

Sustainable Enterprise Learning Guide

Edited by: Catherine Mercer Bing, Jeana Wirtenberg

Instructor Materials

Chapter Six

Sustainable enterprise metrics and measurement systems: Identifying, selecting and measuring the relevant variables

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Editors' Notes:

These materials are intended for use by academics and practitioners. In order to simplify the language, editors have determined to use the terms instructors, learners or participants rather than facilitators, professors or students.

ACTIVITY INTRODUCTION AND OVERVIEW

Objectives

Upon completion of this activity, the learner will/will be able to:

1. Explain and describe the context and “language” of indicators so as to determine which indicators might be most appropriately applied to the task of measuring the sustainability of any given enterprise system
2. Explore and select an appropriate mix of indicators to be measured, within a context of optimal policy parameters established within a particular enterprise system
3. Explore and identify elements of relevant indicators to be measured in a system, in keeping with a stated policy of enterprise performance
4. Measure relevant indicators, so as to achieve established policy objectives



Activity Length

This activity is a team project, and occurs in two sessions that are least two weeks (14 days) apart. The first session (90 minutes) establishes the parameters of the project and establishes the teams. The second session (90 minutes) allows the team to share their discoveries through a team presentation.

Audience Description



Undergraduate or graduate level

ACTIVITY PREPARATION

Activity Name	Measuring Sustainability: Identifying, Selecting and Measuring the <i>Relevant</i> Variables	
Preparation Checklist  	<p>Learners will explore sustainable development metrics by using their own (undergraduate or graduate school class or department/organization) system, as the enterprise to examine and measure. For this exercise, members of the class / department / division will, after reading Ch. 6 of The Sustainable Enterprise Fieldbook, establish and declare policy standards to be met for their system, identify appropriate metrics to reflect that policy, and then measure the variables related to those metrics.</p> <p>One Week in Advance</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assign reading: Chapter 6 – Sustainable enterprise metrics and measurement systems <input type="checkbox"/> Assign learners into 3 small groups during the first session, by counting off in “three’s.” Each team will be assigned to explore one of three components of the Triple Bottom Line: People, Planet, or Profit. <input type="checkbox"/> Handouts: The Language of Indicators; The Context of Sustainability; <input type="checkbox"/> Confirm venue, catering, and in-room supplies and audio visual equipment. <p>Session Days (2)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ensure there are three flip charts and three flip chart stands with plenty of magic markers and tape to post the completed flipcharts. 	
Timing Flow	<p><u>Session #1</u></p> <p>Step 1. Activity set-up (establish activity objectives) / lecture (see PPT slides)</p> <p>Step 2. Establish three teams</p> <p>Step 3. Allow each team time to establish work parameters; distribute assignments</p> <p><u>Session #2</u></p> <p>Step 4. Team Presentations</p> <p>Step 5. Activity debrief</p>	<p>35 minutes</p> <p>10 minutes</p> <p>45 minutes</p> <p>20 minutes (each team)</p> <p>30 minutes</p>
Total Time	Three (3) hours class / workshop time; 8 – 10 hours individual / team assignment development time	
Pre-reading	Wirtenberg, J., Russell, W. G., & Lipsky, D. (2008). The Sustainable Enterprise Fieldbook, Chapter 6, <i>Sustainable enterprise metrics and measurement systems</i> : Greenleaf Publishing and AMACOM.	
Prerequisite(s):	None	

ACTIVITY 1: MEASURING ENTERPRISE SUSTAINABILITY – INTRODUCTION & OVERVIEW


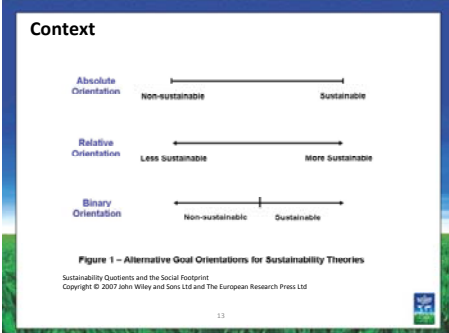

Learners will explore sustainable development metrics by using their own (graduate school class or department/organization) system, as the enterprise to examine and measure. For this activity, members of the class / department / division will, after reading Ch. 6 of The Sustainable Enterprise Fieldbook, establish and declare policy standards to be met for their system, identify appropriate metrics to reflect that policy, and then measure the variables related to those metrics.




