Measuring and Reporting Institutional Sustainability

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Abstract

A strong case has been made for the need for organizations and individuals to pursue economic, social, and environmental policies and practices that will reduce the risks associated with present practices, that will be sustainable in the long run, and that will enhance the well-being of future generations. Appropriate indicators need to be monitored and relevant information disseminated to various stakeholders if sustainability is to be achieved. This paper examines exemplary sustainability reports that are being produced by corporations and by universities. Institutional researchers have key roles to play in the development of such indicators, the collection of the data, and the dissemination of the resulting intelligence.

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Introduction

At the Association for Institutional Research Forum in Boston, Dave Newport and I presented a paper "Measure Today, Here Tomorrow: Exploring IR's Role in Producing Indicators that Will Help Assure Sustainable Institutions and a Sustainable Society" (Litten and Newport). The paper summarized the need for modifying individual and institutional behavior if we are to preserve the quality of the ecological, social, and economic systems on which the well-being of future generations depends. We introduced the sustainability reporting initiatives that are being developed in the corporate sector, which is way ahead of higher education on this front, and cataloged several initiatives in higher education among professional associations and some institutions, to stimulate attention to sustainability issues.

We alluded to some sustainability reporting initiatives in universities and outlined the challenges that we face in developing such reporting within higher education. We said we believed that institutional researchers must play a key role in developing and disseminating information that shows institutional policy makers and external stakeholders that we are moving our institutions toward sustainable policies and behavior. We also said we believed that the Association for Institutional Research should take a leadership role in moving us forward on these fronts, perhaps by joining other professional associations that have already embraced a vision of a sustainable future. We still believe what we said a year ago.

Sustainability monitoring and reporting will be a key element in reducing risks to the well-being of institutions of higher education that come from present unsustainable levels of resource use and waste generation, and from inequitable social conditions. The development and dissemination of appropriate indicators will help institutions manage themselves sustainably and to model such behavior for students and other organizations. Sustainability indicators will assure the sources of the resources on which we depend (legislators, donors, foundations, contractors) that we are managing ourselves responsibly, both as stewards of the resources we've been granted and as institutional citizens of a highly interdependent world.

One of the criticisms of the Boston paper was that it did not contain sufficient specific examples of sustainability indicators. A paper that was already very long was, indeed, light on this important topic. In this paper I seek to redress that deficiency. Again, since the corporate sector is far ahead of higher education on this front–even to the extent that awards are now being given for exemplary sustainability reporting–we begin by taking a look at what makes an award-winning sustainability report.

What is sustainability?

We included several definitions of sustainability in the 2004 paper. The most widely-used definition comes from the United Nation's Bruntland Commission:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

Another definition, supported by highly technical econometric theory, contains three axioms (Heal, 1998). Sustainable behavior requires:

- A treatment of the present and the future that places a positive value on the very long run.
- Recognition of all the ways in which environmental assets contribute to economic well-being.
- Recognition of the constraints implied by the dynamics of environmental assets. (pg. 13)

But my favorite comes from the Iroquois Confederation:

> In our every deliberation, we must consider the impact of any decisions on the next seven generations.

Corporate definitions of sustainability

In the award-winning reports that are discussed below, corporations have developed their own definitions of sustainability under various names. Two examples:

Dell. Sustainability: creating long-term stakeholder value by integrating economic, social, and environmental responsibility into everything we do (Dell Sustainability Report, 2004, p. 9)

Ford. Citizenship: creating value for our shareholders over the long term through the delivery of excellent automotive products and services and to do so ethically and responsibly [based on the following principles]:

- Accountability: we will be honest and open and model the highest standards of corporate integrity.
- Products and customers: we will offer excellent products and services.
- Environment: we will respect the natural environment and help preserve it for future generations.
- Safety: we will protect the safety and health of those who make, distribute or use our products.
- Community: we will respect and contribute to the communities around the world in which we work.
- Quality of relationships: we will strive to earn the trust and respect of our investors, customers, dealers, employees, unions, business partners, and society.

> Financial health: we will make our decisions with proper regard to the long-term financial security of the Company. (Ford, 2002 Corporate Citizenship Report, pg. 7)

Corporate sustainability reporting awards

Sustainability awards have been developed by the Association of Chartered Certified Accountants (ACCA) in Europe, North America, and Asia. The North American awards are cosponsored by ACCA and Ceres, one of the founders of the Global Reporting Initiative (see below).

Sustainability reporting is being promoted by ACCA because it is viewed as a means of assuring the welfare of organizations that do it.

> Sustainability reporting acts as a key driver of good corporate social responsibility performance and plays a vital role in improving not just communication, but also credibility and trust between organizations and their stakeholders. Sustainability reporting also provides a clear framework to allow shareholders and investors to compare companies on their [corporate social responsibility] standing and track performance – both good and bad – year on year. Organizations which continuously fail to recognize the added business value gained by producing environmental reports risk becoming commercial relics. (Jackson).

The market supports this view because the companies included in the Dow Jones Sustainability Index tend to outperform the more general Dow Jones indexes.

Higher education, which is moving belatedly toward sustainability reporting, will benefit greatly by implementing the reporting standards that are manifest in exemplary reports in the corporate sector. Therefore, we turn first to the criteria that award sponsors believe contribute to excellence in sustainability reporting.

Criteria for award-winning reports in the corporate sector

The criteria for award-winning reports differ slightly across geographic regions. The criteria for the European awards are divided into two equally-weighted categories—contents and reporting principles (ACCA Global). The specific weights within each category are shown below:

Contents
- CEO statement (5%)
- Executive summary and key indicators (5%)
- Profile (5%)
- Reporting and accounting policies (5%)
- Vision and strategy (5%)
- Governance structure and management systems (10%)
- Performance (15%)

Reporting principles
Relevance (5%)
Reliability (5%)
Clarity (5%)
Timeliness (5%)
Completeness (5%)
Verifiability (10%)
Overall impression (10%)

The North American awards are based on the following criteria:

Completeness (40%)
Including: full specification of products/services, sustainability targets, rationale for indicator choice, description of stakeholder-engagement process, acknowledgement of implications of reporting.

Credibility (35%)
Including: contact information for report preparers and board members responsible for sustainability, description of management system and its relation to business processes, internal audit processes, application of standards such as GRI, third-party statements.

Communication (25%)
Including: layout/appearance, understandability/readability, accessibility to various audiences, summary information, ease of navigation through report, appropriateness of graphs/illustrations/photos, integration with financial reporting.

Global Reporting Initiative

The Global Reporting Initiative (GRI) is a multi-sector effort to establish a framework for sustainability reporting that focuses on the "triple bottom line" (economic, social, and environmental performance) for corporations (see "Measure Today, Here Tomorrow . . ." for more details on the GRI). It has become the basic standard for sustainability reporting. Conformance to the GRI is a positive factor when sustainability reports are judged. GRI compliance contributes to both completeness and credibility. The number of corporate and organizational reports that reference the GRI increased from 23 in 1999 to 625 in 2004.

The GRI is being adapted for specific industries. The creation of an adaptation of the GRI for higher education will be an important development in the advancement of higher education sustainability reporting.

Corporate Award-Winning Reports

Let us look at the winners of the 2003 North American awards for sustainability

reporting, especially the top award winner (the 2004 awards will be announced shortly). Two award winners are Canadian–Suncor (overall winner) and Dofasco–and three are based in the United States–Ford, Dell, and Kinko.

Suncor: Best Sustainability Report. The sustainability report of Suncor characterizes the company as "a Canadian integrated energy company startegically focused on developing one of the world's largest petroleum resource basins."

