 CARBON FOOTPRINT CALCULATION AND SUSTAINABILITY PRACTICES PROCEDURE	Doc. No	QU-EMS-FGSD-SOP-05
	Revision No	00
	Issue Date	01.03.2022


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ACTIVITY	ROLE / NAME	DATE	SIGNATURE
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Review	Environmental & Sustainability Section Head	01.03.2022	Madawi Al-Shafi
Approval	Director of Facilities and General Services Department	01.03.2022	Mai Fetais


REVISION HISTORY

REV NO	REV DATE	REASON FOR CHANGE	BRIEF DESCRIPTION OF THE CHANGES	EFFECTIVE DATE OF IMPLEMENTATION
00	01.03.2022	-	FIRST RELEASE	01.03.2022

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1. PURPOSE

This procedure describes the methodology for the calculation/reporting of the carbon footprint resulted from QU operations and provides best practices to promote sustainability in the campus operations.

2. FIELD OF APPLICATION

The scope of this procedure covers the entire QU campus.


3. REFERENCES AND ASSOCIATED DOCUMENTS

The standards or documents listed below are considered as references to this procedure:

Document Code	Document Designation
-	ISO Standard 14001:2015
QU-MNL-01	EMS Manual
-	“SIMAP User’s Guide”

4. DEFINITIONS AND ABBREVIATIONS

Abbreviation/Words	Definition
QU	Qatar University
EMS	Environmental Management Systems
ES Specialist	Environmental and Sustainability Specialist
FGSD	Facilities General Services Department
MEP	Mechanical, Electrical, Plumbing Section
SIMAP	The Sustainability Indicator Management and Analysis Platform
QUCFR	QU Carbon Footprint Report
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers

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5. RESPONSIBILITY

Title	Responsibilities
ES Specialist	<ul style="list-style-type: none"> - has an overall responsibility for the carbon footprint calculation and reporting. - has an overall responsibility to promote sustainability practices for the QU operations. - coordinates the use/distribution of the QUCFR by stakeholders. - has an overall responsibility for the sustainability awareness preparation and distribution.
Environment and Sustainability Section Head	<ul style="list-style-type: none"> - review and endorse the QUCFR. - coordinates the use/distribution of the QUCFR by stakeholders.
FGSD Director	<ul style="list-style-type: none"> - review and approve the QUCFR.

6. PROCEDURE


6.1. QU Carbon Footprint Calculation Tool

The Sustainability Indicator Management and Analysis Platform (SIMAP) was selected by QU for calculating the QU carbon footprint. It is designed to measure, calculate, track and report the QU campus carbon footprint.

The scope for calculating the QU carbon footprint is the entire QU campus. In order to avoid the double counting of GHGs the operational boundary shall be determined specifically through the three scopes, described below:

Scope 1 – Core direct emissions: Emissions from activities owned by the organization or under its control and shall be considered as follows:

- Stationary Fuels (QU does not have any in-house source of stationary fuels, therefore this category is not taken into a consideration),
- Transport Fuels,
- Fertilizers,

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- Animals (QU does not have animals which fall under this category, therefore this item is not taken into a consideration),
- Refrigerants and Chemicals,

Scope 2 – Core indirect emissions: Emissions from activities that are neither owned nor operated by the organization but are directly connected to an on-campus energy consumption and shall be considered as follows:

- Utility Consumption (QU considers in the calculation the campus energy consumption),
- Renewable Energy (QU does not have any in-house sources of renewable energy, therefore this category is not taken into a consideration).

Scope 3 – Non-core indirect emissions: Other emissions attributed to the organization and are neither owned nor operated by the organization but are either directly financed by the organization or linked to it.

- Commuting
- Business Travel and Study Abroad
- Student travel to or from home
- Food
- Paper
- Waste & Wastewater.

Scope 3 is optional and in the current calculation stage is not taken into a consideration. ES Specialist shall investigate opportunities to include this scope in the upcoming calculation cycles.

6.2.Data Collection.

ES Specialist shall initiate data collection for the carbon footprint calculation at the end of the reporting year or the beginning of next year as per Table 1. The mentioned below stakeholders shall revert with the requested data within 1 month.


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Table 1 – Data collection

Category	Department / Person to contact	Mode of communication
Refrigerants	FGSD MEP / Mechanical Engineer or Project Engineer	E-mail
Power consumption	FGSD MEP / Electrical Engineer or Project Engineer	E-mail
Fertilizers	FGSD Civil and Landscaping Section / Landscape Engineer	E-mail
Transport Fuels	FGSD Transportation Section / Transportation Supervisor	E-mail
Staff Population	HR Department / Employee Relations Section / Head	E-mail
Students Population	Institutional Research and Analytic Department - Office of Institutional Planning and Development Section / Manager	E-mail
Budget	Finance Department / Budgeting and Reporting Section / Head	E-mail
Area size	FGSD Civil and Landscaping Section / AutoCAD Specialist	E-mail

6.3. Data Analysis

Upon receipt of the data:

1. ES Specialist shall verify the accuracy of received data. In case the improper data detected, ES Specialist shall contact the relevant stakeholder for correction.
2. ES Specialist shall evaluate the need of data preparation before entering to the tool and accurately prepare the data, e.g. summing up the monthly data for electricity consumption to annual consumption, monthly fuel consumption data into annual consumption etc.