Instructor Notes	Activity Description
<p>Step 1. Activity set-up (establish activity objectives) / lecture</p> <div data-bbox="167 758 605 1087" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Measuring Sustainability</p> <p>Identifying, Selecting and Measuring the <i>Relevant</i> Variables (Sessions #1 and #2) The Sustainable Enterprise Fieldbook Chapter 6</p> </div> <p style="text-align: center;">Slide 1</p>	<div data-bbox="667 678 834 814" style="text-align: center;">  </div> <p>Do: Show Slide 1</p> <p>Ask: Why is it important for us to measure our efforts to become sustainable?</p> <p>Expected Responses:</p> <ul style="list-style-type: none"> • We can assess how well we’re doing; • We can compare the effectiveness of varied practices; • We can better identify what we don’t know that we don’t know; <p>Say: This activity will walk you through a simulated effort to measure your class as an “enterprise.” You will look for and identify variables related to the value and use of material and energy resources; wastes produced and external environmental impacts; you will discuss human and social resource objectives and associated financial indicators and challenges to monetize the value of your team members and class system as human and social capital resources.</p>
<div data-bbox="188 1472 584 1766" style="border: 1px solid black; padding: 10px;"> <p>Overview</p> <ul style="list-style-type: none"> • Explain and describe the context and “language” of indicators so as to determine which indicators are most appropriately applied to the task of measuring the sustainability of any given enterprise system • Explore and select an appropriate mix of indicators to be measured, within a context of optimal policy parameters established within a particular enterprise system • Explore and identify elements of relevant indicators to be measured in a system, in keeping with a stated policy of enterprise performance; and • Learn how to measure relevant indicators, so as to achieve established policy objectives </div> <p style="text-align: center;">Slide 2</p>	<div data-bbox="667 1472 834 1608" style="text-align: center;">  </div> <p>Do: Show Slide 2</p> <p>Discuss:</p> <ul style="list-style-type: none"> • Review Overview of exercise objectives: <ul style="list-style-type: none"> ○ Enterprise context will determine the purpose and scope of measurement efforts; context will inform the language – e.g., are we concerned with single indicators, or groups of data that will comprise an index?

Instructor Notes	Activity Description
	<ul style="list-style-type: none"> ○ What are the factors that are important enough to be measured, to any particular enterprise? What policy guidelines should be considered when designing a measurement matrix? ○ What are the key implementation steps and challenges?
<div data-bbox="172 520 607 846" style="border: 1px solid black; padding: 5px;"> <p>Introduction</p> <ul style="list-style-type: none"> • Context for Sustainability Measurements • Introduction to Metrics <ul style="list-style-type: none"> – Types, KPIs, Goals and Targets • Enterprise Measurements <ul style="list-style-type: none"> – Energy & GHG Emissions – Triple Bottom Line & Social Performance – SRI, ESG – Strategic: Green Sigma, Balanced Scorecard </div> <p style="text-align: center;">Slide 3</p>	<div data-bbox="667 457 834 583" style="text-align: center;"> </div> <p>Do: Show Slide 3</p> <p>Discuss concept of metrics and measurements (book – pp. 170 - 177). Describe context for measuring sustainable development, and key aspects of sustainability:</p> <ul style="list-style-type: none"> • Enterprise Measurements <ul style="list-style-type: none"> ○ Triple Bottom Line & Social Performance ○ Strategic: Baldrige, Balanced Scorecard ○ SRI, ESG • Product Measurements <ul style="list-style-type: none"> ○ Standards, Practices, The future... • GRI Indicators and Sustainability Reporting <ul style="list-style-type: none"> ○ Standards, Practices, The future... • Energy & GHG?
<div data-bbox="172 1140 597 1457" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">What is Sustainability?</p> <p>Key aspects:</p> <p>Triple Bottom Line</p> <ul style="list-style-type: none"> • Social • Environmental • Economic </div> <p style="text-align: center;">Slide 4</p>	<div data-bbox="667 1077 834 1203" style="text-align: center;"> </div> <p>Do: Show Slide 4</p> <p>Say: Sustainability is an ever-changing ‘end-state.’ The ‘end-state’ is likely to remain elusive as information and circumstances change and evolve. This is an important fact to remember as organizations seek to identify the factors related to human resources, facilities and materials, and capital investment that they wish to maximize, with the least amount of waste. Two definitions:</p> <p>“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”</p> <p style="text-align: right;">Our Common Future, UN Brundtland Report, 1987</p> <p>“A company’s ability to achieve its business goals and increase long-term shareholder value by integrating economic, environmental and social opportunities into its business strategies.”</p> <p style="text-align: right;">“Symposium on Sustainability – Profiles in Leadership,” NYC, Oct. 2001</p> <p>Ask: What are the key aspects of Sustainability:</p> <ul style="list-style-type: none"> ○ Pursuant to Social (People-centered) Values? <p>Expected responses:</p>