Suncor's report begins with common components of a GRI-compliant report: description of the corporation's governance structure, management systems, auditing procedures, and mechanisms for assuring stakeholder involvement and input (meetings, surveys, focus groups, et cetera). It identifies seven "commitments" (goals) and indicates milestones with respect to these goals (trends, not absolute levels):

1. improve workplace safety
2. enhance employee well-being
3. develop a social responsibility management system
4. reduce greenhouse gas emissions
5. minimize environmental impacts
6. invest in renewable energy choices
7. develop partnernships to promote sustainable development

Detailed graphs and text describe Suncor's performance with respect to:

A. Social
   - health and safety (injury-related lost time per hours worked)
   - turnover (annual percent)
   - compensation (total wages)
   - workforce diversity (racial/ethnic composition)
   - community contributions (corporate and foundation contributions–absolute levels)

B. Environmental impact
   - emissions (greenhouse gas emissions, sulphur dioxide, nitrogen oxides, VOCs–absolute and per unit of production)
   - energy usage (gigajoules–absolute and per unit of production)
   - water usage and recycling (cubic meters used and recovered for reuse–absolute and per unit of production)
   - land use and biodiversity (hectares used for production)

C. Economic
   - production (volumes of natural gas, crude oil, refined products)
   - share price (compared to equity price indexes)
   - earnings*
   - cash flow*
   - assets*

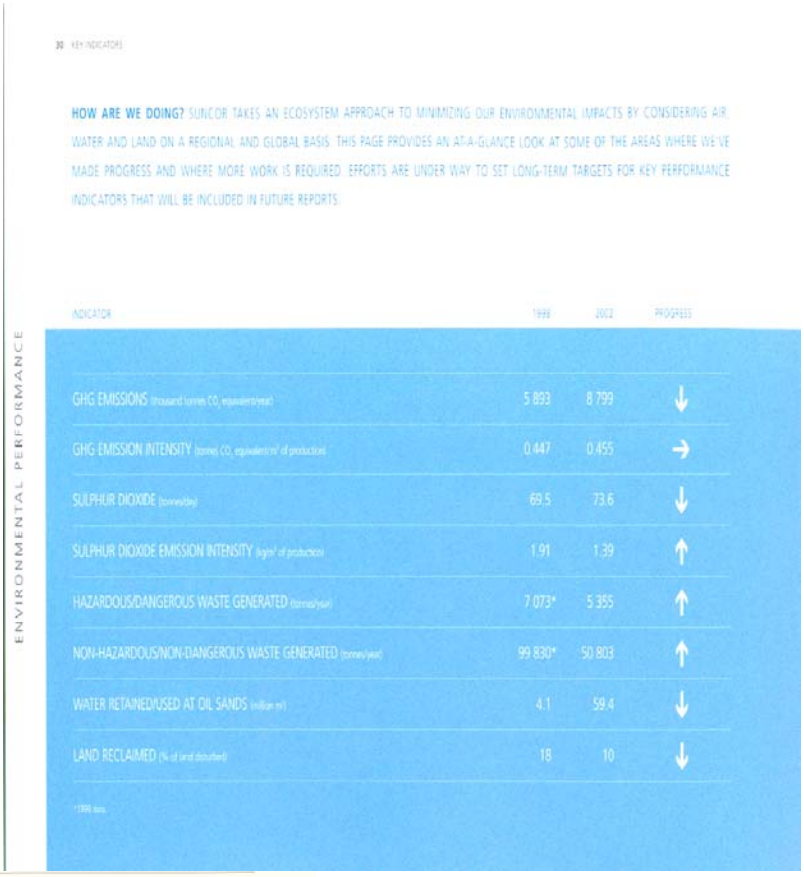
- debt*
- tax payments*

*all in Canadian dollars

D. Integrated performance
- Suncor production trends compared to Canadian economic indicators
- regulatory contraventions
- major incidents (formal EHS incidents).

Each section contains a summary table that compares 1998 and 2004 levels on each indicator and, via a upward, sideways, or downward-facing arrow, indicates whether the company is making progress. These arrows show Suncor making progress in 16 areas, holding in 3, and negative movement in 7. Almost one half of the positive trends are in the economic area; in the environmental section, there are more negative than positive trends.

In a "transparency" section, the report provides detailed annual tables for five years that contain data from



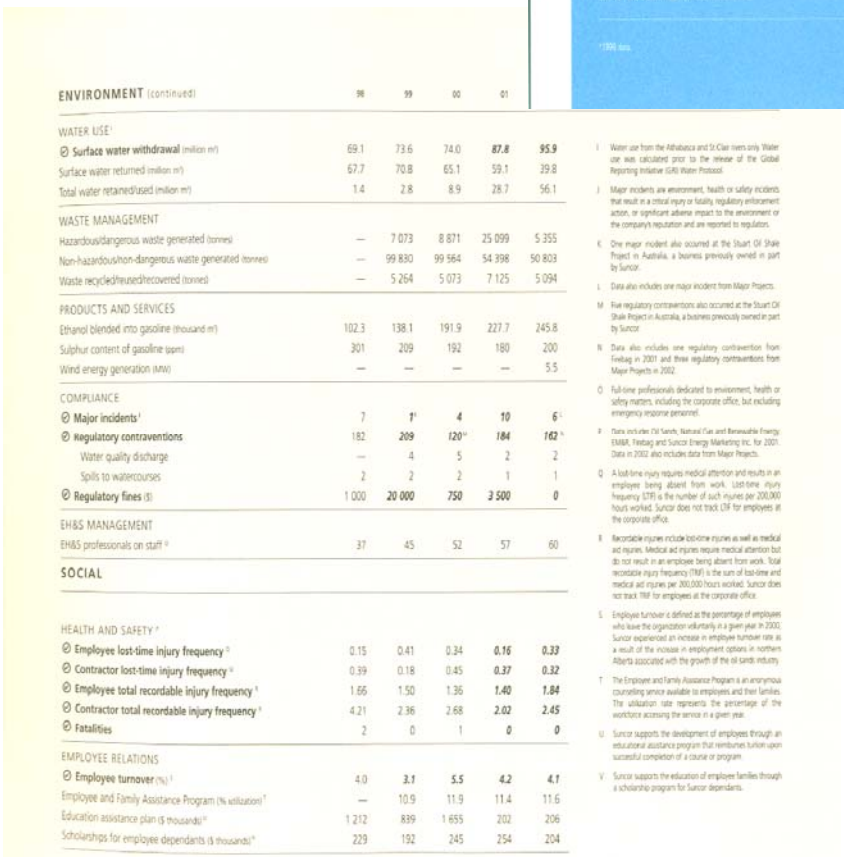
30 KEY INDICATORS

HOW ARE WE DOING? SUNCOR TAKES AN ECOSYSTEM APPROACH TO MINIMIZING OUR ENVIRONMENTAL IMPACTS BY CONSIDERING AIR, WATER AND LAND ON A REGIONAL AND GLOBAL BASIS. THIS PAGE PROVIDES AN AT-A-GLANCE LOOK AT SOME OF THE AREAS WHERE WE'VE MADE PROGRESS AND WHERE MORE WORK IS REQUIRED. EFFORTS ARE UNDER WAY TO SET LONG-TERM TARGETS FOR KEY PERFORMANCE INDICATORS THAT WILL BE INCLUDED IN FUTURE REPORTS.

ENVIRONMENTAL PERFORMANCE

INDICATOR	1998	2002	PROGRESS
GHG EMISSIONS (thousand tonnes CO_2 equivalents/year)	5 893	8 799	↓
GHG EMISSION INTENSITY (tonnes CO_2 equivalents/m^3 of production)	0.447	0.455	→
SULPHUR DIOXIDE (tonnes/day)	69.5	73.6	↓
SULPHUR DIOXIDE EMISSION INTENSITY (kg/m^3 of production)	1.91	1.39	↑
HAZARDOUS/DANGEROUS WASTE GENERATED (tonnes/year)	7 073*	5 355	↑
NON-HAZARDOUS/NON-DANGEROUS WASTE GENERATED (tonnes/year)	99 830*	50 803	↑
WATER RETAINED/USED AT OIL SANDS (million m^3)	4.1	59.4	↓
LAND RECLAIMED (% of land disturbed)	18	10	↓

*1998 data.



