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

Created by: William G. Russell, and Shakira Abdul-Ali, MSOD

William Russell
Principal, Transitioning to Green

Shakira Abdul-Ali
Alchemy Consulting, LLC

TABLE OF CONTENTS

Activity Introduction and Overview 2

Activity Preparation 3

Activity 1: Measuring enterprise sustainability – introduction & Overview 4

Activity 2: Sustainability for the triple bottom line 14

Follow-up: Resources/Actions 14

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.

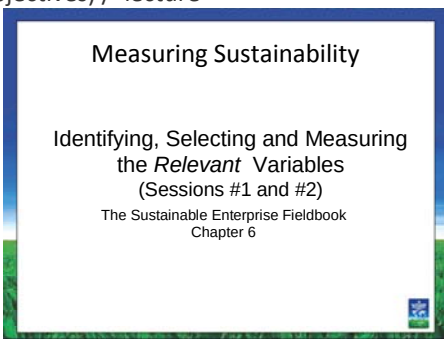
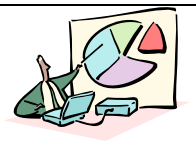
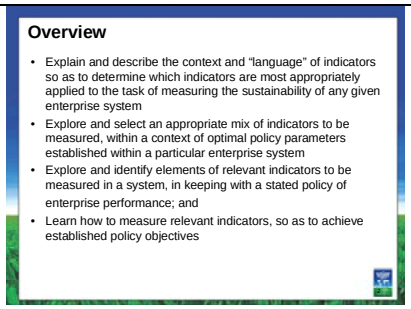
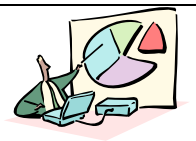
Audience Description
Undergraduate or graduate level

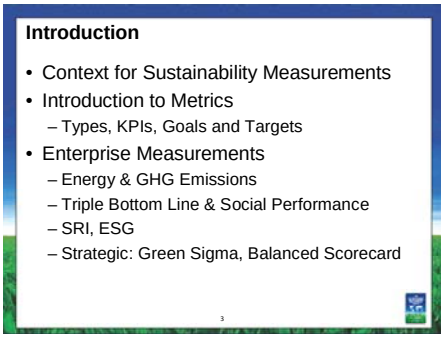
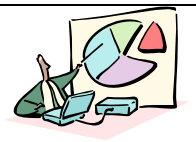
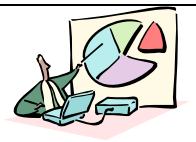
ACTIVITY PREPARATION

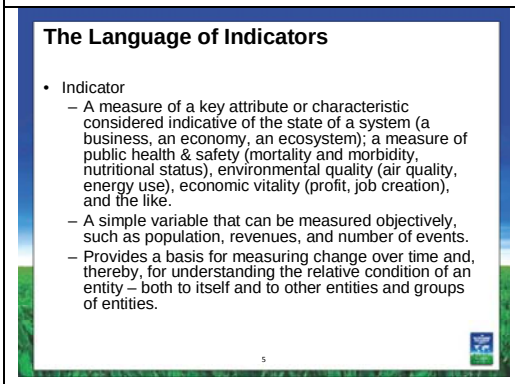
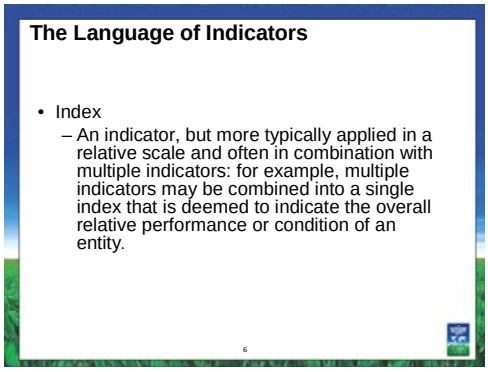
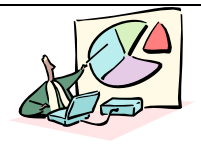
Activity Name	**Measuring Sustainability: Identifying, Selecting and Measuring the *Relevant* Variables**	
Preparation Checklist  	Learners will explore sustainable development metrics by using their own (undergraduate or graduate school class or department/organization) system, as the enterprise to 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. **One Week in Advance** ❑ Assign reading: Chapter 6 – Sustainable enterprise metrics and measurement systems ❑ 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. ❑ Handouts: The Language of Indicators; The Context of Sustainability; ❑ Confirm venue, catering, and in-room supplies and audio visual equipment. **Session Days (2)** ❑ 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	<u>Session #1</u> Step 1. Activity set-up (establish activity objectives) / lecture (see PPT slides) Step 2. Establish three teams Step 3. Allow each team time to establish work parameters; distribute assignments <u>Session #2</u> Step 4. Team Presentations Step 5. Activity debrief	 35 minutes 10 minutes 45 minutes 20 minutes (each team) 30 minutes
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, *Sustainable enterprise metrics and measurement systems*: Greenleaf Publishing and AMACOM.	
Prerequisite(s):	None	