Instructor Notes	Activity Description
	<ul style="list-style-type: none"> ● Personal growth and action opportunities ● Family-oriented work ● Shared leadership ● Shared responsibilities <ul style="list-style-type: none"> ○ Pursuant to Environmental Values <p>Expected responses:</p> <ul style="list-style-type: none"> ▪ Renewable / Non-renewable resources ▪ Fossil fuels ▪ Waste v. re-use <ul style="list-style-type: none"> ○ Pursuant to Economic Values <p>Expected responses:</p> <ul style="list-style-type: none"> ▪ Shareholder and customer value ▪ Paying “full” costs (direct, indirect, contingent, & external) ▪ Distribution of wealth
<div data-bbox="142 919 630 1276" style="border: 1px solid blue; padding: 5px;"> <p>The Language of Indicators</p> <ul style="list-style-type: none"> • Indicator <ul style="list-style-type: none"> – A measure of a key attribute or characteristic considered indicative of the state of a system (a business, an economy, an ecosystem); a measure of public health & safety (mortality and morbidity, nutritional status), environmental quality (air quality, energy use), economic vitality (profit, job creation), and the like. – A simple variable that can be measured objectively, such as population, revenues, and number of events. – Provides a basis for measuring change over time and, thereby, for understanding the relative condition of an entity – both to itself and to other entities and groups of entities. </div> <p style="text-align: center;">Slide 5</p> <div data-bbox="142 1346 630 1703" style="border: 1px solid blue; padding: 5px;"> <p>The Language of Indicators</p> <ul style="list-style-type: none"> • Index <ul style="list-style-type: none"> – An indicator, but more typically applied in a relative scale and often in combination with multiple indicators: for example, multiple indicators may be combined into a single index that is deemed to indicate the overall relative performance or condition of an entity. </div> <p style="text-align: center;">Slide 6</p>	<div data-bbox="662 913 836 1045" style="text-align: center;"> </div> <p>Do: Show Slide 5, 6, 7, 8 Review the content.</p>

Instructor Notes	Activity Description
<div data-bbox="155 254 618 604"> <p>The Language of Indicators</p> <ul style="list-style-type: none"> Footprint <ul style="list-style-type: none"> A measurement of impacts on the environment and natural resources. An "ecological footprint" measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology. A carbon footprint measuring human impacts on climate through greenhouse gas emissions, represented as carbon equivalents, is another rapidly growing footprint measure. </div> <p style="text-align: center;">Slide 7</p> <div data-bbox="155 667 618 1018"> <p>The Language of Indicators</p> <ul style="list-style-type: none"> Inputs <ul style="list-style-type: none"> Measures of the resources an organization uses to produce a product or provide a service, such as total dollars invested, raw materials purchased, number of people employed, amount of energy used. Outputs <ul style="list-style-type: none"> Indicators of the amount of product or service provided; for example, refrigerators manufactured, revenues or profits realized, amount of greenhouse gas (GHG) generated. </div> <p style="text-align: center;">Slide 8</p>	<p>Ask: Considering the key aspects of Sustainability, what is the purpose of metrics when applied to development within the context of a sustainable organization?</p> <p>Expected Response:</p> <ul style="list-style-type: none"> To ensure that the natural lifecycle of extraction, growth, development and regeneration is adhered to as closely as possible, pursuant to our objectives for that particular organization.
<div data-bbox="155 1073 618 1423"> <p>The Language of Indicators</p> <ul style="list-style-type: none"> Outcomes <ul style="list-style-type: none"> Measures that assess how well a product's or service's goals and objectives are accomplished. Outcome measures indicate the quality of effectiveness of a product or service: for instance, cleanliness ratings based on routine inspections could describe a city's success (or lack thereof) at cleaning its streets or parks. A business might track market share, share value, customer satisfaction, or progress toward mission. </div> <p style="text-align: center;">Slide 9</p> <div data-bbox="155 1465 618 1816"> <p>The Language of Indicators - cont'd</p> <ul style="list-style-type: none"> Efficiency <ul style="list-style-type: none"> Indicators that measure the amount of resources required to produce a unit of output or to achieve a certain outcome. These measures inform judgments about how well resources were used to achieve intended aims – the question of "bang for the buck" – by comparing input indicators with output and outcome indicators. </div> <p style="text-align: center;">Slide 10</p>	<div data-bbox="662 1073 836 1207"> </div> <p>Do: Show Slide 9, 10 and 11.</p> <p>Say: The indicators presented in these two tables offer timely, reliable and cost-effective information related to the current state of social, economic and environmental elements of organizational sustainability.</p> <p>These indicators can be taken individually and/or independently, or they may be aggregated into a compressed set of composite indicators [e.g., total cost assessment, life-cycle assessment, ecological footprint, etc.]. When organized as a composite, they are referred to as an index, or indices. Indices are useful in simplifying a long list of indicators, to provide a visible depiction of a trend or trends.</p>


