needs to be updated on C360).

Of the Non-GEMS data reported (36,492 m³), 1,837 m³ or 5% was checked. Data quality for non-GEMS sites was poor with very little evidence uploaded onto Credit360 and much of the figures were estimated.

Of the total extrapolated data, 56% of this was for GCNA and 25% for ASA.

3.2 Conclusion - Water

Other than the issues of no data being provided by so many sites (particularly Non-GEMS) (as raised in the Recommendation section), no non-conformities have not been given in this report.

With the caveat that 33% of the water consumption figure is extrapolated (although explained above), our conclusion is that the water data reported is correct.

4.0 WASTE

With an improved waste recording system introduced at GEMS sites, monthly data for general waste, recycling & food vendor waste is collected; only a small number of non-GEMS sites provided data.

Total waste production amounted to **3,501 tonnes** (down 35% from 5,425 tonnes). Data provided by sites was 2,206 tonnes; of this 70% was general waste and 30% recycling. 65% of waste production was in GCNA and 22% in ASA. Total recycled waste within this value amounted to **1,051 tonnes** (up 7% as a total value from 2020).

No non-GEMS sites provided data; thus, extrapolated data for sites amounted to 37% of total waste produced.

Table 5 – Waste quantities produced (tonnes)

Region	Reported Data	Extrapolated Data	Total	%
AME	272	105	378	11%
EA	58	0	58	2%
ASA	574	188	762	22%
GCNA	1,302	970	2,272	65%
Non-Reported Countries		31	31	1%
Total	2,206	1,295	3,501	
%	63%	37%		

4.1 Data Quality - Waste

In terms of completeness of data, overall, the provision of waste data is poor; 2 GEMS (down from 25) and all non-GEMS did not provide any waste data at all.

GEMS sites generally use the new waste reporting system implemented which is collecting good monthly data for both general waste and recycling, mostly showing each type of waste stream. This monthly data is good quality.

Of the GEMS waste data reported (2,206 tonnes), 1,669 tonnes or 76% was checked – the sites chosen were the same as for carbon (see above, focussing initially on larger sites across a range of countries and regions). The Non-GEMS sites were checked but none submitted waste data.

Data quality for GEMS sites was generally good with evidence provided (e.g., usually in spreadsheets with information for each waste stream). Of the tonnes checked, 87% had good data and evidence; 13% had queries (e.g., months missing, relying on estimates or no evidence provided).

Table 6 – Waste data verification (GEMS only)

GEMS	No. sites	No. sites checked	Tonnes checked
AME	43	11	133
EA	8	2	46
ASA	63	24	384
GCNA	44	19	1,106
Total	158	56	1,669
%		35%	76%

TOTAL Reported tonnes	% tonnes checked
272	49%
58	80%
574	67%
1,302	85%
2,206	76%

Of the total extrapolated data, 75 of this was for GCNA and 15% for ASA.

4.2 Conclusion - Waste

The lack of any waste data provided by all non-GEMS sites make the extrapolations (for missing sites and indeed whole countries) very significant (37%). Given the extrapolation is using GEMS sites' waste data as the basis for the calculation, the overall figures may well be overrepresented.

Our conclusions are that the data & calculations presented follow SC's methodology and, subject to the understanding that some accuracy reduction will arise where extrapolations are made, the waste data is correct.



5.0 RECOMMENDATIONS

A number of queries were raised during the project relating to data presented & evidence to support it. As these are cleared during the project, a list of non-conformities will not be presented here.

Our recommendations for improving the process in the future, however, are given below:

- Put in place processes for data collection for non-GEMS sites – either with information from landlord or calculating kWh from floor area. Ensure any evidence that is collected, is properly uploaded onto Credit360. With non-GEMS sites responsible for around 26% of carbon emissions, this could have a significant impact on accuracy.
- Improve evidence submission, especially for sites from the AME and AE regions.
- Similarly, 84% of non-GEMS sites provided no water & 100% no waste data (this is worse than last year). Consider undertaking a pilot project to identify typical waste and water for non-GEMS sites; these figures can be used for the extrapolations (particularly important as currently GEMS data is used, which may lead to over-reporting for the smaller sites).
- Extrapolated data has been calculated for either for the country or even the group as a whole, rather than for each individual site that has not provided data, therefore some inaccuracy may arise. Consider a more precise methodology for extrapolation to show a breakdown by GEMS versus non-GEMS sites, country, and region. For carbon this can then show Scope 1 or Scope 2.
- Explain the extrapolation process to fill in gaps – make it clear to the reader of the Sustainability Report that figures include a level of estimation. This is particularly key for waste & to a lesser degree water, where data completeness issues have arisen.
- Introduce a regional overview, to identify where sites are not reporting (rather than just authorisation at a site level which will not give regional trends). Consider a half-year review to ensure data is being presented correctly & completely.
- Further examination of the spreadsheets used to make the overall carbon calculations would be useful and it can be easy for errors in formulae to arise. For example, the NIA figures differed for carbon and water (which affected in the initial extrapolation calculations).

It is noted, however, that data quality and submission of evidence has improved this year.

6.0 VERIFICATION STATEMENT

Verification Statement for Standard Chartered's 2021 Global Carbon Report

Global Documentation was tasked by Standard Chartered plc to provide independent verification (limited assurance level) for the reporting period 1st October 2020 to 30th September 2021 on the following information:

- Carbon emissions: Scope 1 (combustion of fuels) & Scope 2 (purchased electricity, heat and cooling)
- Waste production: general waste & recycling
- Water consumption.

Management of Standard Chartered is responsible for the preparation and fair presentation of the data in accordance with its 'Carbon Emission Criteria. This responsibility includes designing, implementing and maintaining a data management system relevant to the preparation and fair presentation of a statement that is free from material misstatement.

Our responsibility is to plan and perform our work to express an opinion on the inventory based on our verification. We conduct our verification in accordance with ISO 14064-3 (Guidance for the verification and validation of greenhouse gas statements). This International Standard requires that we comply with ethical requirements and plan and perform the verification to obtain reasonable assurance that the GHG emissions & other data are free from material misstatement. The methodology has been expanded to also include waste & water.

Our verification strategy used a combined data and controls testing approach. Evidence-gathering procedures included but were not limited to determination of the project boundary; interview of key personnel to confirm operational behaviour and standard operating procedures; sampling of records to confirm accuracy of source data into calculations; calculation of extrapolated data; checking against emissions factors; recalculation of emissions. The data examined during the verification were historical in nature.

In our verification opinion, based on the work we have undertaken, and the evidence provided by Standard Chartered Plc, nothing has come to our attention that leads us to believe that the information has not been presented fairly, in all material respects, in accordance with the Reporting Criteria.

- Scope 1 and Scope 2 emissions: 85,662 tCO₂e
- 183.0 GWh annual energy consumption of which 15% was renewable (28 GWh direct and indirect)
- Water consumption: 384,012 m³
- Waste production: 3,501 tonnes

Global Documentation Ltd

6th January 2022