

OP 1: Greenhouse Gas Emissions

10 points available

A. Credit Rationale

This credit recognizes institutions that have inventoried their greenhouse gas (GHG) emissions and that have reduced their adjusted net Scope 1 and Scope 2 GHG emissions.

B. Criteria

Part 1

Institution has conducted a publicly available greenhouse gas (GHG) [emissions inventory](#) that includes, at minimum, [Scope 1 and Scope 2 GHG emissions](#) and may also include [Scope 3 GHG emissions](#).

The inventory may also be verified by an independent, external third party and/or validated internally by campus personnel who are independent of the GHG accounting and reporting process.

Part 2

Institution reduced its adjusted net Scope 1 and Scope 2 GHG emissions per [weighted campus user](#) compared to a baseline.

Part 3

Institution's annual adjusted net Scope 1 and Scope 2 GHG emissions are less than the [minimum performance threshold](#) of 0.02 metric tons of carbon dioxide equivalent (MtCO₂e) per gross square foot (0.215 MtCO₂e per gross square metre) of floor area.

Performance for Part 3 of this credit is assessed using [EUI-adjusted floor area](#), a figure that accounts for significant differences in energy use intensity (EUI) between types of building space (see *G. Standards and Terms*).

For this credit, the following carbon offsets may be counted:

- [Third-party verified purchased carbon offsets](#)
- [Institution-catalyzed carbon offsets](#) (popularly known as “local offsets”)
- Carbon sequestration due to land that the institution manages specifically for sequestration (as documented in policies, land management plans or the equivalent)
- Carbon storage from on-site composting

Purchased [Renewable Energy Certificates](#) (RECs) or [Guarantees of Origin](#) (GOs) may not be counted as carbon offsets. Emissions reductions attributable to RECs and GOs that are either [Green-e](#) Energy certified or meet Green-e Energy's technical requirements and are verified as such by a third party are reported separately (see E. Reporting Fields). Purchased carbon offsets and RECs/GOs that have not been third-party verified do not count.

Institution-catalyzed offsets, on-site composting, and carbon sequestration projects (on and off campus) that are to be counted as offsets must be third party verified or, at minimum, quantified using a method that addresses all of the following accounting issues:

- Selection of a baseline scenario (i.e., what would have happened in the absence of the project?);
- Demonstration of additionality (i.e., the project has resulted in emission reductions or removals in addition to what would have happened in the absence of the project);
- Identification and quantification of relevant secondary effects (i.e., small, unintended GHG consequences of a project, include leakage and changes in GHG emissions up- and downstream of the project);
- Consideration of reversibility (i.e., assessing the risk of reversibility, together with any mitigation or compensation measures included in the project design);
- Avoidance of double-counting (i.e., the reductions giving rise to the offset must occur at sources or sinks not included in the target or cap for which the offset is used).

Institutions that have sold or transferred emissions reductions, e.g. in the form of verified emissions reductions (VERs), may not count those reductions toward this credit. Those transactions are reported separately and net GHG emissions are automatically adjusted upward to reflect the sale or transfer of any institution-generated offsets that have been included as carbon offsets (see D. Scoring).

C. Applicability

This credit applies to all institutions.

D. Scoring

Each part is scored independently. Points earned are calculated according to the formulas below. Please note that users do not have to calculate the number of points earned themselves; points will be calculated automatically when the data listed under E. Reporting Fields is entered in the online Reporting Tool.

Scoring for Part 2 and Part 3 of this credit are based on adjusted net Scope 1 and 2 GHG emissions, a measure of an institution's overall climate impact (emissions minus carbon offsets generated and emissions reductions from REC/GO purchases). STARS calculates the figure according to the following formula:

$$\text{Adjusted net Scope 1 and 2 GHG emissions} = \{ [A + (B - C)] - (D + E + F + G - H) \}$$