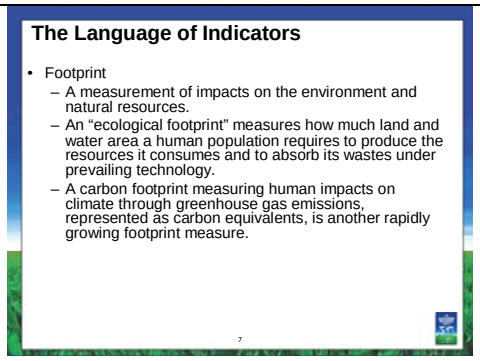
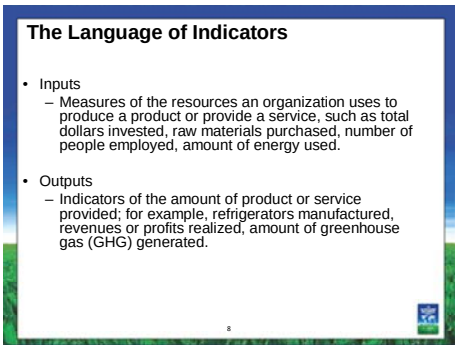
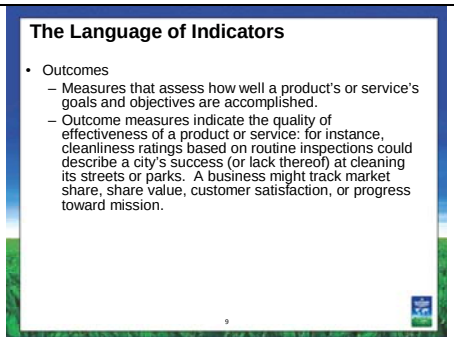
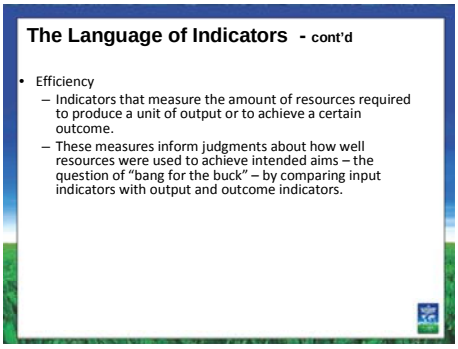
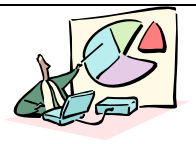
ACTIVITY 1: MEASURING ENTERPRISE SUSTAINABILITY – INTRODUCTION & OVERVIEW

