True Sustainability Index™

Introducing the World's First Application of *Context-Based Sustainability* to ESG Metrics and Analytics

A Presentation by
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"Current forms of reporting can verge on the meaningless as they are both too simple and devoid of context."

Rob Gray and Markus Milne, 2004

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The Problem/Opportunity

- Current generation of ESG/sustainability metrics/analytics are largely presumptive
  - Indicator-based – no literal measures of sustainability performance
- Market, however, is expecting more: direct/literal measures of sustainability, willing to pay for it – *is* paying for it
- Science of sustainability now makes such literal measures of ESG/sustainability possible
  - Context-based sustainability (CBS)
  - Sustainability measurement and reporting standards call for it (GRI)
  - Very well established in non-commercial circles (academia, EFM, etc.)
- Opportunity exists to reinvent ESG/sustainability metrics – to take the state of the art to the next level
  - By developing a commercial implementation of CBS
  - Claim first-mover advantage – leapfrog the competition!

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The Solution

- Context-Based Sustainability (CBS)
  - An approach to sustainability grounded in capital theory
  - Interprets sustainability as a function of human impacts on vital capitals relative to levels required to ensure human well-being (4 types of capital)
  - Measures and reports performance relative to numerical thresholds
  - Example: Water is a vital capital; human use of water must not exceed rate at which groundwater resources are naturally replenished (a *standard of performance*)
- True Sustainability Index™
  - A proprietary implementation of CBS developed by McElroy
  - A measurement model and method for measuring, rating and ranking the sustainability performance of organizations
  - Currently composed of 16 context-based metrics – TBL in scope
  - 3 levels of scoring possible: individual metrics, thematic categories of metrics, unified TBL score
  - Fully compliant with GRI and leading theories of sustainability

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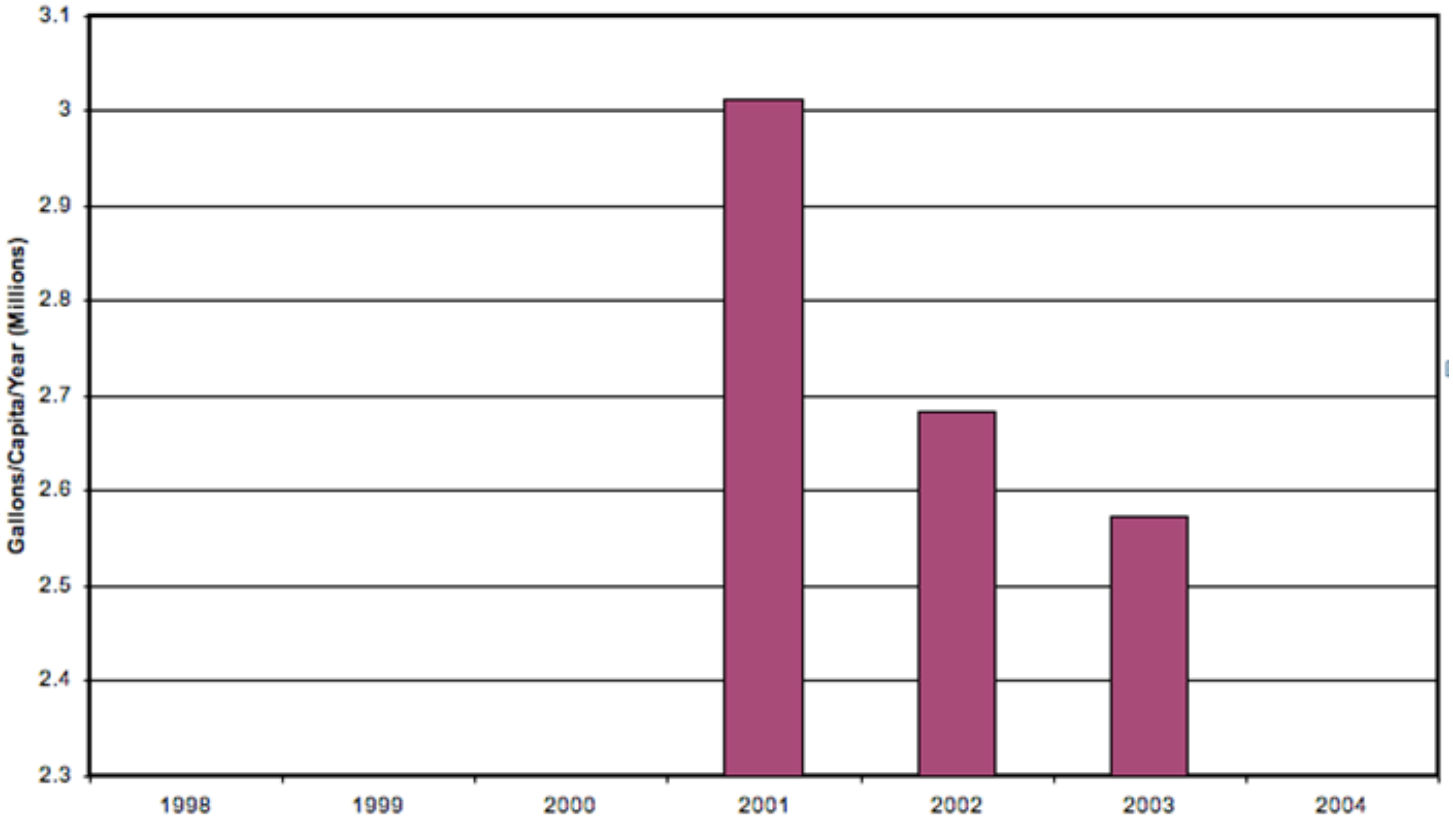
e.g., Water (w/o Context)