- A = Gross Scope 1 GHG emissions (MtCO₂e)
- B = Gross Scope 2 GHG emissions (MtCO₂e)
- C = Emissions reductions from REC/GO purchases (MtCO₂e)
- D = Institution-catalyzed carbon offsets generated (MtCO₂e)
- E = Carbon sequestration (MtCO₂e)
- F = Carbon storage from on-site composting (MtCO₂e)
- G = Third-party verified carbon offsets purchased (MtCO₂e)
- H = Carbon offsets for which emissions reductions have been sold or transferred (MtCO₂e)

Part 1

An institution earns the maximum of 2 points available for Part 1 of this credit when its publicly available GHG emissions inventory has been validated or verified (internally or by a third party), covers all Scope 1 and Scope 2 GHG emissions, and includes emissions from six categories of Scope 3 GHG emissions Partial

points are available based on the categories of emissions included in the inventory and whether or not the inventory has been verified. Points are awarded as follows:

Components of the GHG Inventory	Points available	Points earned
Scope 1 and Scope 2 GHG emissions	1.0	
Scope 3 GHG emissions from: <ul style="list-style-type: none"> • Business travel • Commuting • Purchased goods and services • Capital goods • Fuel- and energy-related activities • Waste generated in operations • Other sources 	0.083 each	Up to 0.5
Validation or verification (internal and/or third party)	0.5	
Total points earned for Part 1 →		Up to 2

Part 2

Institutions earn the maximum of 4 points available for Part 2 of this credit by achieving zero adjusted net Scope 1 and 2 GHG emissions. Incremental points are awarded for reducing adjusted net Scope 1 and 2 GHG emissions per weighted campus user compared to a baseline. For example, an institution that reduced its adjusted net GHG emissions per weighted campus user by 50 percent would earn 2 points (half of the points available for Part 2).

STARS awards only positive points; points will not be deducted if adjusted net GHG emissions per weighted campus user increased rather than decreased during the time period. Points for Part 2 of this credit are earned according to the following formula:

$$\text{Points Earned} = 4 \times \{ [(A/B) - (C/D)] / (A/B) \}$$

A = Adjusted net Scope 1 and 2 greenhouse gas emissions, baseline year (MtCO₂e)

B = Weighted campus users, baseline year

C = Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year (MtCO₂e)

D = Weighted campus users, performance year

Part 3

Institutions earn the maximum of 4 points available for Part 3 of this credit by achieving zero adjusted net Scope 1 and 2 GHG emissions. Incremental points are awarded based on an institution's performance between the minimum performance threshold of 0.02 MtCO₂e per gross square foot (0.215 MtCO₂e per gross square metre) of floor area and zero. For example, an institution with annual adjusted net Scope 1 and 2 GHG emissions of 0.01 MtCO₂e per gross square foot of floor area would earn 2 points (half of the points available for Part 3).

Scoring for Part 3 of this credit is based on an EUI-adjusted floor area figure that accounts for significant differences in energy use intensity (EUI) between types of building space. Points for Part 3 of this credit are earned according to the following formula:

$$\text{Points Earned} = 4 \times \{ [A - (B/C)] / A \}$$

A = Minimum performance threshold (MtCO₂e per gross square foot/metre)

B = Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year (MtCO₂e)

C = EUI-adjusted floor area, performance year (square feet/metres)

E. Reporting Fields

Required

Part 1

- ☐ Has the institution conducted a GHG emissions inventory that includes all Scope 1 and 2 emissions?
- ☐ Does the institution's GHG emissions inventory include All, Some or None of its Scope 3 GHG emissions in the following categories? (All = all sources of GHG emissions in the category are accounted for; Some = a subset of all sources of GHG emissions in the category are accounted for; None = no GHG emissions in the category are accounted for)
 - ☐ Business travel (the transportation of employees and students for institution-related activities in vehicles owned or operated by third parties)
 - ☐ Commuting (regular commuting to and from the institution by students and employees)
 - ☐ Purchased goods and services (e.g., food, paper, office supplies, furniture, computers, telephones, travel services, outsourced administrative functions, consulting services, and janitorial and landscaping services)
 - ☐ Capital goods (construction materials, buildings, facilities, equipment, machinery, and vehicles)
 - ☐ Fuel- and energy-related activities not included in Scope 1 or Scope 2 (transmission and distribution losses from purchased electricity, upstream emissions of purchased fuels and electricity)
 - ☐ Waste generated in operations (disposal/treatment of solid waste and wastewater in facilities owned or operated by third parties)
 - ☐ Other categories (e.g., leased assets, investments, upstream transportation and distribution of purchased goods)
- ☐ A copy of the most recent GHG emissions inventory (upload)
- ☐ A brief description of the methodology and/or tool used to complete the GHG emissions inventory, including how the institution accounted for each category of Scope 3 emissions reported above
- ☐ Has the GHG emissions inventory been validated internally by personnel who are independent of the GHG accounting and reporting process and/or verified by an independent, external third party?