ENVIRONMENT (continued)	98	99	00	01	
WATER USE[I]					
✓ Surface water withdrawal (million m^3)	69.1	73.6	74.0	*87.8*	*95.9*
Surface water returned (million m^3)	67.7	70.8	65.1	59.1	39.8
Total water retained/used (million m^3)	1.4	2.8	8.9	28.7	56.1
WASTE MANAGEMENT					
Hazardous/dangerous waste generated (tonnes)	—	7 073	8 871	25 099	5 355
Non-hazardous/non-dangerous waste generated (tonnes)	—	99 830	99 564	54 398	50 803
Waste recycled/reused/recovered (tonnes)	—	5 264	5 073	7 125	5 094
PRODUCTS AND SERVICES					
Ethanol blended into gasoline (thousand m^3)	102.3	138.1	191.9	227.7	245.8
Sulphur content of gasoline (ppm)	301	209	192	180	200
Wind energy generation (MW)	—	—	—	—	5.5
COMPLIANCE					
✓ Major incidents[J]	7	*1*[L]	*4*	*10*	*6*[L]
✓ Regulatory contraventions	182	*209*	*120*[M]	*184*	*162*[N]
Water quality discharge	—	4	5	2	2
Spills to watercourses	2	2	2	1	1
✓ Regulatory fines ($)	1 000	*20 000*	*750*	*3 500*	*0*
EH&S MANAGEMENT					
EH&S professionals on staff[O]	37	45	52	57	60
SOCIAL					
HEALTH AND SAFETY[P]					
✓ Employee lost-time injury frequency[Q]	0.15	0.41	0.34	*0.16*	*0.33*
✓ Contractor lost-time injury frequency[Q]	0.39	0.18	0.45	*0.37*	*0.32*
✓ Employee total recordable injury frequency[R]	1.66	1.50	1.36	*1.40*	*1.84*
✓ Contractor total recordable injury frequency[R]	4.21	2.36	2.68	*2.02*	*2.45*
✓ Fatalities	2	0	1	*0*	*0*
EMPLOYEE RELATIONS					
✓ Employee turnover (%)[S]	4.0	*3.1*	*5.5*	*4.2*	*4.1*
Employee and Family Assistance Program (% utilization)[T]	—	10.9	11.9	11.4	11.6
Education assistance plan ($ thousands)[U]	1 212	839	1 655	202	206
Scholarships for employee dependants ($ thousands)[V]	229	192	245	254	204

I Water use from the Athabasca and St Clair rivers only. Water use was calculated prior to the release of the Global Reporting Initiative (GRI) Water Protocol.

J Major incidents are environment, health or safety incidents that result in a critical injury or fatality, regulatory enforcement action, or significant adverse impact to the environment or the company's reputation and are reported to regulators.

K One major incident also occurred at the Stuart Oil Shale Project in Australia, a business previously owned in part by Suncor.

L Data also includes one major incident from Major Projects.

M Five regulatory contraventions also occurred at the Stuart Oil Shale Project in Australia, a business previously owned in part by Suncor.

N Data also includes one regulatory contravention from Firebag in 2001 and three regulatory contraventions from Major Projects in 2002.

O Full-time professionals dedicated to environment, health or safety matters, including the corporate office, but excluding emergency response personnel.

P Data includes Oil Sands, Natural Gas and Renewable Energy, EMBA, Firebag and Suncor Energy Marketing Inc. for 2001. Data in 2002 also includes data from Major Projects.

Q A lost-time injury requires medical attention and results in an employee being absent from work. Lost-time injury frequency (LTIF) is the number of such injuries per 200,000 hours worked. Suncor does not track LTIF for employees at the corporate office.

R Recordable injuries include lost-time injuries as well as medical aid injuries. Medical aid injuries require medical attention but do not result in an employee being absent from work. Total recordable injury frequency (TRIF) is the sum of lost-time and medical aid injuries per 200,000 hours worked. Suncor does not track TRIF for employees at the corporate office.

S Employee turnover is defined as the percentage of employees who leave the organization voluntarily in a given year. In 2000, Suncor experienced an increase in employee turnover rate as a result of the increase in employment options in northern Alberta associated with the growth of the oil sands industry.

T The Employee and Family Assistance Program is an anonymous counselling service available to employees and their families. The utilization rate represents the percentage of the workforce accessing the service in a given year.

U Suncor supports the development of employees through an educational assistance program that reimburses tuition upon successful completion of a course or program.

V Suncor supports the education of employee families through a scholarship program for Suncor dependants.

the preceding sections. Data that have been examined by the firm's auditors are indicated with a check mark. The final section compares the contents of the Suncor report with the components of the Global Reporting Initiative.

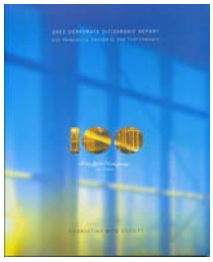
Here are the judges' comments on the Suncor report's award-winning properties

- Conveys solid corporate understanding of and commitment to sustainability…
- …alignment with GRI…as well as specified report content…
- . . . substantive President's message that describes in detail results achieved, current challenges, and milestones for progress
- Presents and interprets the most relevant performance data and targets…
- Includes absolute and normalized data…with five or more years for many indicators. Unique in providing systemic indicators
- Clearly presented verification process, with excerpts from Auditor's observations and useful labeling of audited indicators

Dell: Best Environmental Report. The foci of Dell's report are similar to Suncor's. It

provides extensive descriptions of the policies and procedures that Dell uses to assure attention to sustainability within its operations. A distinctive component of Dell's report is a graph that shows the percentages of its suppliers that have achieved certification by the International Standards Organization for their EHS and OHS systems. The Dell report has a few graphs that show emissions, electrical usage, and recycling rates, but is not nearly as data-intensive as the two Canadian reports.

Ford: Commendation for Sustainability Reporting. Ford's report contains extensive graphs that show both the environmental performance of its manufacturing facilities and of its products. It specifies both targets (e.g. 25 percent change in vehicle fuel efficiency and 2% green energy usage) and success in meeting the targets. As in Suncor's report, Ford uses arrows to indicate positive, negative, and neutral trends. A distinctive component of Ford's report is survey data from employees and the public on Ford's performance as a company.



Dofasco: Commendation for Innovative Reporting. "Canada's most successful steel

producer" according to its annual report. Dofasco's report is a more traditional annual report that contains substantial detail on the financial performance of the company. It also has the social and environmental components of the Suncor report, and contains more detail in these areas than Suncor's report. For example, in community contributions, it shows both corporate and employee contributions and indicates what percentage of the contributions go to the local communities in which the corporation operates. Pollutants sent to water and to land are graphed separately by substance.

Kinko: Best First-Time Report. Produced by Fedex-Kinko's Office and Print Services, this report covers the areas included in those mentioned above. Innovative components partly reflect the nature of the industry, including the trees saved by using recycled paper content, and the eco-efficiency of the company's vehicle fleet and its energy consumption. One indicator shows the results of a survey of employees' values regarding the corporations environmental behavior.

Higher education sustainability reports

Increasing numbers of institutions of higher education are publishing sustainability reports. Table 1 is a very limited listing of such reports. Most of these have been produced within "offices of sustainability" or by "environmental or sustainability councils/committees." A number have been produced by students in a course. To date, we know of none that have been produced by the core institutional intelligence and reporting function—the office of institutional research—although in some cases the OIR has contributed data to the report.