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3. ES Specialist shall verify if the data units compatible with the tool units, else ES Specialist shall convert the data units to the suitable tool units.

6.4. Logging Data into the Tool and the Data Review Process

1. ES Specialist shall accurately log the data into the tool following required steps (for the guidance refer to the latest edition of the “SIMAP User’s Guide”).
2. ES Specialist shall cross-verify the entered data to prevent miscalculation.
3. Upon all the data accurately logged in and preliminary calculation is made, ES Specialist shall fill in the data review appointment request form and send it to the SIMAP’s support team by e-mail.
4. On the appointed date by SIMAP’s support team, ES Specialist shall participate in the meeting providing the necessary details for the review process.
5. As a result of the review meeting the SIMAP’s support team will send:
 - An e-mail with suggestions for the correction of data or recommendations for the future improvements,
 - A confirmation e-mail of the completion of the review process.
6. In case of suggestions/comments provided by the SIMAP’s support team, ES Specialist shall ensure incorporation of the same within the tool.
7. Once the review process is completed, ES Specialist shall commence the QU Carbon footprint report preparation.

6.5. Carbon Footprint Reporting

1. ES Specialist shall prepare the QU Carbon footprint report (QUCFR) not more than the second quarter of the following reporting year.
2. QUCFR shall not specifically have any template to ensure continuous improvement of the information presented, however shall built on the template used for the 2020 QUCFR.
 - Upon completion, ES Specialist shall send the draft of the QUCFR by e-mail to Environment and Sustainability Section Head for review and endorsement.

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3. Within 5 working days, Environment and Sustainability Section Head shall review the QUCFR and:
 - a. in case any comments/suggestions for improvement, Environment and Sustainability Section Head shall communicate the same by e-mail to the ES Specialist.
 - b. in case no comments/suggestions for improvement and the content of the QUCFR is satisfactory, Environment and Sustainability Section Head shall endorse the QUCFR.
2. Upon endorsement, Environment and Sustainability Section Head shall send the QUCFR by e-mail to FGSD Director for final approval.
3. Within 10 working days, FGSD Director shall review and approve the QUCFR.
4. Upon approval, the ES Specialist shall coordinate with FGSD Planning Section to upload the QUCFR on the Environment and Sustainability Section Web Page.
5. The QUCFR needs to be reviewed annually to add any action plans if needed and when it is applicable.
6. Shall any stakeholder require the QUCFR or QUCFR's data for any matter, it shall not be allowed to use/distribute the QUCFR without ES Specialist/Environment and Sustainability Section Head approval. To obtain such an approval, stakeholder shall send an e-mail to ES Specialist with an official request.


6.6. Practices for the Environmental Sustainability

Sustainability addresses approaches, methods and practices that optimize the use of energy, water and raw materials, while reducing greenhouse gas emissions.

ES Specialist shall continuously investigate, promote and implement mitigation and management measures which can be instigated to encourage sustainable operation of the QU campus operations.

6.6.1. Energy Conservation

Energy conservation refers to efforts made to reduce energy consumption, which can be achieved through increased efficient energy use, in conjunction with decreased energy consumption and/or reduced consumption from conventional energy sources. Energy efficiency means using less energy to provide the same service.

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Mitigation and management measures which can be instigated to encourage energy conservation and efficiency can include:

a) Buildings - Energy Conservation


1. Use of alternatives to indoor/office lights (e.g. daylight).
2. Installment of occupancy sensors or luminosity sensors in common areas and rooms/offices (during the renovation/maintenance activities).
3. Switch off lights, computers and air-conditioning units at the end of day or if not in use.
4. Use of alternative sources of cooling instead of AC (e.g. opening windows for ventilation & use blinds on windows).
5. Set AC temperature at optimum human level (typically 22-24°C).
6. Lower AC temperature during winter period to decrease the load.
7. All doors/windows and exit doors shall kept close when not in use and when the AC is operated to prevent any energy loss.

b) Buildings - Energy Efficiency

1. Use of energy-saving compact fluorescent bulbs or LED-lights for lamps and other task lights.
2. Cleanness of lights and light fittings for optimum brightness.
3. Selection of energy-efficient electronic appliances.
4. Ensure regular calibration, cleanness, maintenance of services equipment to ensure efficiency.
5. Study the opportunities to utilize or install renewable energy resources (eg. solar-powered devices).

c) In-campus streetlights – Energy Saving /Efficiency

1. All outdoor lightings, including street lightings, parking areas, etc. shall be LED as per ASHRAE standards recommendations.
2. Dimmers and light controls shall be installed when possible to control the lighting efficiency and turn on/off the lights in public areas.