If yes, provide:

 - ☐ A brief description and/or documentation to support the internal and/or external verification process (text or upload)

- Does the institution wish to pursue Part 2 and Part 3 of this credit? (reductions in Scope 1 and Scope 2 GHG emissions)

If yes, provide the following:

Part 2

- Gross Scope 1 GHG emissions from stationary combustion, performance year (MtCO₂e)
- Gross Scope 1 GHG emissions from other sources (i.e., mobile combustion, process emissions, fugitive emissions), performance year (MtCO₂e)
- Gross Scope 2 GHG emissions from purchased electricity, performance year (unadjusted for purchased RECS/GOs) (MtCO₂e)
- Gross Scope 2 GHG emissions from other sources (i.e., purchased heating, cooling and steam), performance year (MtCO₂e)
- Gross Scope 1 GHG emissions from stationary combustion, baseline year (MtCO₂e)
- Gross Scope 1 GHG emissions from other sources (i.e., mobile combustion, process emissions, fugitive emissions), baseline year (MtCO₂e)
- Gross Scope 2 GHG emissions from purchased electricity, baseline year (unadjusted for purchased RECS/GOs) (MtCO₂e)
- Gross Scope 2 GHG emissions from other sources (i.e., purchased heating, cooling and steam), baseline year (MtCO₂e)
- Start date, performance year or 3-year period
- End date, performance year or 3-year period
- Start date, baseline year or 3-year period
- End date, baseline year or 3-year period

If end date of the baseline year/period is 2004 or earlier, provide:

- A brief description of when and why the GHG emissions baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations)
- Figures needed to determine total carbon offsets, performance year:
 - Third-party verified carbon offsets purchased, performance year (exclude purchased RECs/GOs) (MtCO₂e)
 - Institution-catalyzed carbon offsets generated, performance year (MtCO₂e)
 - Carbon sequestration due to land that the institution manages specifically for sequestration, performance year (MtCO₂e)
 - Carbon storage from on-site composting, performance year (MtCO₂e)

If total performance year carbon offsets are greater than zero, provide:

- A brief description of the offsets in each category reported above, including vendor, project source, verification program and contract timeframes (as applicable)
 - Carbon offsets included above for which the emissions reductions have been sold or transferred by the institution, e.g. in the form of verified emissions reductions (VERs) (MtCO₂e)
- Emissions reductions attributable to REC/GO purchases, performance year (i.e., the amount the institution's gross Scope 2 GHG emissions reported above should be adjusted down due to REC/GO purchases) (MtCO₂e)

If greater than zero, provide:

- A brief description of the purchased RECs/GOs including vendor, project source and verification program
- Figures needed to determine total carbon offsets, baseline year:
 - Third-party verified carbon offsets purchased, baseline year (exclude purchased RECs/GOs) (MtCO₂e)
 - Institution-catalyzed carbon offsets generated, baseline year (MtCO₂e)
 - Carbon sequestration due to land that the institution manages specifically for sequestration, baseline year (MtCO₂e)
 - Carbon storage from on-site composting, baseline year (MtCO₂e)
 - If total baseline year carbon offsets are greater than zero, provide:
 - Carbon offsets included above for which the emissions reductions have been sold or transferred by the institution, e.g. in the form of verified emissions reductions (VERs) (MtCO₂e)
 - Emissions reductions attributable to REC/GO purchases, baseline year (i.e., the amount the institution's gross Scope 2 GHG emissions reported above should be adjusted down due to REC/GO purchases) (MtCO₂e)
- Figures needed to determine "weighted campus users" during the performance year:
 - Number of students resident on-site, performance year
 - Number of employees resident on-site, performance year
 - Number of other individuals resident on-site and/or staffed hospital beds (if applicable), performance year
 - Total full-time equivalent student enrollment, performance year
 - Full-time equivalent of employees (staff + faculty), performance year
 - Full-time equivalent of students enrolled exclusively in distance education, performance year
- Figures needed to determine "weighted campus users" during the baseline year:
 - Number of students resident on-site, baseline year
 - Number of employees resident on-site, baseline year
 - Number of other individuals resident on-site and/or staffed hospital beds (if applicable), baseline year
 - Total full-time equivalent student enrollment, baseline year
 - Full-time equivalent of employees (staff + faculty), baseline year
 - Full-time equivalent of students enrolled exclusively in distance education, baseline year

Part 3

- [Gross floor area of building space](#), performance year (square feet/metres)
- Floor area of [laboratory space](#), performance year (square feet/metres)
- Floor area of [healthcare space](#), performance year (square feet/metres)
- Floor area of other [energy intensive space](#), performance year (square feet/metres)

Optional

- Scope 3 GHG emissions (performance year) from:
 - Business travel (MtCO₂e)
 - Commuting (MtCO₂e)
 - Purchased goods and services (MtCO₂e)
 - Capital goods (MtCO₂e)
 - Fuel- and energy-related activities not included in Scope 1 or Scope 2 (MtCO₂e)
 - Waste generated in operations (MtCO₂e)
 - Other categories (MtCO₂e)
- A brief description of the institution's GHG emissions reduction initiatives, including efforts made during the previous three years
- The website URL where information about the programs or initiatives is available
- Additional documentation to support the submission (upload)
- Data source(s) and notes about the submission
- Contact information for a responsible party (a staff member, faculty member, or administrator who can respond to questions regarding the data once it is submitted and available to the public)

F. Measurement

Timeframe

Performance Year

Report the most recent data available from the three years prior to the anticipated date of submission. Institutions may use the most recent single year for which data is available or an average from throughout the period. Institutions may choose the annual start and end dates that work best with the data they have (e.g., fiscal or calendar year), as long as data are reported from a consecutive 12-month (or 3-year) period.

Report building space and population figures from the same time period as that from which GHG emissions data are drawn (e.g., the consecutive 12-month or 3-year period that most closely overlaps with the emissions performance period). Institutions may report building space using an average from throughout the period or a snapshot at a single representative point during the period.

Baseline Year

Report data from the baseline year, which may be:

- Any year from 2005 to the present
- A baseline year, 1990 to 2004, that the institution has adopted as part of its sustainability plans or policies or in the context of other reporting obligations

Recommended best practices for defining a baseline include:

- Using the average of three consecutive years to reduce the impact of outliers.
- Using the same baseline year for multiple credits to reduce reporting requirements. For example, institutions using 2005 for all STARS credits that are baseline-based would only have to calculate baseline weighted campus user data once.
- Ensuring that baseline and performance year data are valid and reliable (e.g., that the data were gathered in the same manner).

Institutions without valid and reliable historical data should use performance year data for both the baseline and performance year. Following this approach, an institution would not be able to claim points for reductions during its first STARS submission, but would be able to use its newly established baseline for subsequent submissions. Institutions without valid and reliable historical data should use performance year data for both the baseline and performance year.

Institutions may choose the start and end dates that work best with the data they have (e.g., fiscal or calendar year), as long as data are reported from a consecutive 12-month (or 3-year) period. Report building space and population figures from the same period as that from which GHG emissions data are drawn (e.g., the consecutive 12-month or 3-year period that most closely overlaps with the emissions baseline period). Institutions may report building space using an average from throughout the period or a snapshot at a single representative point during the period.

