

# MEASURING ENVIRONMENTAL PERFORMANCE



## HOW'S YOUR CAMPUS MEASURING UP?

### EXAMPLES OF ENVIRONMENTAL INDICATORS TO CONSIDER FOR YOUR CAMPUS

#### Tons of Trash

##### METRIC

- Absolute: tons of trash per year
- Normalized: pounds per person or tons per building square footage

##### SUGGESTIONS

- Separate trash from recyclable items
- Identify key waste generating activities or locations
- Distinguish between trash disposal methods, for example, landfill or energy recovery
- Track costs

##### PROGRESS

- Amounts of trash have declined at some campuses
- Focus on "leading indicators," such as green procurement policies and practices, which often show change in advance of change in the outputs

#### Recycling Rate

##### METRIC

- Absolute: tons of recycled material per year
- Normalized: pounds recycled per person or tons per building square footage

##### SUGGESTIONS

- Define the materials included in your recycling rate. For example, is recycled fly ash from the power plant included?
- Identify where recyclables are generated
- Distinguish specific recycling process streams, for example, cardboard or construction and demolition materials
- Track costs

##### PROGRESS

- Many institutions have successful recycling programs. See the C2E2 web site links

#### Pounds of Hazardous Waste

##### METRIC

- Absolute: pounds of hazardous waste per year
- Normalized: pounds per building square footage

##### SUGGESTIONS

- Identify where hazardous waste is generated, for example, labs or facility operations
- Identify types of hazardous waste, for example, solvent wastes
- Track wastes over years—efforts to normalize wastes from labs have proven difficult
- Track costs

##### PROGRESS

- Successful programs include efforts to reduce mercury, substitute toxic cleansers, utilize micro-scale chemistry techniques and manage chemical purchases

#### Gallons of Water Use

##### METRIC

- Absolute: gallons or cubic feet of water per year
- Normalized: gallons per person or per building square footage

##### SUGGESTIONS

- Identify activities or locations associated with water use, for example, labs or power plant
- Quantify all public and private water supply sources
- Track costs

##### PROGRESS

- Most institutions track this lagging indicator—a measure of output or impact—because water costs money. Conservation efforts include more efficient methods of heating and cooling, and simple methods to conserve water at the faucet and reuse water for landscaping

#### Acres of Paved Surface

##### METRIC

- Absolute: acreage of impermeable surface
- Normalized: total impermeable acreage per campus acreage

##### SUGGESTIONS

- Benchmark your performance to similar campuses, for example, urban or rural
- Relate metric to stormwater quality, an environmental condition indicator
- Distinguish types of impermeable surfaces, for example, streets versus surface parking
- Compare to campus open space

##### PROGRESS

- Implementation of effective stormwater management plans
- Some schools have carefully evaluated this, or a similar metric, in campus planning or as part of plans for a "Green" LEED certified building

#### CO2 Emissions Equivalents

##### METRIC

- Absolute: metric tons per year calculated as CO2 equivalents
- Normalized: tons per person or tons per building square footage

##### SUGGESTIONS

- Define organizational boundaries or activities in your inventory
- Include direct emissions (power plants, fleet vehicles, composting)
- Include indirect emissions (electricity use, commuter miles, material goods purchased)
- Evaluate projected energy use of buildings and renovations

##### PROGRESS

- Construct a cogeneration power plant, if feasible
- Purchase electricity from renewable energy sources
- Commit to specific targets, for example, the Kyoto protocol goals

#### Performance Reporting Process

##### METRIC

- A periodic report on environmental performance to senior management

##### SUGGESTIONS

- Define the purpose of the report
- Clarify the scope of the report
- Determine whether to use the data as an internal management report or as an external report to stakeholders
- Define the frequency of the report

##### PROGRESS

- A few institutions publish publicly available reports—see the C2E2 web site
- Some institutions report internally to senior management

## You can't manage what you don't measure.

We've all heard that adage. Colleges and universities collect environmental data that is measured using a variety of metrics and used by a variety of campus staff and constituencies. These metrics or indicators help track performance, manage compliance, shape the future or inspire action. Many of the indicators currently used measure outputs or impacts, such as pounds of trash or gallons of water used. There are also indicators that measure proactive efforts, such as the number of internal audits or training classes. Such information is less commonly collected, but is central to continuous improvement efforts that affect outcomes, such as waste generation and utility use. Environmental condition indicators, which measure the quality of the water, air, or soil, are often important to community members. The selection of the appropriate environmental indicators depends on your organization, your program and your goals. So, what are you measuring?



the toolbox

c2e2.org is full of helpful resources

Performance Reports

Environmental Performance Indicator List

Environmental Virtual Campus



Environmental Performance Reporting Guidance and Links

EMS Self-Assessment Checklist

EPA Best Environmental Practices Catalog

Environmental Impact Calculators



The mission of the Campus Consortium for Environmental Excellence (C2E2) is to support the continued improvement of environmental performance in higher education through environmental professional networking, information exchange, the development of professional resources and tools, and the advancement of innovative regulatory models. Environmental performance includes campus regulatory compliance, environmental management and sustainability initiatives.

www.c2e2.org