Instructor Notes	Activity Description
<p>The Language of Indicators - cont'd</p> <ul style="list-style-type: none"> • Input-Output <ul style="list-style-type: none"> - These comparisons include energy use per unit of product, water use per gallon of product. • Input-Outcome <ul style="list-style-type: none"> - These measures include tons of GHG per dollar of profit, tons of compost per acre of land reclaimed, dollars invested per percentage increase in market share. • Benchmarks <ul style="list-style-type: none"> - Performance comparisons to peers, best-in-class performers, and the like, which help identify leaders' and laggards' best practices and opportunities for performance improvement. <p>Slide 11</p>	
<p>Context</p> <p>Sustainability Performance</p> <p><i>How do we know if our business decisions are moving us toward or away from a more sustainable world?</i></p> <p>Slide 12</p>	 <p>Do: Show Slide 12</p> <p>Say: The intent of applying these indicators is to achieve the organization's purpose in attaining a sustainable operation. Each organization must define for itself its own targets for sustainability. TO achieve that they should be asking themselves these questions. What is important to the organization? What are the resources that it values? Which resources are limited in supply, and which are reproducible? At what cost? How are these resources used?</p> <p>These are the questions to be answered as organizations seek to establish their sustainability goals.</p>
<p>Context</p>  <p>Figure 1 – Alternative Goal Orientations for Sustainability Theories Sustainability Quotients and the Social Footprint Copyright © 2007 John Wiley and Sons Ltd and The European Research Press Ltd</p> <p>Slide 13</p>	 <p>Do: Show Slide 13</p> <p>Say: Sustainability goals for any given organization may be distinguished by the orientation that is required for their particular context.</p> <p>Ask: What are some examples of context?</p> <p>Expected responses:</p> <ul style="list-style-type: none"> • Absolute orientation – recycling paper vs. disposing of paper • Relative orientation – having increasing numbers of staff members to telecommute vs. having all staff report to an office • Binary orientation – Does your lifestyle require the consumption of natural resources at rates greater than they are biologically produced? If yes, you are living unsustainably, if no, you are living

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<div data-bbox="155 323 618 674" style="border: 1px solid black; padding: 5px;"> <p>Context</p> <ul style="list-style-type: none"> • Metrics are a key ingredient to move people from awareness about sustainability to understanding and ultimately to action. • Well designed sustainability metrics will supply intelligence that aligns an enterprise's need for knowing with informed business decisions and effective strategic actions. • Sustainability metrics need holistic context. <ul style="list-style-type: none"> – Integrated metrics for ecosystems, social systems, and economic systems enable business to contribute to global actions and appropriately respond to changing market conditions and long term global trends. <p style="text-align: right; font-size: small;">14</p> </div> <p style="text-align: center;">Slide 14</p>	<p>sustainably. (See ecological footprint self assessment quiz for more insights.)</p> <div data-bbox="667 323 834 457" style="text-align: center;">  </div> <p>Do: Show Slide 14</p> <p>Say:</p> <ul style="list-style-type: none"> • Don't obsess about perfect metrics! <ul style="list-style-type: none"> → Sustainability is an ever-changing "end state" and we don't know what that end state will be. • Sustainability metrics need holistic context. <ul style="list-style-type: none"> → Integrated metrics for ecosystems, social systems, and economic systems enable business to contribute to global actions and appropriately respond to changing market conditions and long term global trends. • No need to reinvent the metrics wheel. <ul style="list-style-type: none"> → Proven measurement methods and frameworks successfully adapt for sustainability.
<div data-bbox="147 989 630 1352" style="border: 1px solid black; padding: 5px;"> <p style="font-size: small;">Metrics Introduction Categories and Types</p> <p style="text-align: center;">Criteria for Effective Metrics</p> <ul style="list-style-type: none"> • Comparability - trend analysis • Scope - limited number • Credibility - verifiable and reproducible • Transparency - relate to actual developments in time. • Extendability - relate to cause and effect <p style="text-align: right; font-size: small;">15</p> </div> <p style="text-align: center;">Slide 15</p>	<div data-bbox="667 961 834 1096" style="text-align: center;">  </div> <p>Do: Show Slide 15</p> <p>Ask: What examples can you offer for common / familiar indicators?</p> <p>Expected responses:</p> <ul style="list-style-type: none"> • Net profit movement (EBIT) • Customer satisfaction (Q) • Employees satisfaction (Q) • Student grades / graduation rates • Return on capital employed • Speedometer analogy (gear, rpm)
<div data-bbox="188 1524 586 1818" style="border: 1px solid black; padding: 5px;"> <p style="font-size: small;">Metrics Introduction Categories and Types</p> <p style="text-align: center; background-color: #e0ffe0; padding: 2px;">Types of Measures</p> <ul style="list-style-type: none"> • Ratios - Put data into context with relation to other flows and processes • Trends - Put data into context with relation to time • Benchmarks - Put data into context <ul style="list-style-type: none"> – internally, in relation to customers' performance – externally in relation to competitors' performance <p style="text-align: right; font-size: small;">11</p> </div> <p style="text-align: center;">Slide 11</p>	<div data-bbox="667 1528 834 1663" style="text-align: center;">  </div> <p>Do: Show Slide 11</p> <p>Say: Internal and external performance benchmarks are the most widely used measurement types for sustainability performance. The first time these indicators are gathered is your program's baseline performance.</p>