Sampling and Data Standards

To conduct a GHG emissions inventory, campuses may use the [Campus Carbon Calculator/CarbonMAP](#), the [Scope 3 Evaluator](#) tool, and/or any methodology or calculator that is consistent with the World Resources Institute (WRI) [Greenhouse Gas Protocol Corporate Standard](#) and the [Scope 3 calculation guidance](#) provided by WRI.

To account for Institution-catalyzed offsets, on-site composting, and carbon sequestration projects, institutions may pursue third party verification or else use a credible methodology that addresses all of the accounting issues outlined in B. Criteria. Examples include:

- [GHG Protocol for Project Accounting](#) (World Resources Institute)
- [Land Use, Land Change and Forestry](#) (IPCC)
- [Forest Project Protocol](#) (Climate Action Reserve),
- [Framework for Forest Management Offset Protocols](#) (Canadian Council of Forest Ministers)
- The [Compliance Offset Protocols](#) (COP) adopted by the California Air Resources Board (CARB).

Reductions should only be counted as offsets once, i.e. toward no more than one of the offset categories outlined in the credit criteria

G. Standards and Terms

Emissions inventory

An emissions inventory is a list of emissions sources and estimates of emissions from these sources.

Energy intensive space

Energy intensive space includes “laboratory space”, “healthcare space”, and “other energy intensive space”. “Other energy intensive space” is reported separately from laboratory space and healthcare space and may include data centers, food production space, convenience stores, and other facilities that the institution has determined to have an average energy use intensity (EUI) that is at least twice that of office/administrative space. (Energy use intensity is a unit of measurement that represents the energy consumed by a building relative to its size, e.g. 1,000 MMBtu per square metre). For more information, see [ENERGY STAR Portfolio Manager Technical Reference: U.S. Energy Use Intensity by Property Type](#).

EUI-adjusted floor area

EUI-adjusted floor area is a figure that adjusts each institution's actual floor area to account for significant differences in energy use intensity (EUI) between types of building space. Energy use intensity is a unit of measurement that represents the energy consumed by a building relative to its size, for example 1,000 MMBtu per square metre.

STARS calculates the figure according to the following formula. Please note that users will not have to calculate this figure themselves; the result will be calculated automatically when data are entered into the online Reporting Tool.

$$\text{EUI-adjusted floor area} = \{ A + [2 \times (B + C)] + D \}$$

A = Gross floor area of building space (square feet/metres)

B = Floor area of laboratory space (square feet/metres)

C = Floor area of healthcare space (square feet/metres)

D = Floor area of other energy intensive space (square feet/metres)

Green-e

[Green-e](#), a program of the Center for Resource Solutions, is an independent certification and verification program for renewable energy and greenhouse gas emission reductions in the retail market. Green-e Climate is a voluntary certification program launched in 2008 that sets consumer-protection and environmental-integrity standards for greenhouse gas (GHG) emission reductions sold in the voluntary market. Green-e Energy is an independent certification and verification program for renewable energy.

Greenhouse Gas Protocol Corporate Standard

The GHG Protocol [Corporate Standard](#), developed by the World Resources Institute and the World Business Council for Sustainable Development, is the most widely used international accounting tool for quantifying GHG emissions. It provides the accounting framework for nearly every GHG program and standard in the world, including the Chicago Climate Exchange and the California Climate Action Registry.

Gross floor area of building space

Gross floor area of building space refers to the total amount of building space that is included within the institutional boundary. Any standard definition of building space may be used (e.g., ASHRAE, ANSI/BOMA, IECC) as long as it is used consistently. Parking structures are included. For guidance on calculating gross square footage of a building, you may also consult [3.2.1 Gross Area](#) of the U.S. Department of Education's *Postsecondary Education Facilities Inventory and Classification Manual*.

Buildings within the overall STARS boundary that the institution leases entirely (i.e., the institution is the only tenant) should be included.