Table 1
A Sampling of Sustainability Reports in Higher Education (United States and Canada)

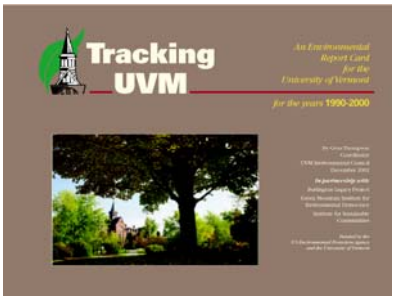
Institution	Title	Producing entity
Michigan State University	Campus Sustainability Report	Office of Campus Sustainability
Pennsylvania State University	Penn State Indicators Report	Green Destiny Council
University of Florida	University of Florida Sustainability Indicators	The Greening UF Program, School of Building Construction
University of Vermont	Tracking UVM	Environmental Council
University of North Carolina	Campus Sustainability Report	UNC Sustainability Office
University of British Columbia	Progress Toward a Sustainable Campus	Campus Sustainability Office
University of Michigan	Sustainability Assessment and Reporting for the University of Michigan' Ann Arbor Campus	Master's thesis, School of Natural Resources and Environment

We shall examine four of these reports that represent a variety of approaches to monitoring and reporting on institutional sustainability: "Tracking UVM" from the University of Vermont's Environmental Council, "University of Florida Sustainability Indicators" from the University of Florida's Greening of UF Program, "Campus Sustainability Report" from Michigan State's Office of Sustainability and University Committee for a Sustainable Campus, and RMIT University Annual Report 2003 from the Royal Melbourne Institute of Technology.

In this paper that is written for institutional researchers, we shall focus more on the institutional activities that are monitored and the measures that are used than on the processes for producing these reports or the governance structures and policies that are designed to make these institutions sustainable. Effective embracing of sustainability as a guiding principle requires attention to these other matters. They are best discussed, however, in another paper.

University of Vermont

Tracking UVM" is a handsome publication that focuses on the environmental impact of the university. It was developed by the Environmental Council in partnership with government and non-profit agencies within the city of Burlington and the state of Vermont. The report lists nine "stakeholder" departments on campus and eight community or regional agency or groups who "helped shape" the report. The report provides data on land and water use, energy and air pollution, and solid and hazardous waste. Preceding the detailed graphs and discussions in each of these sections is a summary table that reports four indicators in each of the three areas, with symbols that represent positive trends, negative trends, and stable conditions or inadequate trend data.

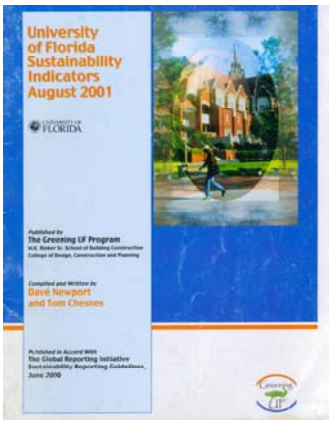


Each of the three sections follows the same format. As an example of the kinds of data contained in the UVM report, we'll look at the detail contained in the Energy and Air Pollution section. This section opens with a map of where each type of energy used by UVM is produced. It is followed by graphs that show how energy in general is used, how electricity is used, energy use trends, percentage of energy that is from renewable sources, and emissions from energy use. This is followed by a detailed timeline of energy-saving initiatives and a discussion of "best practices" at the university. The final panels of each section list the concerns that community stakeholders expressed about UVM's energy usage and emissions, and a specification of recommended next steps in reducing energy usage, moving to renewable energy sources, and reducing emissions. Further research on these topics is also discussed. Two pages from the UVM report are shown in the Appendix.

The report ends with a section on Academics and Culture in which environmental majors are listed, enrollments in environmental programs are traced, and survey data are reported that show how students view environmental issues.

University of Florida

The University of Florida is the only institution of higher education in North America that I know that has produced a report that sought to be compliant with the components of the Global Reporting Initiative. It was produced in 2001 and was compliant with the penultimate set of GRI standards. It has not been updated.



In addition to the GRI-required statement from the president and specifications of the organization's mission, vision, management structure, it contains the following set of indicators:

Environment: energy, material usage, water, emissions/waste, recycling, transport (parking spaces, public transit passenger trips), biodiversity (land ownership and conservation areas).
Economic: revenues, investments, wages/benefits, community development (job creation, community service, indigent care, educational outreach).
Societal: workforce retention rates, health/safety, non-discrimination, training/education
Education: faculty composition, undergraduate student body (test scores and composition) , graduate student body (applications, composition), campus safety

Michigan State University

MSU's Campus Sustainability Report has three sections of indicators–social, economic, and environmental–plus a introduction, a discussion of "What is sustainability?", an executive summary, and a concluding section "Where do we go from here?" The education indicators, which are in a separate section in the UFL report, are folded into the social indicators. MSU's report is the most extensive of the four that I have selected as examples. It contains 67 graphs and 9 tables. Each section also contains exemplary summaries of the indicators in the section. The Appendix to this paper contains the MSU table of contents, some sample summaries, and some sample graphs.

The environmental indicators in the MSU report are similar to those in the UVM and UFL reports. The financial indicators are more extensive than the UFL set and include some innovative measures

such as undergraduate costs and the number of hours of work required to pay those costs and employees' financial contributions to the university. The economic section also has an indicator on financial aid expenditures (an important financial measure that differentiates universities from corporations). A major omission, from a sustainability perspective, is an indicator that shows the proportion of revenues that are allocated to financial aid, or net income. This is a critical measure for institutional financial sustainability.

The social indicators in the MSU report are especially innovative. In this section, the indicators related to educational outcomes and student welfare advance the adaptation of sustainability reporting to higher education in important ways. These educational/student measures address a concern that we've heard, but to which we do not give credence, that sustainability reporting may distract attention from the core mission of institutions of higher education. As noted in "Measure Today, Here Tomorrow . . . " universities will be sustainable only if they perform their educational missions successfully. Therefore, any relevant set of sustainability indicators for colleges and universities must include indicators that reflect their educational missions.

The social indicators section includes measures that are common to sustainability reports: employee counts, racial and gender distributions, employee sick leave and injury data. There are some innovative measures as well: age distribution, university wage levels (average and minimum), and criminal activity on campus.

Educational/student indicators include traditional measures such as enrollment counts, demographic composition of the student body, retention and graduation rates, and degrees granted. This section also contains several graphs on alcohol consumption and its consequences, a social sustainability phenomenon that greatly concerns stakeholders within and outside of universities. A notable absence in this set of social indicators are measures of student evaluations of their educational experiences (see below, RMIT's report).

Royal Melbourne Institute of Technology

The RMIT sustainability indicators are integrated into the general annual report of the institution as a separate section. The sections of the report are:
RMIT in 2003: statements from officers and the governing council, plus some basic statistics,
Academic Review: reports on the three divisions of academic programs plus a subsection on teaching, program completions, and academic services,
Students, Staff and Communities: discussion of student services, completions, research and research partnerships, international programs, community extension programs, workforce data and policies, awards received by faculty,

building data.
Sustainability (see detailed discussion below)
Corporate Governance: lists members of the university council, senior officers, RMIT-controlled entities, consultancies, fees.

The sustainability section focuses on four aspects of sustainability: social, environmental, financial, and governance. The contents of each section are listed below. Both data and a discussion of the data are provided for each sustainability indicator. With the exception of the governance indicator, three years of data are shown for each indicator.