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	<p>Some measures have historic data available and developing trend performance measures add insights to your baseline intelligence. Periodic updating of baseline performance benchmarks becomes the trend for each performance measure going forward.</p> <p>Ratios are highly valuable metrics to measure performance improvements and are also the key measurement type used to measure actual sustainability performance at a specific moment in time.</p>									
<div data-bbox="175 615 597 932" data-label="Image"> </div> <p data-bbox="342 936 430 961">Slide 12</p>	<div data-bbox="667 583 834 716" data-label="Image"> </div> <p data-bbox="659 722 812 781">Do: Show Slide 12</p> <p data-bbox="659 821 1403 879">Say: We can ascribe a “10 – 80 – 10” Rule to results indicators, as follows:</p> <table data-bbox="672 919 1463 1234"> <tr> <td data-bbox="672 947 911 974">Key Results Indicators</td> <td data-bbox="997 947 1045 974">10%</td> <td data-bbox="1122 919 1463 974">Tells you how you have done in a perspective</td> </tr> <tr> <td data-bbox="672 1010 813 1073">Performance Indicators</td> <td data-bbox="997 1045 1045 1073">80%</td> <td data-bbox="1122 1010 1341 1037">Tells you what to do</td> </tr> <tr> <td data-bbox="672 1108 862 1199">Results Indicators Key Performance Indicators</td> <td data-bbox="997 1144 1045 1171">10%</td> <td data-bbox="1122 1079 1446 1234">Tells you what you have done Tells you what to do to increase performance dramatically</td> </tr> </table>	Key Results Indicators	10%	Tells you how you have done in a perspective	Performance Indicators	80%	Tells you what to do	Results Indicators Key Performance Indicators	10%	Tells you what you have done Tells you what to do to increase performance dramatically
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<div data-bbox="168 1241 604 1564" data-label="Diagram"> </div> <p data-bbox="342 1568 430 1593">Slide 13</p>	<div data-bbox="667 1241 834 1373" data-label="Image"> </div> <p data-bbox="659 1379 812 1438">Do: Show Slide 13</p> <p data-bbox="659 1478 1479 1793">Say: This grid represents a sustainability measurement framework that offers a series of indicators that are relevant to multiple industrial sectors. This grid provides a three-dimensional lens which organizations can use to assess whether or not they’ve considered all factors related to the triple bottom line. The y axis addresses the basic domains of the triple bottom line (PPP); the x axis incorporates the natural or life cycle for the sustainability of those domains (waste v reuse); and the z axis incorporates other aspects – including time, location, values, ‘good will,’ core competencies, and other relevant factors.</p> <p data-bbox="659 1833 1446 1890">Many sustainability measurement systems are evolving to include full life cycle resources, costs and impacts.</p>									