Buildings that are not owned by the institution and in which the institution is one of multiple tenants may be excluded. If the institution chooses to include such buildings, it must include all multi-tenant buildings that are included in the institution's overall STARS boundary and in which the institution is a tenant; institutions cannot choose to include some leased spaces and omit others. If an institution chooses to include leased spaces, the institution should count only the square footage of building space it occupies and not the entire building.

Guarantees of origin

A Guarantee of Origin (GO) is a certificate issued by European energy authorities to certify that electricity was produced from renewable energy sources.

Healthcare space

The total amount of building space within the institutional boundary that may be categorized as "Health Care Facilities" (e.g., codes in the 800 series under the [Space Use Codes](#) in the US Department of Education's Postsecondary Education Facilities Inventory and Classification Manual). To simplify reporting, institutions with hospitals may report all floor area within hospitals as healthcare space.

Institution-catalyzed carbon offsets

Institution-catalyzed carbon offsets are generated by what are commonly referred to as "local offsets" programs. In such programs, institutions offset their greenhouse gas emissions by implementing projects that reduce greenhouse gas emissions in the local community. For example, a local offsets program may engage students in weatherizing homes in the surrounding community. As part of the arrangement with the homeowner, the institution would "own" the emissions reductions that result from the program. Local projects that are to be used as offsets must be third party verified or, at minimum, quantified using a method that is consistent with the World Resources Institute's [GHG Protocol for Project Accounting](#).

Laboratory space

The total amount of building space within the institutional boundary that may be categorized as "research laboratories" (e.g., code 250 under the [Space Use Codes](#) in the US Department of Education's Postsecondary Education Facilities Inventory and Classification Manual). To simplify reporting, institutions may report all floor area within buildings that contain research laboratories as laboratory space.

Minimum performance threshold

Minimum performance thresholds are benchmarks against which campus performance may be assessed for scoring purposes. The thresholds used in this version of STARS were calculated at the first decile for institutions reporting under STARS 2.0 as of July 31, 2015 and rounded to the nearest hundredth. In other words, 90 percent of institutions rated under STARS 2.0 before July 31, 2015 performed better than the minimum threshold. Extreme outliers were excluded from the calculations.

Renewable energy certificates

Green-e provides the following [definition of Renewable Energy Certificates \(RECs\)](#) (also known as green tags, renewable energy credits, renewable electricity certificates, and tradable renewable certificates):

When a renewable energy facility operates, it creates electricity that is delivered into a vast network of transmission wires, often referred to as "the grid." The grid is segmented into regional power networks called pools. To help facilitate the sale of renewable electricity nationally, a system was established that separates renewable electricity generation into two parts: the electricity or electrical energy produced by a renewable generator and the renewable "attributes" of that generation. (These attributes include the tons of greenhouse gas that were avoided by generating electricity from renewable resources instead of conventional fuels, such as coal, nuclear, oil, or gas.) These renewable ("green") attributes are sold separately as renewable energy certificates (RECs). One REC is issued for each megawatt-hour (MWh) unit of renewable electricity produced. The electricity that was split from the REC is no longer considered "renewable" and cannot be counted as renewable or zero-emissions by whoever buys it.

RECs contain specific information about the renewable energy generated, including where, when, at what facility, and with what type of generation. Purchasers of RECs are buying the renewable attributes of those specific units of renewable energy, which helps offset conventional electricity generation in the region where

the renewable generator is located. In Europe, the equivalent of a REC is a Guarantee of Origin (GO). There are equivalents available in other regions as well.

Scope 1 and Scope 2 GHG Emissions

Scope 1 GHG emissions are direct GHG emissions occurring from sources that are owned or controlled by the institution. Scope 1 emission sources include:

- Combustion of fuels to produce electricity, steam, heat, or power using equipment in a fixed location such as boilers, burners, heaters, furnaces, incinerators
- Combustion fuels by institution-owned cars, tractors, buses, and other transportation devices

Scope 2 GHG emissions are indirect GHG emissions that are a consequence of activities that take place within the organizational boundaries of the institution, but that occur at sources owned or controlled by another entity. Scope 2 emission sources include purchased electricity, purchased heating, purchased cooling, and purchased steam.