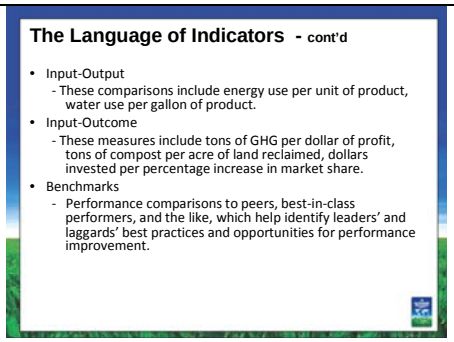
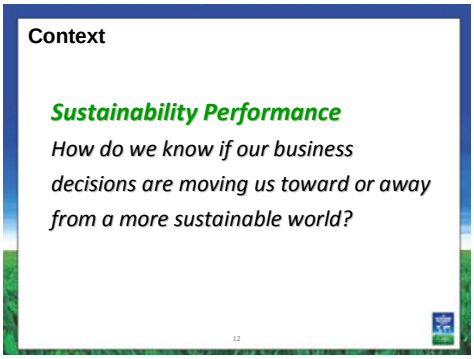
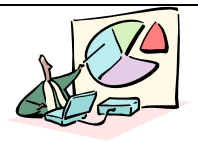
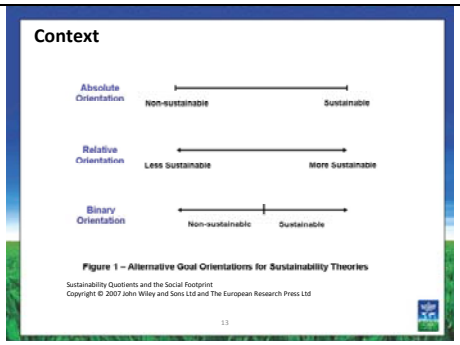
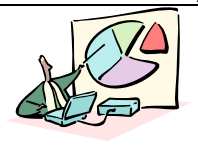
Learners will explore sustainable development metrics by using their own (graduate school class or department/organization) system, as the enterprise to examine and measure. For this activity, members of the class / department / division will, after reading Ch. 6 of The Sustainable Enterprise Fieldbook, 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.

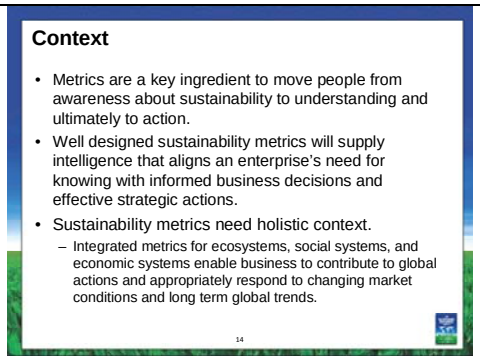
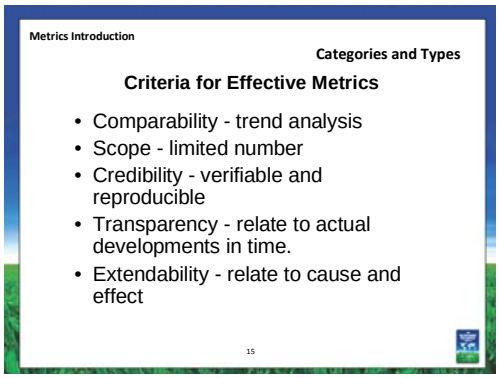
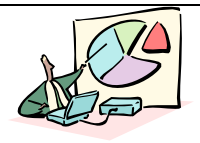
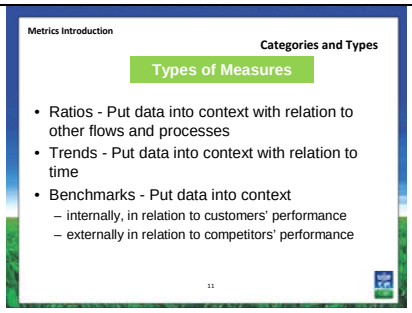
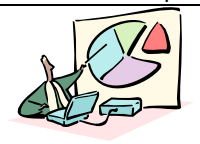
Instructor Notes	Activity Description
Step 1. Activity set-up (establish activity objectives) / lecture  Slide 1	 **Do:** Show Slide 1 **Ask:** Why is it important for us to measure our efforts to become sustainable? **Expected Responses:** • We can assess how well we're doing; • We can compare the effectiveness of varied practices; • We can better identify what we don't know that we don't know; **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.
 Slide 2	 **Do:** Show Slide 2 **Discuss:** • Review Overview of exercise objectives: o 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?