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<div data-bbox="162 323 612 661" data-label="Table"> <p>Enterprise Measurements</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Dimensions of Sustainability</p> <table border="1"> <tr> <td rowspan="2">Environmental</td> <td>Resources</td> <td>Material Intensity Energy Intensity Water Usage Land Use</td> </tr> <tr> <td>Ecosystem & Pollutants</td> <td>From Products / From Services Manufacturing Operations Building / Sites Impacts to Ecosystems/Human Health</td> </tr> <tr> <td rowspan="2">Economic</td> <td>Internal</td> <td>Eco-Efficiency Cost reduction / avoidance Revenue enhancement Access to capital / Access to Insurance Shareholder value</td> </tr> <tr> <td>External</td> <td>Reduction of externalities Flow of benefits to local community Flow of benefits to society</td> </tr> <tr> <td rowspan="2">Social / Human</td> <td>Internal</td> <td>Workplace conditions Employee health & safety Human capital development (ed/train) Aligning business participants</td> </tr> <tr> <td>External</td> <td>Stakeholder engagement Enhancing Quality of Life in community Human rights commitment</td> </tr> <tr> <td>General</td> <td>Sustainability</td> <td>Commitment to triple bottom line Accountability and Transparency Product and Service Development Individual's impact on environment</td> </tr> </table> <p style="text-align: right;">14</p> </div> <p style="text-align: center;">Slide 14</p>	Environmental	Resources	Material Intensity Energy Intensity Water Usage Land Use	Ecosystem & Pollutants	From Products / From Services Manufacturing Operations Building / Sites Impacts to Ecosystems/Human Health	Economic	Internal	Eco-Efficiency Cost reduction / avoidance Revenue enhancement Access to capital / Access to Insurance Shareholder value	External	Reduction of externalities Flow of benefits to local community Flow of benefits to society	Social / Human	Internal	Workplace conditions Employee health & safety Human capital development (ed/train) Aligning business participants	External	Stakeholder engagement Enhancing Quality of Life in community Human rights commitment	General	Sustainability	Commitment to triple bottom line Accountability and Transparency Product and Service Development Individual's impact on environment	<div data-bbox="667 296 834 422" data-label="Image"> </div> <p>Do: Show Slide 14</p> <p>Say: Understanding the most relevant framework for sustainability for an organization assists planners in determining the most effective indicators for the dimensions of sustainability that can be achieved. This table shows a basic matrix of indicators and how decisions can be made to assess which indicators are most reasonable to pursue. Once internal measurements are addressed, organizations can then move toward measuring external indicators.</p> <p>A basic indicator matrix that includes internal and external indicators can support a SWOT (Strengths, Weaknesses, Opportunities and Threats) strategic assessment.</p>
Environmental		Resources	Material Intensity Energy Intensity Water Usage Land Use																
	Ecosystem & Pollutants	From Products / From Services Manufacturing Operations Building / Sites Impacts to Ecosystems/Human Health																	
Economic	Internal	Eco-Efficiency Cost reduction / avoidance Revenue enhancement Access to capital / Access to Insurance Shareholder value																	
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	External	Stakeholder engagement Enhancing Quality of Life in community Human rights commitment																	
General	Sustainability	Commitment to triple bottom line Accountability and Transparency Product and Service Development Individual's impact on environment																	
<div data-bbox="142 947 591 1283" data-label="Complex-Block"> <p>Strategic Integration</p> <p>The Baldrige Model</p> <ul style="list-style-type: none"> Measures performance directly and results Same 1000-point scale for all organizations No need to "normalize" data Allows benchmarking of best practices Used in 60 countries and 44 states (USA) It has six <i>performance</i> categories <ul style="list-style-type: none"> Includes 15 <i>Items</i> It has one <i>results</i> category <ul style="list-style-type: none"> Includes 3 <i>Items</i> <p style="text-align: right;">POJASEK & ASSOCIATES</p> <p style="text-align: center;">15</p> </div> <p style="text-align: center;">Slide 15</p>	<div data-bbox="667 919 834 1045" data-label="Image"> </div> <p>Do: Show Slide 15</p> <p>Say: The familiar Baldrige Framework has endured for decades and serves as a model for other national and international excellence award frameworks. One argument for looking at the Baldrige Framework with more of a systems perspective that is focused on sustainability is that more than 80% of the Criteria questions begin with "How". These systems and processes are the enablers of excellence.</p>																		
<div data-bbox="142 1438 591 1774" data-label="Complex-Block"> <p>Strategic Integration</p> <p>Example Standards and Initiatives</p> <p>Baldrige Performance Categories</p> <ul style="list-style-type: none"> Leadership Strategic planning Other interested parties Information and analysis Employee involvement Environmental process management <p>Baldrige Results Categories</p> <ul style="list-style-type: none"> Environmental Results Stakeholder Results Financial Results <p style="text-align: right;">POJASEK & ASSOCIATES</p> <p style="text-align: center;">16</p> </div> <p style="text-align: center;">Slide 16</p>	<div data-bbox="667 1411 834 1537" data-label="Image"> </div> <p>Do: Show Slide 16</p> <p>Say: The Baldrige Model is ...</p> <ul style="list-style-type: none"> A <u>measure</u> of system parts and connections ... <ul style="list-style-type: none"> How good are the parts? How good are the connections between the parts? A <u>blueprint</u> for building good, well-connected parts A <u>process</u> for determining which parts and which connections add 																		