Social
- Share of first preferences (admissions choices)
- Student satisfaction levels
- Full-time employment
- Enterprise formation (businesses started by alumni)
- Research activity
- Enrollments and completions
- Occupational health and safety incidents
- New staff by gender
- Staff turnover

Environmental
- Survey data on the importance of environmental sustainability to students
- Electricity consumption (absolute and per capita)
- Gas consumption (absolute and per capita)
- Water consumption (absolute and per capita)
- Greenhouse gas production (absolute and per capita)

Financial
- Revenues by type
- Expenditure by type

Governance
- Listing of university council members and their committee memberships, and their attendance records at each.

Four pages from the RMIT sustainability section are shown in the Appendix.

How do higher education sustainability reports stack up?

As noted above, the purpose of sustainability monitoring and reporting is to assure that institutions reduce risks to their immediate well-being and reduce the risks that humanity faces as a result of the impacts that institutions and individuals have on the complex ecological, social, and economic systems on which we rely (sustainable means

not being done-in or compromised).

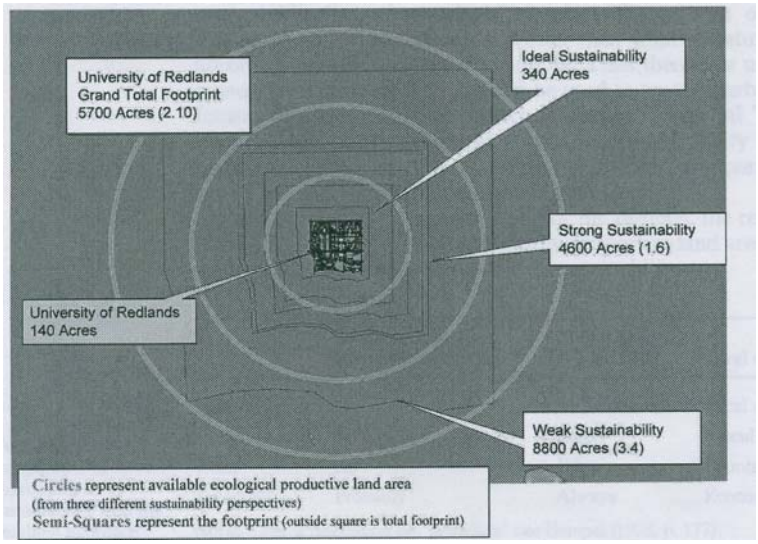
Corporate reports have the edge over higher education reports on some fronts. They endeavor to conform to an international reporting standard that facilitates cross-organization comparisons. Some contain data that have been verified by independent auditors, which increases credibility. On the other hand, corporate reports tend to contain many romanticized photographs and to be more slick, which makes them look more like public relations pieces.

Neither corporate nor higher education reports tend to incorporate industry performance data, which limits the capacity to benchmark against best practices. And neither relate performance to sustainable benchmarks—e.g., performance that can be sustained over the long run. Instead they tend to focus, at best, on trends. Reduction of adverse affects (e.g., pollution, energy use) is a step in the right direction, but it may not represent long-term sustainability. The latter is difficult to specify, but we need to relate our performance to models of sustainable performance that are emerging.

A summary, normative measure

Sustainability is a complex phenomenon. Current reports have multiple indicators of the various aspects of sustainability. They are correspondingly voluminous and laborious to utilize. A summary measure of sustainability will greatly improve our means of inserting the issues of sustainability into our "critical institutional indicators" and "dashboards." Summary indicators for the social and financial areas await development. A promising summary environmental indicator is the ecological footprint. This has not appeared yet in sustainability reports and will probably need considerable refinement before it has full validity and reliability.

The ecological footprint (Wackernagel and Rees) is a measure of the natural resources required to support the lifestyle of an individual, a family, or an institution. It equates resources with the landmass required to produce them. It has a normative aspect that compares the resources (or footprint) used by an institution with the amount of usable acreage in the world relative to the population of the world. As James Merkel points out, per capita available acreage is a function of the size of the world's population; procreation practices will determine the latter (Merkel).



Ecological footprints have been calculated for both the University of Redlands (Venetoulis) and Colorado College (Wright). Neither were official institutional undertakings; they were the efforts of faculty and students. Each project concluded that a partial accounting of present levels of resource use revealed unsustainable patterns of resource usage. The illustration on the preceding page from the Redlands project shows, via a graph, how institutional behavior relates to various levels of sustainability, which depend in turn on the frame of reference adopted (e.g., ideal sustainability requires no more acreage to support the university than the acreage that it actually occupies; weak sustainability requires acreage equivalent to per capita acreage available within the United States; strong sustainability measures consumption within the context of global population and acreage).

How can an institutional researcher best move forward on the sustainability front?

The examples given above provide viable, and attractive, models for incorporating sustainability indicators into annual reports, factbooks, and institutional dashboards. In the increasing number of institutions of higher education that have appointed sustainability coordinators, the institutional researcher has a ready collaborator in developing sustainability indicators for use in institutional monitoring and reporting. Obtaining the initial data, which can be time consuming, has often benefited from the involvement of an environmental studies class.

Certainly one of the critical elements in successfully orienting a college or university toward sustainable practices and toward modeling sustainability for students and society, is an embracing of this core value by trustees and senior level administrators. Many examples of this level of institutional commitment are available as exemplified in the reports that are cited above. As noted in "Measure Today, Here Tomorrow . . .," trustees, higher education professional associations, and political interests are beginning to press these sensibilities on institutional leadership.

Conclusion

The day is fast approaching when higher education will need to embrace fully the challenges of sustainable institutional behavior and transparent reporting. Given the central role that institutional researchers play in the development and dissemination of intelligence regarding institutional performance, the profession will have a key role to play in providing the intelligence we need to become sustainable institutions. I would like to think that one of the readers of this paper will win the first award for higher education sustainability reporting and that the Association for Institutional Research will be one of the sponsors.

References (see below for sustainability reports)

ACCA Global (2005). *The ERSA Criteria*. Retrieved from the the World Wide Web on 3/19/05: www.accaglobal.com/sustainability/awards/esra/.

Jackson, R. (2004). Comments made at the ERSA award ceremonies, Brussels, Belgium on April 5, 2004. Retrieved from the World Wide Web on 12/23/04: www.accaglobal.com/news/releases/uk/1127862.

Heal, G. (1998). Valuing the Future: Economic Theory and Sustainability. New York: Columbia University Press.

Litten, L. & Newport, D. (2004). *Measure Today, Here Tomorrow: Exploring IR's Role in Producing Indicators That Will Help Assure Sustainable Institutions and a Sustainable Society.* Paper presented at the Association for Institutional Research (AIR) Forum, Boston, Massachusetts.

Merkel, J. (2003). *Radical Simplicity*. Gabriola Island, BC: New Society Publishers.

Venetoulis, J. (2001). Assessing the ecological impact of a university: the ecological footprint for the University of Redlands. *International Journal of Sustainability in Higher Education*, 2, 180-196.

Wackernagel, M. & Rees, W. (n.d.). *Our Ecological Footprint*. Gabriola Island, BC: New Society Publishers.

World Commission on Environment and Development (1987). *Our Common Future*. Oxford: Oxford University Press

Wright, E. P. (2002). The Ecological Footprint of the Colorado College: An Examination of Sustainability, Colorado College. Retrieved from the World Wide Web on 3/18/05: www.coloradocollege.edu/sustainability/Footprint.doc.