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3. On-Site power supply technology (e.g. solar panels, wind turbines, biogas systems, etc.) shall be used to power the lights.

d) Implement cost energy saving measures

1) Domestic Hot Water Systems


- For maximum energy efficiency, hot-water temperature should be set to a temperature between 60°C and 65°C.
- The hot water system should be turned off, manually or through timer device, when the Building is not in operation. Systems with no obvious off-switch may have to be turned down (temperature set point) instead.
- Ensure hot water re-circulating pump is not running continuously.

2) Heating, Ventilation, and Air Conditioning (HVAC)

- Only authorized temperature adjustment allowed.
- Room temperature to be maintained 22-24°C.
- Performing regular filter replacement and coil cleaning.
- All HVAC systems have been set based on the schedule of the area it serves.
- Centralized chillers temperature set point to be maintained at 5.5°C and adjusted accordingly during winter time.
- Set night setback temperature set point at chillers at least 5°C below daytime temperature.

3) Lighting & Electrical System

- Provide clear labels for light zoning at convenient locations and preach good practice of switching off lights when the last person in the zone leaves for home.
- Switch off lights when appropriate. Reduce lighting in areas not in use, and encourage others to be alerted for lighting left on when no one is present.

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- When replacing defective electrical equipment, always consider energy efficient equipment.
- Turn off any equipment during the day, at night, on weekends and holidays that is not in use.

4) Plumbing System

- Installation of sensor taps.
- Routinely check water line for sign of water leak, leak should be corrected immediately.

6.6.2. Water Conservation


Water conservation refers to reducing the usage of water and recycling of wastewater for different purposes. However, the key for water efficiency is reducing wastewater, not restricting use. A number of mitigation and management measures can be instigated to encourage water conservation:

a) Buildings - Water Efficiency

1. Ensure that taps, toilets, drinking station and other water units are turned off when not required and leak free.
2. Fit taps with flow reduction faucets to minimize water use.
3. Investigate opportunities of cooling water and other wastewater recycling.
4. Prompt replacement of worn tap washers.
5. Investigate faucet aerators installation, which break water flow into fine droplets to maintain "wetting effectiveness" while using less water.

b) Landscaping – Water conservation

1. Be sure the irrigation system is watering only the areas intended, with no water running onto walks, streets or down the gutter.
2. Ensure that adaptive or native plants (which are more water efficient) are used in any landscaping to reduce the amount of water consumed.
3. Use water box devices to limit the amount of water and irrigation needed to sustain a tree within a desert environment.

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4. Mulch will slow evaporation of moisture while discouraging weed growth. Adding 2 - 4 inches of organic material such as compost or bark mulch will increase the ability of the soil to retain moisture.
5. Press the mulch down around the drip line of each plant to form a slight depression which will prevent or minimize water runoff.
6. Employ drip irrigation rather than spray irrigation technology for landscaping.
7. Potable water shall not be allowed to use for irrigation purposes.

c) Water Recycling and Conservation


1. Ensure water use for washing of tools, concrete curing, mixing of adhesive mortar, etc. are not excessive.
2. Adopt new techniques for water saving in washrooms (eg. use of soil bucket inside toilet flushing box to reduce water consumption if the used toilet is old, etc.).
3. Promote recycling of grey water for irrigation purposes.

6.6.3. Material Conservation

Material conservation encompasses the reduction in wastage of materials through poor storage and over purchase of stocks which deteriorate with time. It also considers the sustainable purchase of material (locally sourced, of good quality and of high recycled content) which will reduce fuel costs associated with long-distance deliveries. A number of mitigation and management measures can be instigated to encourage material conservation:

a) Material Conservation

1. Ensure that correct quantities of materials are ordered.
2. Ensure materials are not over-applied and thus wasted.
3. If the excess material cannot be used on another active project, then the first action should be to try and re-use the material in another form.
4. Ensure that material is handled carefully and is not spilt. If material is lost, then time and money will need to be spent obtaining replacements;