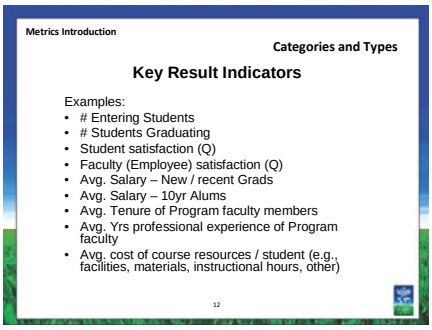
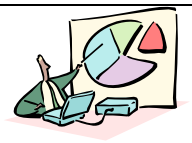
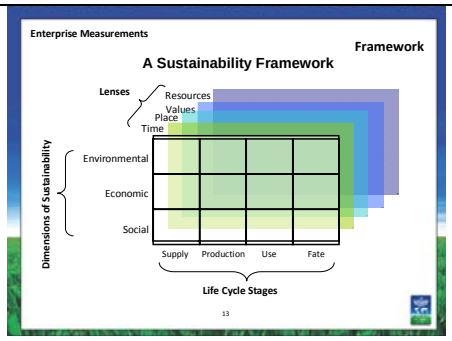
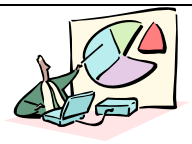
Instructor Notes	Activity Description
	o What are the factors that are important enough to be measured, to any particular enterprise? What policy guidelines should be considered when designing a measurement matrix? o What are the key implementation steps and challenges?
 Slide 3	 **Do:** Show Slide 3 Discuss concept of metrics and measurements (book – pp. 170 - 177). Describe context for measuring sustainable development, and key aspects of sustainability: • Enterprise Measurements o Triple Bottom Line & Social Performance o Strategic: Baldridge, Balanced Scorecard o SRI, ESG • Product Measurements o Standards, Practices, The future… • GRI Indicators and Sustainability Reporting o Standards, Practices, The future… • Energy & GHG?
 Slide 4	 **Do:** Show Slide 4 **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: **"Meeting the needs of the present without compromising the ability of future generations to meet their own needs."** **Our Common Future, UN Brundtland Report, 1987** **"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."** **"Symposium on Sustainability – Profiles in Leadership," NYC, Oct. 2001** **Ask:** What are the key aspects of Sustainability: o Pursuant to Social (People-centered) Values? **Expected responses:**

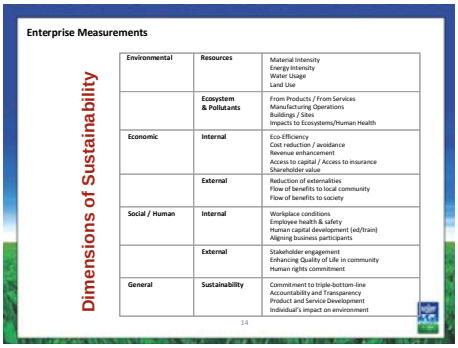
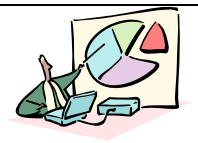
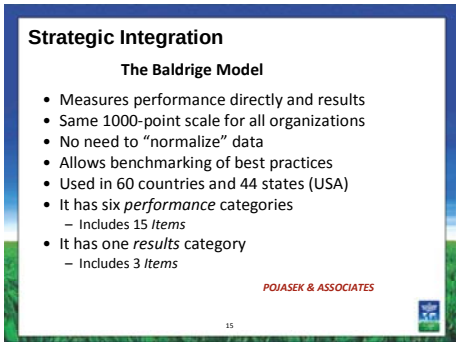
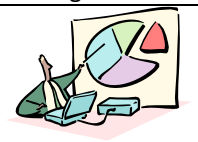
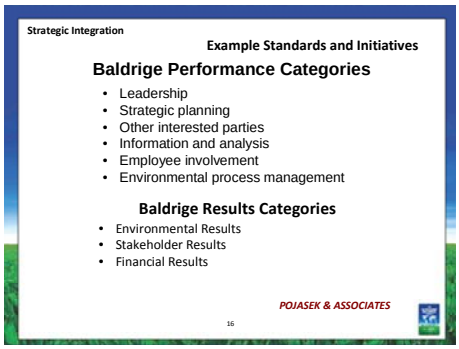
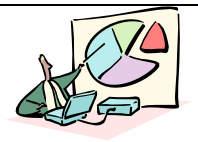
Instructor Notes	Activity Description
	• Personal growth and action opportunities • Family-oriented work • Shared leadership • Shared responsibilities o Pursuant to Environmental Values **Expected responses:** ▪ Renewable / Non-renewable resources ▪ Fossil fuels ▪ Waste v. re-use o Pursuant to Economic Values **Expected responses:** ▪ Shareholder and customer value ▪ Paying "full" costs (direct, indirect, contingent, & external) ▪ Distribution of wealth
 Slide 5  Slide 6	 **Do:** Show Slide 5, 6, 7, 8 Review the content.