Sustainability Reporting Resources

General

Global Reporting Initiative: www.globalreporting.org
Sustainability Reporting Resource Center: www.ecoquality.com/resources.html

Corporate Reports

Suncor: www.suncor.com/data/1/rec_docs/25_SuncorSDReport2003.pdf
Dell: www.dell.com/downloads/global/corporate/environ/2004Report.pdf
Ford: ford.com/en/company/about/corporateCitizenship/report/toolsPrint.htm
Dofasco: www.dofasco.ca/INVESTORS/annual_report/env_energy_2.htm
Kinko: not on the Web

Featured Higher Education Reports

University of Vermont: www.uvm.edu/greening/trackinguvm.html

University of Florida: www.sustainable.ufl.edu/indicators.pdf

Michigan State University: www.ecofoot.msu.edu//files/pdfs/sustainability.pdf
(includes a great list of links and resources)

Royal Melbourne Institute of Technology: not on the Web

Appendix

University of Vermont Indicators

Summary

Between 1990 and 2000, UVM has made significant efforts towards "walking the talk" of a responsible environmental citizen. New management programs during the 1990s significantly reduced the environmental impacts of UVM's operations. Many of these programs constitute "best practices" for institutions of higher education.

Yet despite these efforts, the measurements in this report show that many of UVM's environmental impacts increased over the decade. The problem is that implementing best practices and demonstration projects is not always enough to overcome national economic trends affecting the university's environmental impacts. For example, despite aggressive energy conservation and solid waste recycling programs, UVM's trash and energy use levels increased, although at rates lower than national trends.

The grades below are given in the context of an overburdened planet. The United States, with 5% of the world's population, uses 25% of the world's resources, and resource use continues to rise. If everyone on the planet lived as we do in the U.S., human beings' ecological footprint would cover several more planets.

This perspective is the basis for asking our report card question: Did UVM have a smaller ecological footprint in 2000 than in 1990? Our tracking of that footprint indicates that, in many instances, the answer is no, although that footprint would have been larger if it were not for the many new environmental programs on campus. The grades here indicate what happened despite UVM's best efforts. The result is a sobering reminder for the campus and Burlington community about just how much work lies ahead.

Fortunately, UVM is well equipped to take on this challenge. The Academics & Culture section (page 22) describes the tremendous growth of environmentally related majors, high expectations for a sustainable campus, and high levels of volunteerism at UVM. University programs have already made a difference. With a continuing commitment to innovation and long-term planning, UVM will continue to be a leader in helping to create a truly sustainable way of living on this planet.

Land and Water Use	Energy and Air Pollution	Solid and Hazardous Waste
Main campus land use ~	**Energy sources** +	**Trash generation** –
Little change in use of green space; data not available	Electricity sources became cleaner; 20% renewable in 2000	Trash totals increased 20% since 1996
Transportation ~	**Carbon emissions** –	**Recycling** ~
Commuting miles are estimated to have increased, based on increase in parking permits	Carbon emissions up 2% above 1990 levels	Recycled at least 31% in late 1990s, but amount recycled decreased since 1996
Water use +	**Energy use** –	**Hazardous waste** ~
Water use decreased 15% despite an increase in building space	Total energy use increased 6%; heating remained the same; electricity increased 23%	Total hazardous construction, laboratory, and maintenance waste fluctuated with construction
Storm water management +	**Air pollution from heating** ~	**Radioactive waste** +
Two year peak storm water flows were reduced at least 40% by treatment ponds	Little change in regulated pollutants in 1990s; major pollutant is NOx	Radioactive waste decreased 81% over 10 years

Grading System

+ shows a positive trend towards a more environmentally sustainable campus

– shows a negative trend, with more environmental problems from campus operations

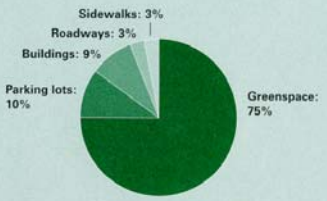
~ shows little change or inadequate data

Tracking UVM 1990-2000 / Page 3

Trends

Campus land use: what share is parking?

Campus Land Use in 2002 (Academic Core Campus)



Total = 438 acres in 2002

Percent of land used for parking is an informative environmental indicator, but calculating lot density is a complex process, and data were not readily available for the 1990s. While buildings and parking spaces were constructed between 1990 and 2000, many of the projects were constructed on already paved land, and reconfiguration of parking lots created some new parking spaces. The net effect appears to be that land use, including land used for parking, did not change significantly during the decade.

The 2002 data shown here provide a baseline for evaluating land use in the future. Approximately 50% of campus is mapped electronically in 2002. The chart here shows unverified estimates of land use on the Academic Core Campus, including Central, Centennial, Redstone, and Athletic Campus (not South Campus, which is primarily agricultural).

Building up, not out is the goal. The 1997 Campus Master Plan focuses on concentrating development within designated campus districts; considering transportation linkages and circulation patterns to enhance a pedestrian-friendly campus; using parking lots as first options to site a new project; and conserving green space. New parking is typically planned for the periphery rather than the center of campus.

More parking indicates more commuting miles

Main Campus Parking Spaces 1990-2000

Total parking spaces increased by 9% (344 spaces) over the decade as new buildings created new demand for parking. However, without policies to minimize new parking, the increase would have been far greater.

Student parking spaces decreased by 29% (478 spaces) following the creation of the bus system, and a policy that first year students are not permitted to have parking spaces, with some exceptions. Meanwhile, the number of students decreased 8%.

Faculty and staff parking increased 40% (833 spaces). Faculty and staff travel an average of 16 miles each way to UVM. Although UVM encourages multiple alternative transportation options, such as carpooling and public transportation (see page 8), regional efforts are needed to increase transportation opportunities in the greater Burlington area.

UVM commuters travel about 21 million miles per year, equivalent to driving a quarter of the distance to the sun, or 88 times to the moon. Faculty and staff commuting account for 75% of these miles. These estimates need refining before they can be useful for suggesting specific actions to reduce commuting miles.

Page 6 / Tracking UVM 1990-2000

University of Florida Indicators

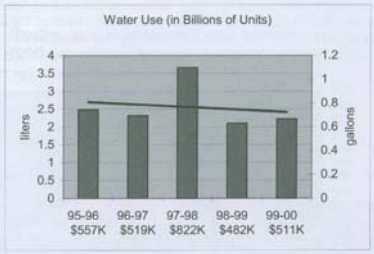
6.10 Objectives, programs, and targets for materials replacement STI: 0

In compliance with RCRA waste minimization objectives, the University of Florida targets a 10% reduction objective.

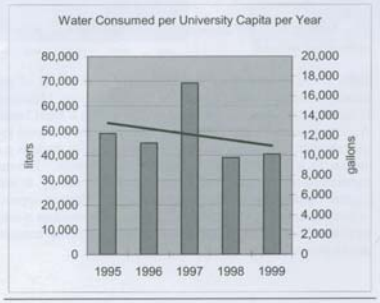
❖ ***Water***

6.12 (a) Total Water Use STI: 1

Water is reported in liters consumed. Dollar amounts spent on water are given below the corresponding fiscal year.

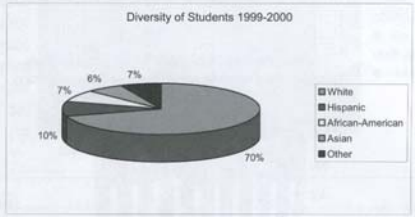


6.12 (b) Water Use per Capita

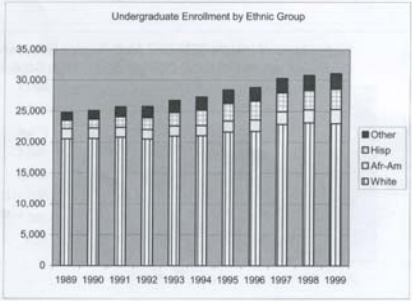


6.98 (b) Student Diversity

Approximately 45,000 students currently attend the University of Florida, including 32,680 undergraduates and 12,434 graduate and professional students. They come from every county in Florida, every state in the United States, and over 100 foreign countries.