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b) Fuel Conservation

1. Switch engines off when not in use;
2. Establish the norms for fuel consumption, based on the manufacturer’s recommendations, and get the operators to monitor fuel consumption;
3. Consider whether materials can be purchased locally, thus saving on transport and time costs and reducing additional exhaust emissions;
4. Reduce the amount of car journeys - investigate carpooling with colleagues/students where possible (“no cars days” initiation, etc.);
5. Promotion of public transportation among students and employees.
6. Regular maintenance of vehicles, equipment, generators and similar to prolong the life of the item as well as ensuring that it operates as it should.
7. A malfunctioning vehicle (e.g. damaged muffler, low tire pressure) or a generator spewing black smoke will both require more fuel in order to do their job than a properly maintained version.

c) Correct Material Storage


1. Make sure that the material is stored correctly (per manufacturer’s instructions) until use.
2. Correct storage of materials will prevent deterioration and wastage;
3. Stack materials (e.g. fuel drums, tiles, chemicals etc.) in a safe manner so that they do not have the opportunity to fall over and damage themselves or other items or people;
4. Ensure that materials are not left in the sun or a wet environment if those physical conditions will degrade the materials and necessitate their replacement.

d) Green Purchasing Policy

The choice of building materials can make an important contribution to environmental performance during construction, and therefore QU shall have a responsibility to select environmentally friendly materials.

When selecting materials, consideration must be given to the following issues:

1. Usage of rapidly renewable materials.


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2. Avoid hazardous components or residues – materials containing hazardous chemicals can emit harmful vapors (for example, paints and glues). Unused or left-over product may require disposal at hazardous waste disposal facilities.
3. Distance materials are transported – transportation consumes fuel, so locally supplied materials are usually a better option.
4. Purchase products which have an identifiable recycled content.
5. Consider resource consumption during processing of raw materials to produce the end materials.
6. Product durability/effectiveness – inferior materials require maintenance or replacement sooner, which increases waste and costs.
7. Amount and type of packaging – excess packaging increases waste generation, and may be made from nonrenewable or non-recyclable raw materials.
8. Quantity surveying – improve estimation, ordering and stock control.
9. Natural, plentiful or renewable/recyclable – use materials taken from sustainably-managed sources.
10. Resource efficient manufacturing process – buy products manufactured with resource efficient processes. This means lower amounts of energy used in production, and/ or less wastage of materials.
11. Salvaged, refurbished or remanufactured – reuse materials such as glazing, pavers and roofing tiles to save costs as well as be environmentally beneficial.

e) Packaging


Packaging on materials should be reduced as much as possible:

1. Buy materials with minimal amounts of packaging. Left-over packaging requires storage, recycling or disposal by the contractor, and hence also contributes to costs;
2. Buy products where the packing is made from recycled content, or materials that are easily recyclable or reusable. Cardboard is an ideal example;
3. Ask suppliers if they are willing to accept their packaging waste back.

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6.7. Sustainability Awareness

1. ES Specialist in coordination with relevant stakeholders, shall prepare environmental and sustainability awareness materials/events to be shared/presented/conducted within the QU community, on the occasions listed below, but not limited to:
 - National Environmental Day,
 - Qatar Sustainability Week,
 - Earth Hour,
 - International Environmental Day,
 - World Water Day,
 - Sustainability Day,
 - Biological Diversity Day,
2. ES Specialist shall send by e-mail the preliminary materials including, but not limited to (broadcast text, social media text, design concept, etc.) to Branding & Creative Services Section under Communications and Public Relations Department on their email design@qu.edu.qa for further adjustments of the materials design and proofreading,
3. Communications and Public Relations Department shall provide feedback to ES Specialist within 2 weeks,
4. Within 3 working days ES Specialist shall approve the final design and text and send it by e-mail to:
 - IT Services Department for publishing on land-line phone displays within QU Campus,
 - Public Relations Department for e-mail broadcasting and publishing on different social media platforms.
5. For videos: ES Specialist shall contact Branding & Creative Services Section on their email (design@qu.edu.qa) one month prior to the event to request for a film producing service.
6. Branding & Creative Services Section shall provide ES Specialist with a Film Producing Request Form to be filled and sent back to them one month prior to the event day.

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7. For live events: ES Specialist shall contact Translation and Interpretation Section under the Communication and Public Relations Department on their email: translation@qu.edu.qa preferably one month prior to the event to arrange for an instant translation service, if there is a need for that, knowing that this service is available for free only for 50-minutes duration events.
8. ES Specialist shall contact IT Services Department to provide the audience with the required translation systems when instant translation service is approved by Translation and Interpretation Section.
9. For event location preparation (ex. electrical work, logistics, etc.), ES Specialist shall contact FGSD Call Center by filling in the Event Setup Request form and return it back to them for approval 5 workings days prior to a small event, and 1 month prior to a big event.

7. RECORD:

S. No.	Record Name	Reference	Custodian
01	Event Setup Request Form	FGSD Call Center	FGCD Call Center Coordinator
02	Film Producing Request Form	Branding & Creative Services Section	Branding & Creative Services Section