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<div data-bbox="180 323 591 632" style="border: 1px solid black; padding: 10px;"> <p>Strategic Integration</p> <p>The Balanced Scorecard Model</p> <ul style="list-style-type: none"> Enterprise-wide measurement system that has been successfully adapted to support sustainability Measures four categories of activity: <ol style="list-style-type: none"> Financial Customer engagement Internal processes Learning / growth </div> <p style="text-align: center;">Slide 17</p>	<p style="text-align: center;">value (sustainability) and which do not</p> <div data-bbox="667 296 834 422" style="text-align: center;"> </div> <p>Do: Show Slide 17</p> <p>Say: The purpose of the Balanced Scorecard is to help organizations to manage results more effectively with a balance of measures in four categories: financial, customer, internal processes, and learning/growth. Once developed, a Balanced Scorecard becomes an instrument for aligning organizational performance with strategy.</p> <p>Broadening Balanced Scorecard measures to include environmental and social issues creates an effective tool for measuring enterprise sustainability.</p>																																																																								
<div data-bbox="142 877 604 1228" style="border: 1px solid black; padding: 10px;"> <p>Strategic Integration</p> <p>Example: Market-Based Sustainable Balanced Scorecard</p> <table border="1" data-bbox="285 926 581 1182"> <thead> <tr> <th>Business Objectives</th> <th>Operational Objectives</th> <th>Strategic Initiatives</th> <th>Performance Indicators</th> </tr> </thead> <tbody> <tr> <td>Cost management</td> <td>Inventory reduction</td> <td>Process redesign</td> <td>Inventory turnover and job cost of production</td> </tr> <tr> <td>Risk management</td> <td>Regulatory compliance and social strategies</td> <td>Philanthropy</td> <td>Sustainability risk strategy development</td> </tr> <tr> <td>Talent and retention</td> <td>Sustainability programs</td> <td>Customer relationships</td> <td>Customer loyalty</td> </tr> <tr> <td>Profit sharing</td> <td>Labor relations</td> <td>Supplier relationships</td> <td>Supplier sustainability assessment</td> </tr> <tr> <td></td> <td>Compensation</td> <td>Customer satisfaction</td> <td></td> </tr> <tr> <td></td> <td>Training</td> <td>Product capabilities</td> <td></td> </tr> <tr> <td></td> <td>Health and safety</td> <td>Access to customers</td> <td></td> </tr> <tr> <td></td> <td>Non-mandated benefits</td> <td>Sustainability benefits to local and environmental projects</td> <td></td> </tr> <tr> <td></td> <td>Production processes</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Supplier sustainability</td> <td></td> <td></td> </tr> <tr> <td></td> <td>ESG systems</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Resource use</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Waste and emissions</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Health and safety results</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Compliance</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Contributions of government</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Discrimination</td> <td></td> <td></td> </tr> </tbody> </table> </div> <p style="text-align: center;">Slide 18</p>	Business Objectives	Operational Objectives	Strategic Initiatives	Performance Indicators	Cost management	Inventory reduction	Process redesign	Inventory turnover and job cost of production	Risk management	Regulatory compliance and social strategies	Philanthropy	Sustainability risk strategy development	Talent and retention	Sustainability programs	Customer relationships	Customer loyalty	Profit sharing	Labor relations	Supplier relationships	Supplier sustainability assessment		Compensation	Customer satisfaction			Training	Product capabilities			Health and safety	Access to customers			Non-mandated benefits	Sustainability benefits to local and environmental projects			Production processes				Supplier sustainability				ESG systems				Resource use				Waste and emissions				Health and safety results				Compliance				Contributions of government				Discrimination			<div data-bbox="667 852 834 978" style="text-align: center;"> </div> <p>Do: Show Slide 18</p> <p>Say: This example set of Balanced Scorecard indicators was created to support the interests of sustainable investor interests. Improvements across these criteria would presumably be rewarded through a higher share price and greater stock purchasing volumes.</p> <p>Ask: What aspects of this matrix are specific to sustainability performance (if any)? Should there be any difference? Why?</p> <p>Expected response:</p> <ul style="list-style-type: none"> Actually, all of the topics are related to sustainability as they all are directly affecting one of more of the People, Planet or Profit sustainability program's performance. <p>Say: There really should not be any difference between key Business KPI's vs. key Sustainability KPI's. There likely will be a difference in the metric results that report the topics and the priority of any specific metric's performance (and in time its trend) balancing of the performance improvement projects.</p>
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<p>Strategic Integration Example - Bristol-Myers Squibb Balanced Scorecard Environment, Health and Safety</p> <table border="1"> <thead> <tr> <th>Financial Perspective</th> <th>Customer Perspective</th> <th>Internal Process Perspective</th> <th>Learning & Growth perspective</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> - Cost Savings - \$ Saved from accident reduction - \$ saved from PLC reviews - Investments - \$ Spent on EHS capital projects - Remediation costs - Preventative costs - Community improvements - Revenues - Sales of SEE friendly products </td> <td> <ul style="list-style-type: none"> - External customer Support - Product safety - Post-consumer waste recycled - Consumer education - Product safety brochures distributed - Goop Citizenship - # Awards - Philanthropic contributions - Product donations </td> <td> <ul style="list-style-type: none"> - Environmental Performance - Water use - Packaging reduction - % Solvents recycled - Energy use - Hazardous waste generated - # supplier reviews - # fines - Worker exposure - Employee performance - # Lost workdays - Work-related injuries-illnesses </td> <td> <ul style="list-style-type: none"> - Employee practices - Training hours - Ergonomic reviews - Diversity - Transfer of Best Practices - # ISO 14001 certifications - Product life cycle reviews </td> </tr> </tbody> </table> <p>Slide 19</p>	Financial Perspective	Customer Perspective	Internal Process Perspective	Learning & Growth perspective	<ul style="list-style-type: none"> - Cost Savings - \$ Saved from accident reduction - \$ saved from PLC reviews - Investments - \$ Spent on EHS capital projects - Remediation costs - Preventative costs - Community improvements - Revenues - Sales of SEE friendly products 	<ul style="list-style-type: none"> - External customer Support - Product safety - Post-consumer waste recycled - Consumer education - Product safety brochures distributed - Goop Citizenship - # Awards - Philanthropic contributions - Product donations 	<ul style="list-style-type: none"> - Environmental Performance - Water use - Packaging reduction - % Solvents recycled - Energy use - Hazardous waste generated - # supplier reviews - # fines - Worker exposure - Employee performance - # Lost workdays - Work-related injuries-illnesses 	<ul style="list-style-type: none"> - Employee practices - Training hours - Ergonomic reviews - Diversity - Transfer of Best Practices - # ISO 14001 certifications - Product life cycle reviews 	<p>Show Slide 19</p> <p>Say:</p> <p>This example set of Balanced Scorecard indicators was created to support the interests of the health and safety function of the company. Improvements across these criteria would presumably be rewarded through lower injury rates, safer products, lower compliance costs and greater employee productivity and innovation.</p> <p>Ask:</p> <p>Who is the customer(s) of an EHS Scorecard? How does an EHS Scorecard influence employee productivity and innovation?</p> <p>Expected responses:</p> <ul style="list-style-type: none"> • Any company ought to be a customer of the EHS scorecard. • Companies that can demonstrate lower injury rates, safer products, and lower compliance costs presumably can influence employee safety and motivation (thus also productivity and innovation).
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<p>Step 2. Establish three teams</p> <p>Your Team - ___ Your Model _____</p> <ul style="list-style-type: none"> • Determine objectives for your organization team (class); <ul style="list-style-type: none"> • Define organization purpose / policy standards / outcomes • Select model for designing metrics (KPI Matrix, Baldrige or Balanced Scorecard) • Determine variables for the relevant metrics to be measured • Identify relevant data and criteria elements for each selected variable; Develop implementation Plan or Story to generate and share sustainability measures using the metrics matrix which you developed • Develop 20-minute team presentation, sharing your process and results <p>Slide 20</p> <p>Step 3. Allow each team time to establish work parameters; distribute assignments</p>	 <p>Do:</p> <p>Show Slide 20</p> <p>Do:</p> <p>Divide the class into three teams.</p> <p>Say:</p> <p>The assignment is for each team to select a model to measure the sustainability of their “organization,” which – in this case, is their class - from their team’s focal point. Consider all of the resources that are associated with the elements of their focal point – instructors, materials, facilities, supplies, time and distance, number of enrollees, number of course graduates, energy, etc.</p> <p>Decide on the optimal policies and values for your organization, and your area of focus. Identify 3-5 key indicators for each aspect of the particular model selected. Discuss key aspects from slide 10 that informed the decisions for each selected indicator. Create a plan/story for how you would implement the data collection and sharing of measurements associated with the chosen model and indicators. Create a 20 minute presentation to describe your decision-making process, your approach to measuring sustainability, and your team’s results.</p> <p>Be prepared to present your findings to the larger group.</p>								