6.98 (c) Diversity Trends STI: -1



Michigan State University Indicators

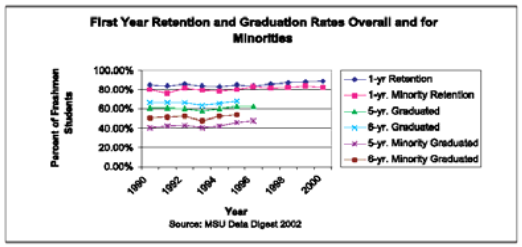


Figure 11. Undergraduate Retention and Graduation Rates

The total number of degrees – bachelor's, master's, doctoral and professional (medicine) – have all increased from 1994 levels, with the most significant increase in master's degrees (27%). Doctoral degrees granted have fluctuated over time but are about what they were in 1994.

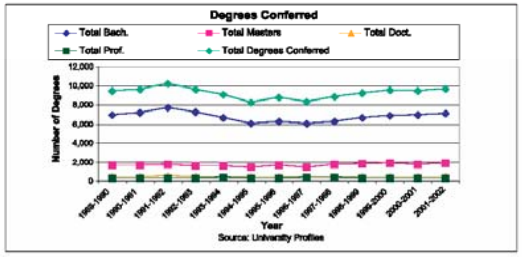


Figure 12. Degrees Conferred

The number of women receiving degrees has increased in all categories, most notably with a 39% increase in professional medicine degrees.

Study Abroad

In addition to the academic rigors of university life, MSU students have been actively pursuing personal, cultural and social enhancement opportunities through study abroad programs, service learning, student organizations and intramural sports. The number of student credit hours spent on study abroad programs has more than doubled since 1994-95. With over 15,000 credit hours spent abroad in 2001-02, Michigan State University offers the largest study abroad program of any university in the U.S., including the first study abroad program ever to Antarctica in 2003-04!

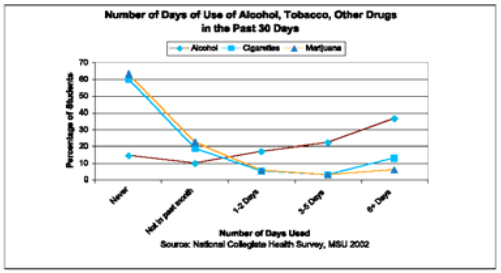


Figure 18. Alcohol, Tobacco, and Other Drug Use in the Past 30 Days

Olin Health Center has been working vigorously on a campaign to reduce harmful behaviors since 2000 through advertising and education campaigns.

Job Placement

With a growing emphasis on higher education as an employment tool, a look at job placement trends would provide important information. Each year the MSU Career and Placement Services department surveys recent graduates to see how they have done. The following three graphs give some indication of the trends. A caveat on the data is that the responses are not consistent every year. Both the overall response rate and the proportion responding by college vary and therefore could alter interpretation of the data. It is probably safest to look at the graphs broadly. Graduates with a bachelor's degree have found employment 60-70% of the time during the past decade, while another 20% of them have chosen to pursue further education. The remaining 10-20% either choose not to work or continue to look for work.

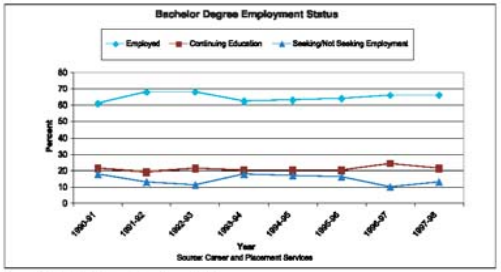


Figure 19. Bachelor Degree Employment Status

Summary of Financial Statistics 1990-2001

- The overall budget has continued to increase over the past decade at a fairly steady rate (an average of ~4.2% per year).
- The largest portion of our funding comes from state appropriations (~53%), with student tuition and fees close behind (~42%).
- Of the total university operating budget, the largest proportion is spent on Instruction (~32%), Auxiliary Enterprises (~16%), Research (~16%) and Public Services (~13%).
- Research funds and gifts have grown by 78%.
- Since 1994, the overall cost of attendance for students rose by 34.5% for Michigan residents and 36.1% for nonresident students, bringing the total cost of attendance to $13,572 (residents) and $22,580 (nonresidents).
- Since 1991, scholarships and financial aid funds have grown by 138%.
- Since 1998-99, MSU health care costs have risen at an average of 17% per year, reaching $74 million in 2001-02.
- As part of MSU's fund raising campaign, employee contributions increased 55% between 1996 and 2002.

As this report goes to print Michigan State University, like its sister institutions in the state of Michigan, is struggling with financial hardships. This is due to the downturn in the federal and state economy that is leading to deficits and thus cuts in state appropriations. The graph shows that the overall budget has continued to increase over the past decade at a fairly steady rate (an average of ~4.2% per year).

INCOME

These changes correspond to increased enrollments, state appropriations, and research funds. We notice a tapering off of state appropriations in recent years and the forecast is for potential budget cuts given the state's budget difficulties as this goes to press. The largest portion of our funding (2001) comes from state appropriations (~53%) with student tuition and fees close behind (~42%). MSU had been a leader in restraining the rise of tuition costs over the past five years in response to MSU President McPherson's "Tuition Guarantee," which held tuition increases at or below inflation (assuming state appropriations at or above inflation). In an email to the university community this spring, President McPherson noted that a generation ago, state appropriations covered more than 70% of the cost of an education in Michigan while current appropriations (2003-04) cover less than 50% of the costs. As noted in the following graph (figure 34), when appropriations decline, tuition and fees tend to increase to make up the difference.

Air Emissions

As indicated in the graphs below, we have a significant amount of air emissions coming from our production of electricity and steam. While our cogenerating system effectively doubles our efficiency over a typical coal-fired electrical utility plant, the tonnage of emissions regulated by government is substantial. Nitrogen oxide (NO) emissions have remained fairly stable over the past decade, and the sulfur dioxide (SO2) emissions that dipped in the late 90s have begun to rise again in recent years.