Scope 3 GHG Emissions

Scope 3 GHG emissions are all indirect emissions not covered in Scope 2. Consistent with the [WRI Corporate Value Chain \(Scope 3\) Standard](#), Scope 3 GHG emissions sources include:

Upstream Scope 3 emissions

- Purchased goods and services
- Capital goods
- Fuel- and energy-related activities (not included in scope 1 or scope 2)
- Upstream transportation and distribution
- Waste generated in operations
- Business travel
- Commuting (employee and student)
- Upstream leased assets

Downstream Scope 3 emissions

- Downstream transportation and distribution
- Processing of sold products
- Use of sold products
- End-of-life treatment of sold products
- Downstream leased assets
- Franchises
- Investments

Third-party verified purchased carbon offsets

Third-party verified carbon offsets are purchased from outside vendors. The Verified Carbon Standard and the Gold Standard are two organizations that provide project-level third-party certification for carbon offsets. These standards provide assurance that offsets are real, measured, permanent, verified, and beyond business-as-usual GHG emission reductions. Green-e Climate is a retail standard and certification for carbon offsets that requires use of high-quality offset project standards like VCS and Gold Standard and also provides assurances related to the accurate and exclusive sale and delivery of carbon offsets in the retail market.

Weighted campus user

“Weighted campus user” is a measurement of an institution’s population that is adjusted to accommodate how intensively certain community members use the campus. This figure is used to normalize resource consumption and environmental impact figures in order to accommodate the varied impacts of different population groups. For example, an institution where a high percentage of students live on campus would witness higher greenhouse gas emissions, waste generation, and water consumption figures than otherwise comparable non-residential institution since students’ residential impacts and consumption would be included in the institution’s totals.

STARS calculates the figure according to the following formula. Please note that users will not have to calculate this figure themselves; the result will be calculated automatically when the data are entered into the online Reporting Tool.

$$\text{Weighted campus users} = (A + B + C) + 0.75 [(D - A) + (E - B) - F]$$

- A = Number of students resident on-site
- B = Number of employees resident on-site
- C = Number of other individuals resident on-site and/or staffed hospital beds
- D = Total full-time equivalent student enrollment
- E = Full-time equivalent of employees (staff + faculty)
- F = Full-time equivalent of students enrolled exclusively in distance education

Scoring Example: Greenhouse Gas Emissions

Part 1

Example University has completed an inventory of its greenhouse gas emissions. The inventory covers Scope 1 and Scope 2 GHG emissions and is publicly available on the institution's website. The inventory also includes Scope 3 GHG emissions from the following categories:

- 1) Business travel
- 2) Commuting
- 3) Purchased goods and service (paper purchases)
- 4) Fuel- and energy-related activities (transmission and distribution losses)

The inventory has not been validated or verified by personnel who are independent of the GHG accounting and reporting process (internally or externally).

Components of the GHG Inventory	Points available	Points earned
Scope 1 and Scope 2 GHG emissions	1	<u>1</u>
Scope 3 GHG emissions from: <ul style="list-style-type: none"> • Business travel • Commuting • Purchased goods and services • Capital goods • Fuel- and energy-related activities • Waste generated in operations • Other sources 	0.083 each	<u>0.332</u>
Validation or verification (internal and/or third party)	0.5	<u>0</u>
Total points earned →		<u>1.332</u>

Part 2

A. Adjusted net Scope 1 and 2 greenhouse gas emissions, baseline year:

- Metric tons of Scope 1 gross GHG emissions = 48,195
- Metric tons of Scope 2 gross GHG emissions = 11,475
- Metric tons of institution-catalyzed carbon offsets generated = 650

Baseline adjusted net Scope 1 and 2 greenhouse gas emissions
 = (48,195 + 11,475) - (650)
 = 59,670 – 650
 = **59,020 MtCO₂e**