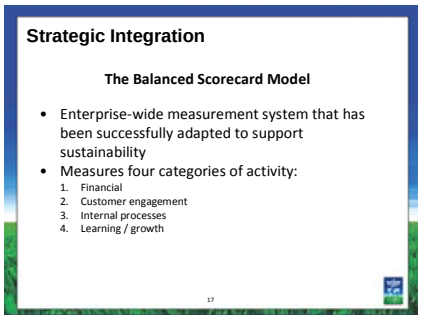
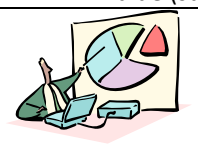
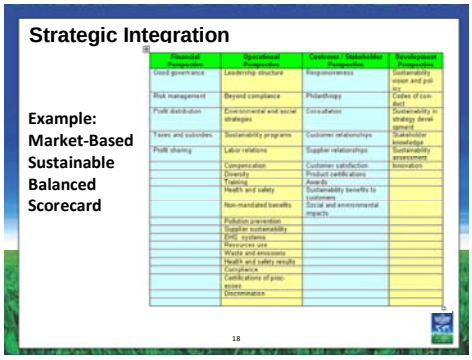
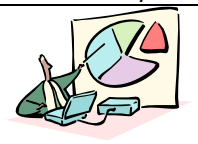
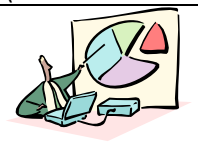
Instructor Notes	Activity Description
 Slide 7  Slide 8	**Ask:** Considering the key aspects of Sustainability, what is the purpose of metrics when applied to development within the context of a sustainable organization? **Expected Response:** • To ensure that the natural lifecycle of extraction, growth, development and regeneration is adhered to as closely as possible, pursuant to our objectives for that particular organization.
 Slide 9  Slide 10	 **Do:** Show Slide 9, 10 and 11. **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. 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.

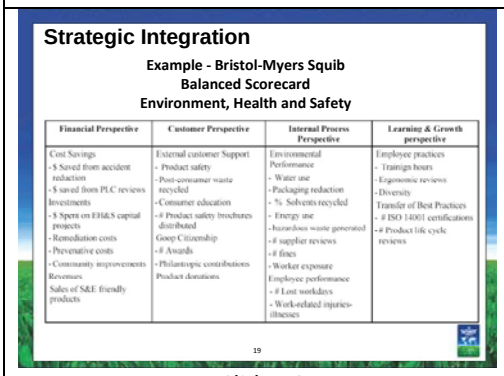
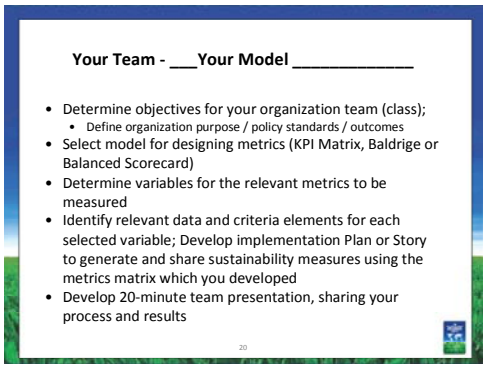
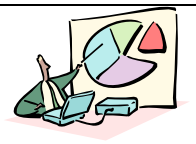
Instructor Notes	Activity Description
 Slide 11	
 Slide 12	 **Do:** Show Slide 12 **Say:** The intent of applying these indicators is to achieve the organization's purpose in attaining a sustainable operation. Each organization must define for itself its own targets for sustainability. TO achieve that 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? These are the questions to be answered as organizations seek to establish their sustainability goals.
 Slide 13	 **Do:** Show Slide 13 **Say:** Sustainability goals for any given organization may be distinguished by the orientation that is required for their particular context. **Ask:** What are some examples of context? **Expected responses:** • 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

