

SUNY Poly Survey Results  
AASHE STARS EN-6: Assessing Sustainability Culture

**\* Does the institution conduct an assessment of sustainability culture (i.e. the assessment focuses on sustainability values, behaviors and beliefs, and may also address awareness of campus sustainability initiatives)?**

Yes

**Which of the following best describes the cultural assessment? The assessment is administered to:**

The entire campus community (students, staff and faculty), directly or by representative sample.

**\* Which of the following best describes the structure of the cultural assessment? The assessment is administered:**

Without a follow-up assessment of the same cohort or representative samples of the same population.

**\* A brief description of how and when the cultural assessment(s) were developed and/or adopted**

The sustainability culture assessment was developed by a graduate student at the State University of New York College of Environmental Science and Forestry (SUNY ESF) as a component of the student's PhD dissertation research. The survey development included a review of STARS sustainability culture assessments at other institutions; a review of peer-reviewed academic literature on organizational culture, organizational climate, and sustainability behavior studies; and a conversation with AASHE's Director of Programs in order to ensure that the framework of the sustainability culture assessment survey was consistent with the intent of the AASHE STARS credit. The culture assessment survey is being administered at multiple campuses in New York State in order to compare the results across campuses. The sustainability culture assessment was adopted at SUNY Poly in order to measure attitudes and behaviors related to campus sustainability.

**A copy or sample of the questions related to sustainability culture**

*[Leave blank]*

**A sample of the questions related to sustainability culture or the website URL where the assessment tool is available**

The sustainability culture assessment included questions that measured sustainability-related behaviors on campus, perceptions of SUNY Poly's sustainability efforts (organizational climate for sustainability), campus sustainability attitudes, and general sustainability attitudes. The culture assessment also utilized the Theory of Planned Behavior as a theoretical framework to measure attitudes toward sustainability behaviors on campus, social norms related to sustainability behaviors on campus, and perceived behavioral control related to sustainability behaviors on campus. Examples of the sustainability culture survey questions are below. All questions asked respondents to choose their level of agreement with each statement on a scale of 1 to 7 where 1 is "Strongly disagree" and 7 is "Strongly agree". Higher

scores indicate higher levels of each construct (i.e. higher frequency of behaviors, stronger sustainability attitudes, etc.).

The sustainability behavior questions included general sustainability behaviors (e.g. “I consider the impact my actions will have on sustainability issues while on campus”), energy behaviors (e.g. “I turn off lights when I leave an unoccupied room on campus when I can”), waste reduction behaviors (e.g. “I recycle paper, plastic, and metal waste on campus when I can”), transportation behaviors (e.g. “I walk, bike, carpool, or take public transit to campus when I can”), and food choice behaviors (e.g. “I minimize my consumption of meat, dairy, and other animal products on campus when I can”).

The survey included questions related to perceptions of SUNY Poly’s sustainability efforts (organizational climate for sustainability) (e.g. “It seems to me that SUNY Poly is genuinely committed to sustainability on campus”), attitudes toward campus sustainability behaviors (e.g. “It’s easy to act in ways that improve campus sustainability with my everyday behavior”), social norms related to campus sustainability behaviors (e.g. “My friends at SUNY Poly act in ways that improve campus sustainability with their everyday behavior”), and perceived behavioral control related to campus sustainability behaviors (e.g. “I have the ability to act in ways that improve campus sustainability with my everyday behavior”). The campus sustainability attitude questions related to whether respondents viewed sustainability initiatives on college and university campuses as important (e.g. “It’s important to me for SUNY Poly to be a leader in sustainability”). The general sustainability attitude questions, which included ecological, economic, and social elements, were borrowed from Zwickle’s and Jones’ (2018) Sustainability Attitude Scale.

Zwickle, A., & Jones, K. (2018). Sustainability Knowledge and Attitudes—Assessing Latent Constructs. In *Handbook of Sustainability and Social Science Research* (pp. 435-451). Springer, Cham.

### **A brief description of how representative samples were reached (if applicable) and how the cultural assessment is administered**

A link to the sustainability culture survey was included in a campus electronic newsletter that was emailed to all students and employees at SUNY Poly. Approximately 1.4% of the campus population (3,214) participated in the survey ( $n = 44$ , 17 faculty, 16 staff, 1 administrator, and 10 students).

### **A brief summary of results from the cultural assessment, including a description of any measurable changes over time**

The results of the sustainability culture assessment described below include an analysis of data from the culture assessment conducted in Spring 2018. The results will be compared to future sustainability culture assessments in order to track changes over time.

The sustainability culture assessment indicated that students and employees have fairly high levels of self-reported sustainability-related behaviors (mean value of 5.30 on a 7-point scale). Waste reduction behaviors scored the highest of the behavioral categories (mean value of 5.91), followed by energy conservation behaviors (mean value of 5.67), and general sustainability behaviors (mean value of 5.54). Recycling was the highest single behavior, with a mean value of 6.52. Turning off the lights when leaving an unoccupied room was the second highest scoring single behavior (mean value of 6.21) and minimizing waste was the third highest single behavior (mean value of 5.93). This demonstrates that the

College's efforts to promote waste reduction and energy conservation have been successful among survey respondents.