B. Weighted campus users, baseline year:

A. Number of students resident on-site = 5,800

- B. Number of employees resident on-site= 200
- C. Number of other individuals resident on-site and/or staffed hospital beds = 0
- D. Total full-time equivalent student enrollment = 6,750
- E. Full-time equivalent of employees = 1,200
- F. Full-time equivalent of students enrolled exclusively in distance education = 250

$$\begin{aligned}
 \text{Baseline weighted campus users} &= (a + b + c) + 0.75 [(d - a) + (e - b) - f] \\
 &= (5,800 + 200 + 0) + 0.75 [(6,750 - 5,800) + (1,200 - 200) - (250)] \\
 &= 6,000 + 0.75 (950 + 1,000 - 250) \\
 &= 6,000 + 0.75 (1,700) \\
 &= \mathbf{7,275}
 \end{aligned}$$

C. Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year:

- Metric tons of Scope 1 gross GHG emissions = 42,133
- Metric tons of Scope 2 gross GHG emissions = 11,599
- Metric tons of institution-catalyzed carbon offsets generated = 4,400

$$\begin{aligned}
 \text{Performance year adjusted net Scope 1 and 2 greenhouse gas emissions} \\
 &= (42,133 + 11,599) - 4,400 \\
 &= 53,732 - 4,400 \\
 &= \mathbf{49,332 \text{ MtCO}_2 \text{ e}}
 \end{aligned}$$

D. Weighted campus users, performance year:

- A. Number of students resident on-site = 6,000
- B. Number of employees resident on-site= 180
- C. Number of other individuals resident on-site and/or staffed hospital beds = 0
- D. Total full-time equivalent student enrollment = 7,000
- E. Full-time equivalent of employees = 1,200
- F. Full-time equivalent of students enrolled exclusively in distance education = 350

$$\begin{aligned}
 \text{Performance year weighted campus users} &= (a + b + c) + 0.75 [(d - a) + (e - b) - f] \\
 &= (6,000 + 180 + 0) + 0.75 [(7,000 - 6,000) + (1,200 - 180) - (350)] \\
 &= 6,180 + 0.75 (1,000 + 1,020 - 350) \\
 &= 6,180 + 0.75 (1,670) \\
 &= \mathbf{7,432.5}
 \end{aligned}$$

Calculating Points Earned for Part 2

$$\begin{aligned}
 \text{Points earned} &= 4 \times \{ [(A/B) - (C/D)] / (A/B) \} \\
 &= 4 \times \{ [(59,020 / 7,275) - (49,332 / 7,432.5)] / (59,020 / 7,275) \} \\
 &= 4 \times \{ [8.11 - 6.64] / 8.11 \} \\
 &= 4 \times \{ 1.47 / 8.11 \} \\
 &= 4 \times 0.182 \\
 &= \mathbf{0.73 \text{ points}}
 \end{aligned}$$

Part 3

EUI-Adjusted Floor Area

- A. Gross floor area of building space = 4,000,000 ft²
- B. Floor area of laboratory space = 80,000 ft²
- C. Floor area of healthcare space = 0 ft²
- D. Floor area of other energy intensive space = 24,000 ft²

$$\begin{aligned}\text{EUI-adjusted floor area} &= \{ A + [2 \times (B + C)] + D \} \\ &= \{ 4,000,000 + [2 \times (80,000 + 0)] + 24,000 \} \\ &= 4,000,000 + [2 \times 80,000] + 24,000 \\ &= 4,000,000 + 184,000 \\ &= \mathbf{4,184,000}\end{aligned}$$

Calculating Points Earned for Part 3

- A. Minimum performance threshold = 0.02 MtCO₂e/ ft²
- B. Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year = 49,332 Mt CO₂e
- C. EUI-adjusted floor area, performance year = 4,184,000 ft²

$$\begin{aligned}\text{Points earned} &= 4 \times \{ [A - (B/C)] / A \} \\ &= 4 \times \{ [0.02 - (49,332/4,184,000)] / 0.02 \} \\ &= 4 \times \{ [0.02 - (.0118)] / 0.02 \} \\ &= 4 \times \{ 0.0082 / 0.02 \} \\ &= 4 \times 0.41 \\ &= \mathbf{1.64} \text{ points}\end{aligned}$$