ACTIVITY 2: SUSTAINABILITY FOR THE TRIPLE BOTTOM LINE

Instructor Notes	Activity Description
Step 4. Team Presentations	 <p>Do: Each team will deliver a 20-minute team presentation – focusing on their model selection, indicator choices and implementation plan/story.</p>
Step 5. Activity debrief	<p>Do: Review:</p> <ul style="list-style-type: none"> • Values / Policies / Measurement objectives / Outcomes identified as important to this system • Selection of indicators • Coherence between indicators and stated policies / values • Use of Measurement model (General indicator matrix / Baldrige / Balanced Scorecard) • Implementation plan/story
Group discussion:	<p>Do: Conduct a group discussion asking these questions:</p> <ul style="list-style-type: none"> • What strengths and weaknesses were observed for each presentation? • What insights did this exercise offer for students as they move into a company and might be asked to participate in a similar project for an operating company? <p>Expected Responses:</p> <ul style="list-style-type: none"> • Responses will vary.

FOLLOW-UP: RESOURCES/ACTIONS

[Insert any additional resources on this topic for activity participants to reference for more information]

1. Take the ecological footprint quiz (www.footprintnetwork.org/en/index.php/GFN/page/calculators)
2. Review the Global Reporting Initiative website (<http://www.globalreporting.org/Home>)
3. Visit the Sustainable Enterprise Living Fieldbook (<http://sknworldwide.net/channels/partner-channels/sef>) (Registration required)