Alternative transportation behaviors scored the lowest with a mean value of 3.10. Students (mean value of 5.22) reported statistically significant ( $p < .001$ ) and substantially ( $\eta = 0.592$ ) higher levels of alternative transportation behaviors compared to employees (mean value of 2.52) when analyzed with analysis of variance (ANOVA). This indicates that programs encouraging employees to walk, bike, carpool, or take public transit could potentially make improvements in this area.

Food choice behaviors scored the second lowest of the behavioral categories (mean value of 4.10) with eating a plant-based diet (mean value of 3.62) and eating local & organic foods (mean value of 4.57) being a low scoring behaviors. This indicates that more access to and promotion of plant-based, local, and organic foods could be beneficial for improving food-related sustainability behaviors on campus.

Both employees (mean value of 5.61) and students (mean value of 6.13) had relatively high levels of positive attitudes toward sustainability behaviors. Although students' attitudes were slightly higher compared to employees, the difference was not statistically significant was analyzed with ANOVA. Respondents' general sustainability attitudes were high (mean value of 6.19) as were their attitudes toward campus sustainability (mean value of 6.32).

Both employees (mean value of 4.27) and students (mean value of 4.12) had relatively low levels of perceptions of SUNY Poly's sustainability efforts (organizational climate for sustainability), with their perceptions of SUNY Poly's communication and support of sustainability being particularly low (mean value of 3.99). This indicates that more outreach to employees and students about the university's sustainability efforts could increase awareness in this area among employees and students.

Similarly, employee and student perceptions of social norms related to sustainability were somewhat low (mean value of 4.58) compared with respondents' self-reported sustainability behaviors. Although the respondents report engaging in sustainability behaviors, they don't believe the people around them are engaging in those behaviors as much or that sustainability behaviors are expected of them. More outreach to employees and students about the prevalence of sustainability behaviors and expectations regarding sustainability behaviors could increase social norms among the campus population.

Employees (mean value of 5.78) and students (mean value of 5.96) both had relatively high levels of perceived behavioral control, indicating that they perceive few barriers to engaging in sustainability behaviors on campus.

The assessment will be conducted in the future in order to track changes in behaviors, attitudes, social norms, and other aspects of sustainability culture over time.

| Sustainability Culture Assessment Variables <sup>1</sup> | Total               | Employees         | Students          | Eta <sup>4</sup> |
|--|---------------------|-------------------|-------------------|------------------|
|  | Mean <sup>2,3</sup> |                   |                   |                  |
| <b>Sustainability Behaviors</b>                          | 5.30                | 5.27              | 5.42              | -                |
| General Sustainability Behaviors                         | 5.54                | 5.61              | 5.30              | -                |
| Energy Conservation Behaviors                            | 5.67                | 5.52              | 6.22              | -                |
| Waste Minimization Behaviors                             | 5.91                | 5.97              | 5.69              | -                |
| Food Choice Behaviors                                    | 4.10                | 4.24              | 3.56              | -                |
| Alternative Transportation Behaviors                     | 3.10                | 2.52 <sup>a</sup> | 5.22 <sup>b</sup> | 0.592            |
| <b>Attitudes Toward Sustainability Behaviors</b>         | 5.71                | 5.61              | 6.13              | -                |
| Attitudes: Experiential Attitudes                        | 5.56                | 5.45              | 6.06              | -                |
| Attitudes: Instrumental Attitudes                        | 5.85                | 5.77              | 6.20              | -                |
| <b>Social Norms Related to Sustainability Behaviors</b>  | 4.58                | 4.68              | 4.11              | -                |
| Social Norms: Injunctive Norms                           | 4.67                | 4.79              | 4.11              | -                |
| Social Norms: Descriptive Norms                          | 4.49                | 4.57              | 4.11              | -                |
| <b>Perceived Behavioral Control</b>                      | 5.81                | 5.78              | 5.96              | -                |
| Perceived Behavioral Control: Capacity                   | 5.79                | 5.76              | 5.91              | -                |
| Perceived Behavioral Control: Autonomy                   | 5.80                | 5.75              | 6.00              | -                |
| <b>Organizational Climate for Sustainability</b>         | 4.24                | 4.27              | 4.12              | -                |
| Organizational Climate: Commitment                       | 4.51                | 4.58              | 4.29              | -                |
| Organizational Climate: Communication                    | 3.99                | 4.04              | 3.82              | -                |
| Organizational Climate: Atmosphere                       | 4.20                | 4.17              | 4.33              | -                |
| <b>Sustainability Attitude Scale</b>                     | 6.19                | 6.21              | 6.12              | -                |
| SAS: Social Sustainability                               | 6.42                | 6.46              | 6.30              | -                |
| SAS: Ecological Sustainability                           | 6.41                | 6.40              | 6.45              | -                |
| SAS: Economic Sustainability                             | 5.56                | 5.60              | 5.43              | -                |
| <b>Campus Sustainability Attitudes</b>                   | 6.32                | 6.31              | 6.35              | -                |

Table 1: Mean Values for Sustainability Culture Assessment Variables

1. Scales are in bold, subscales are not in bold

2. Respondents were asked to choose their level of agreement with each statement with the following answer choices: (1) Strongly disagree, (2) Disagree, (3) Somewhat disagree, (4) Neither agree nor disagree, (5) Somewhat agree, (6) Agree, and (7) Strongly agree. The mean values correspond to the average response for each role. Higher scores indicate higher levels of each construct (i.e. higher frequency of behaviors, stronger sustainability attitudes, etc.).