Instructor Notes	Activity Description
	sustainably. (See ecological footprint self assessment quiz for more insights.)
 Slide 14	 **Do:** Show Slide 14 **Say:** • Don't obsess about perfect metrics! → Sustainability is an ever-changing "end state" and we don't know what that end state will be. • Sustainability metrics need holistic context. → 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. → Proven measurement methods and frameworks successfully adapt for sustainability.
 Slide 15	 **Do:** Show Slide 15 **Ask:** What examples can you offer for common / familiar indicators? **Expected responses:** • Net profit movement (EBIT) • Customer satisfaction (Q) • Employees satisfaction (Q) • Student grades / graduation rates • Return on capital employed • Speedometer analogy (gear, rpm)
 Slide 11	 **Do:** Show Slide 11 **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.

Instructor Notes	Activity Description
	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. 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.
 Slide 12	 **Do:** Show Slide 12 **Say:** We can ascribe a "10 – 80 – 10" Rule to results indicators, as follows: Key Results Indicators 10% Tells you how you have done in a perspective Performance Indicators 80% Tells you what to do Results Indicators 10% Tells you what you have done Key Performance Indicators Tells you what to do to increase performance dramatically
 Slide 13	 **Do:** Show Slide 13 **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. Many sustainability measurement systems are evolving to include full life cycle resources, costs and impacts.

Instructor Notes	Activity Description
 Slide 14	 **Do:** Show Slide 14 **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. A basic indicator matrix that includes internal and external indicators can support a SWOT (Strengths, Weaknesses, Opportunities and Threats) strategic assessment.
 Slide 15	 **Do:** Show Slide 15 **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.
 Slide 16	 **Do:** Show Slide 16 **Say:** The Baldrige Model is … • A measure of system parts and connections … o How good are the parts? o How good are the connections between the parts? • A blueprint for building good, well-connected parts • A process for determining which parts and which connections add

Instructor Notes	Activity Description
	value (sustainability) and which do not
 Slide 17	 **Do:** Show Slide 17 **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. Broadening Balanced Scorecard measures to include environmental and social issues creates an effective tool for measuring enterprise sustainability.
 Slide 18	 **Do:** Show Slide 18 **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. **Ask:** What aspects of this matrix are specific to sustainability performance (if any)? Should there be any difference? Why? **Expected response:** • 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. **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.
	 **Do:**

Instructor Notes	Activity Description
 Slide 19	Show Slide 19 **Say:** 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. **Ask:** Who is the customer(s) of an EHS Scorecard? How does an EHS Scorecard influence employee productivity and innovation? **Expected responses:** • 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).
Step 2. Establish three teams  Slide 20 Step 3. Allow each team time to establish work parameters; distribute assignments	 **Do:** Show Slide 20 **Do:** Divide the class into three teams. **Say:** 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. 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. Be prepared to present your findings to the larger group.

ACTIVITY 2: SUSTAINABILITY FOR THE TRIPLE BOTTOM LINE

Instructor Notes	Activity Description
Step 4. Team Presentations	 **Do:** Each team will deliver a 20-minute team presentation – focusing on their model selection, indicator choices and implementation plan/story.
Step 5. Activity debrief	**Do:** Review: • 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:	**Do:** Conduct a group discussion asking these questions: • 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? **Expected Responses:** • 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)