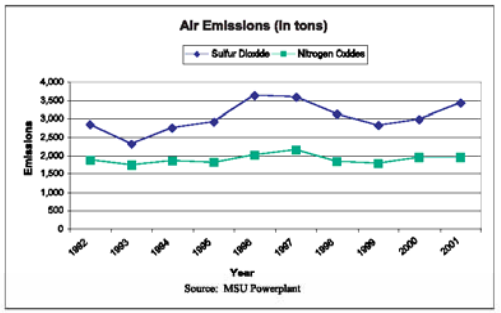


Figure 47. Emissions in Tons for Sulfur Dioxide and Nitrogen Oxides

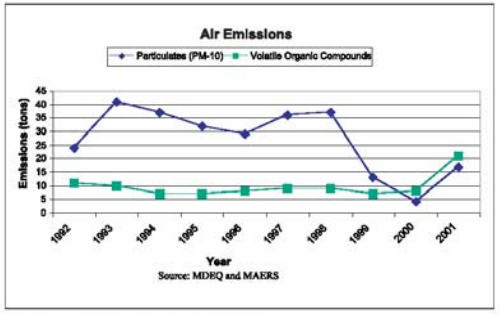
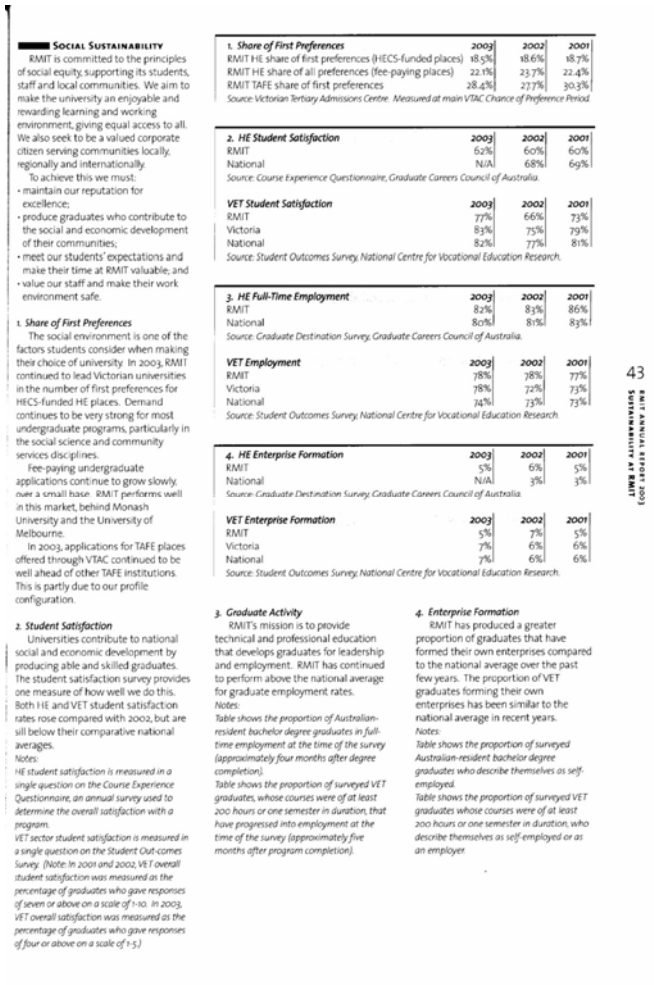


Figure 48. Emissions in Tons for Particulates and VOCs

In sheer tonnage SO2 emissions are the largest followed by NO. Lesser in quantities are the particulates and volatile organic compounds (VOCs). Emissions prior to 1998 were calculated by the Michigan Department of Environmental Quality. Since 1998, at the request of

Royal Melbourne Institute of Technology Indicators



SOCIAL SUSTAINABILITY

RMIT is committed to the principles of social equity, supporting its students, staff and local communities. We aim to make the university an enjoyable and rewarding learning and working environment, giving equal access to all. We also seek to be a valued corporate citizen serving communities locally, regionally and internationally.

To achieve this we must:

- maintain our reputation for excellence;
- produce graduates who contribute to the social and economic development of their communities;
- meet our students' expectations and make their time at RMIT valuable; and
- value our staff and make their work environment safe.

1. Share of First Preferences

The social environment is one of the factors students consider when making their choice of university. In 2003, RMIT continued to lead Victorian universities in the number of first preferences for HECS-funded HE places. Demand continues to be very strong for most undergraduate programs, particularly in the social science and community services disciplines.

Fee-paying undergraduate applications continue to grow slowly, over a small base. RMIT performs well in this market, behind Monash University and the University of Melbourne.

In 2003, applications for TAFE places offered through VTAC continued to be well ahead of other TAFE institutions. This is partly due to our profile configuration.

2. Student Satisfaction

Universities contribute to national social and economic development by producing able and skilled graduates. The student satisfaction survey provides one measure of how well we do this. Both HE and VET student satisfaction rates rose compared with 2002, but are still below their comparative national averages.

Notes:

HE student satisfaction is measured in a single question on the Course Experience Questionnaire, an annual survey used to determine the overall satisfaction with a program.

VET sector student satisfaction is measured in a single question on the Student Out-comes Survey. (Note: In 2001 and 2002, VET overall student satisfaction was measured as the percentage of graduates who gave responses of seven or above on a scale of 1-10. In 2003, VET overall satisfaction was measured as the percentage of graduates who gave responses of four or above on a scale of 1-5.)

1. Share of First Preferences	2003	2002	2001
RMIT HE share of first preferences (HECS-funded places)	18.5%	18.6%	18.7%
RMIT HE share of all preferences (fee-paying places)	22.1%	23.7%	22.4%
RMIT TAFE share of first preferences	28.4%	27.7%	30.3%

Source: Victorian Tertiary Admissions Centre. Measured at main VTAC Chance of Preference Period.

2. HE Student Satisfaction	2003	2002	2001
RMIT	62%	60%	60%
National	N/A	68%	69%

Source: Course Experience Questionnaire, Graduate Careers Council of Australia.

VET Student Satisfaction	2003	2002	2001
RMIT	77%	66%	73%
Victoria	83%	75%	79%
National	82%	77%	81%

Source: Student Outcomes Survey, National Centre for Vocational Education Research.

3. HE Full-Time Employment	2003	2002	2001
RMIT	82%	83%	86%
National	80%	81%	83%

Source: Graduate Destination Survey, Graduate Careers Council of Australia.

VET Employment	2003	2002	2001
RMIT	78%	78%	77%
Victoria	78%	72%	73%
National	74%	73%	73%

Source: Student Outcomes Survey, National Centre for Vocational Education Research.

4. HE Enterprise Formation	2003	2002	2001
RMIT	5%	6%	5%
National	N/A	3%	3%

Source: Graduate Destination Survey, Graduate Careers Council of Australia.

VET Enterprise Formation	2003	2002	2001
RMIT	5%	7%	5%
Victoria	7%	6%	6%
National	7%	6%	6%

Source: Student Outcomes Survey, National Centre for Vocational Education Research.

3. Graduate Activity

RMIT's mission is to provide technical and professional education that develops graduates for leadership and employment. RMIT has continued to perform above the national average for graduate employment rates.

Notes:

Table shows the proportion of Australian-resident bachelor degree graduates in full-time employment at the time of the survey (approximately four months after degree completion).

Table shows the proportion of surveyed VET graduates, whose courses were of at least 200 hours or one semester in duration, that have progressed into employment at the time of the survey (approximately five months after program completion).

4. Enterprise Formation

RMIT has produced a greater proportion of graduates that have formed their own enterprises compared to the national average over the past few years. The proportion of VET graduates forming their own enterprises has been similar to the national average in recent years.

Notes:

Table shows the proportion of surveyed Australian-resident bachelor degree graduates who describe themselves as self-employed.

Table shows the proportion of surveyed VET graduates whose courses were of at least 200 hours or one semester in duration, who describe themselves as self-employed or as an employer.

Agreement with University Experience Questionnaire	2003	2002
Environmental sustainability on campus is important to me	67%	61%
RMIT performs well in terms of environmental sustainability management	35%	40%

1. Electricity Consumed	2003	2002	2001
Quantity (GJ)	202,773	204,288	184,921
Quantity (GJ) per EFTSU/EFTS and FTE staff	4.77	4.77	4.57
Quantity (GJ) per m^2 of GFA serviced	0.47	0.49	0.47

Source: Property Services, Energetics, Citipower

2. Gas Consumed	2003	2002	2001
Quantity (GJ)	133,410	117,150	113,274
Quantity (GJ) per EFTSU/EFTS and FTE staff	3.14	2.74	2.80
Quantity (GJ) per m^2 of GFA serviced	0.50	0.29	0.29

Source: Property Services, Energetics, TXU

3. Water Consumed	2003*	2002	2001
Quantity (KL)	214,862	300,283	298,203
Quantity (KL) per EFTSU	5.06	7.01	7.37
Quantity (GJ) per m^2 of GFA serviced	0.50	0.73	0.76

Source: Property Services

4. Greenhouse Gas Produced	2003	2002	2001
Quantity (tonnes CO^2 equivalent)	88,232	87,999	77,833
Quantity (tonnes CO^2 equivalent) per EFTSU	2.07	2.05	1.92
Quantity (GJ) per m^2 of GFA serviced	0.21	0.22	0.20

Source: Property Services

**Estimate only. Final quarter 2003 figures not yet available.*

GJ - Gigajoules (1,000,000 kilojoules)

KL - Kilolitre (1000 litres)

CO2 - Carbon dioxide

EFTSU - Equivalent Full-Time Student Unit; EFTS - Equivalent Full-Time Student; FTE -Full-Time Equivalent (staff)