3. Analysis of variance (ANOVA) was conducted to test for differences in mean scores between employees and students. Means with different superscripts are significantly different at the  $p < .001$  level.

4. Eta ( $\eta$ ) is an effect size index for ANOVA that estimates the magnitude of differences, where higher values indicate more substantial differences between roles. Values near 0.10 are considered minimal, values near 0.243 are considered typical (or medium), and values near and above 0.371 are considered substantial (Vaske, 2008). Eta is only reported for statistically significant differences.

SUNY Poly Open Ended Survey Responses

|   |
|---|
| <b>What could SUNY Poly do to promote sustainability behaviors on campus?</b>   |
| advertise in multiple ways  |
| Automatic light turn offs by motion sensors The feeling that it would not be annoying to the next user to power down a computer as opposed to just logging off.   |
| food service use of silverware not plastic utensils, paper plates - not plastic plates - all items end up going in trash.   |
| Have more Sustainability events, speakers, and initiatives.   |
| Hire a Sustainability Director. Promote sustainability more with activities.  |
| If there were monthly reminders or at least bi-annual reminders of simple ways to reduce energy consumption then I think that would go a long way. Also, if SUNY Poly really wants students to think that they care about sustainability, then the school should really invest in a network of solar panels to supply the school with energy. I'm sure everyone would be very happy about that. |
| LED Lighting  |
| Mandatory curricula   |
| More public communication about on- and off-campus efforts and activities promoting sustainability and at which people are able to actively help improve sustainability.  |
| More public discussion about sustainability practices and crafting a sustainability plan.   |
| No further action   |
| Promote the recycleone and done program on campus.  |
| provide more learning opportunities, develop a sustainability program/major, modify lighting/heating  |
| Recycle more items.   |
| Solar generation can do more than all conservation efforts combined. Water conservation makes no sense in a part of the country that has an abundance. We can use it and it winds up in the mohawk river or not use it and it still ends up in the mohawk..   |
| We could eliminate the use of Styrofoam cups and containers at events and in food service.  |

|   |
|---|
| <b>What are some barriers that may prevent you from doing certain sustainability behaviors?</b>   |
| Accessibility   |
| cost  |
| I have an inside office so not able to take advantage of sunlight vs lights   |
| I often have to take things home to recycle because the bins on campus recycle only a limited number of materials.  |
| I'm an avid weight lifter and it's hard to gain muscle without consuming meat, specifically lean meats like chicken and fish. I get about 120 grams of protein a day. Without it, my results would really suffer. |
| Inability to choose other options (such as driving to certain places). This does not apply to just on campus.   |
| lack of control with lighting and heating   |
| Lack of Proper Recycling bins (not labeled well or very visible)  |
| Lack of water bottle filling stations. Lack of daylight in certain rooms.   |
| production  |
| There is no public transportation to campus that is easily accessible from my home. Car pooling is difficult because other SUNY Poly employees in my area have different work schedules.                          |
| Time.   |
| Without an institutional commitment to co generation which has huge payback I am not interested in saving pennies a month in electricity. The big savings are replacing lights with LEDs not turning them off.    |
| Worrying that the next person is not going to be annoyed by having to restart the computers   |

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|--|
| <b>Do you have any additional comments that you'd like to share about campus sustainability at SUNY Poly?</b>  |
| A community garden that uses compost from campus dining services would be a good idea.   |
| I am fairly new here.  |
| Need real-time data on energy use on the website Need historical data on energy consumption (types, by building, etc.) Need a plan (with respect to energy/carbon, etc)  |
| None at this time  |
| some schools have a more robust sustainability program with a PT paid coordinator - or part of existing paid duties. would be nice to have someone do that at SUNY Poly demonstrating value of the program and position. \$ goes a long way.       |
| SUNY Poly is very clean and well-kept, but the awareness of its sustainability efforts is not developed enough. Students should be encouraged to do more for the environment as well as to acknowledge SUNY Poly's efforts towards sustainability. |
| SUNY Poly's next President should sign Second Nature's Presidents' Climate Leadership Commitment.  |
| The computers seem slow a restarting   |
| We should be doing electric cogeneration with solar and geothermal heating. All other plans are trivial in comparison. There is no institutional interest in these and that sends the message that energy conservation is unimportant.             |