Fortune 500 Company's Annual Water Use

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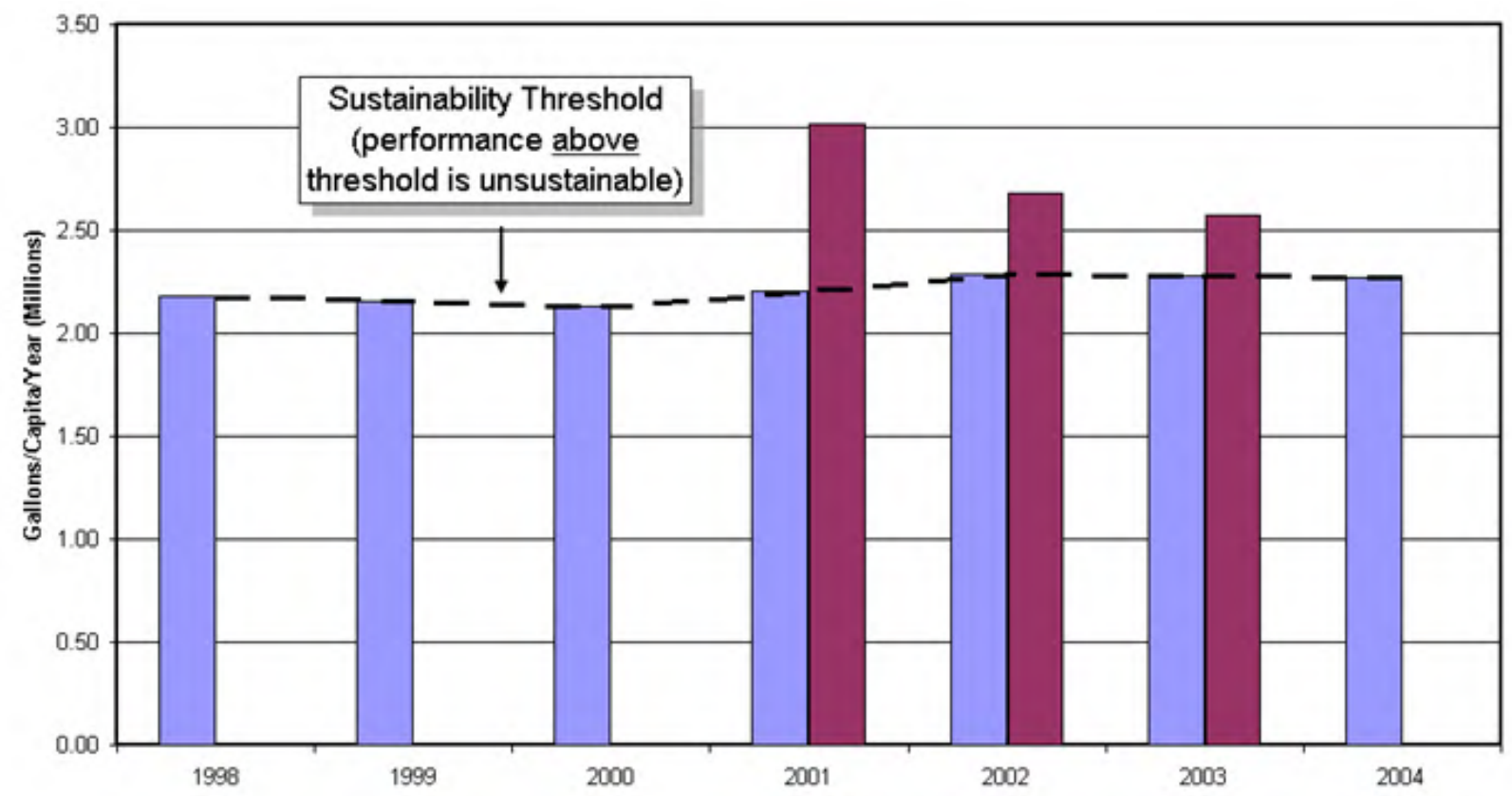
e.g., Water (w/Context)



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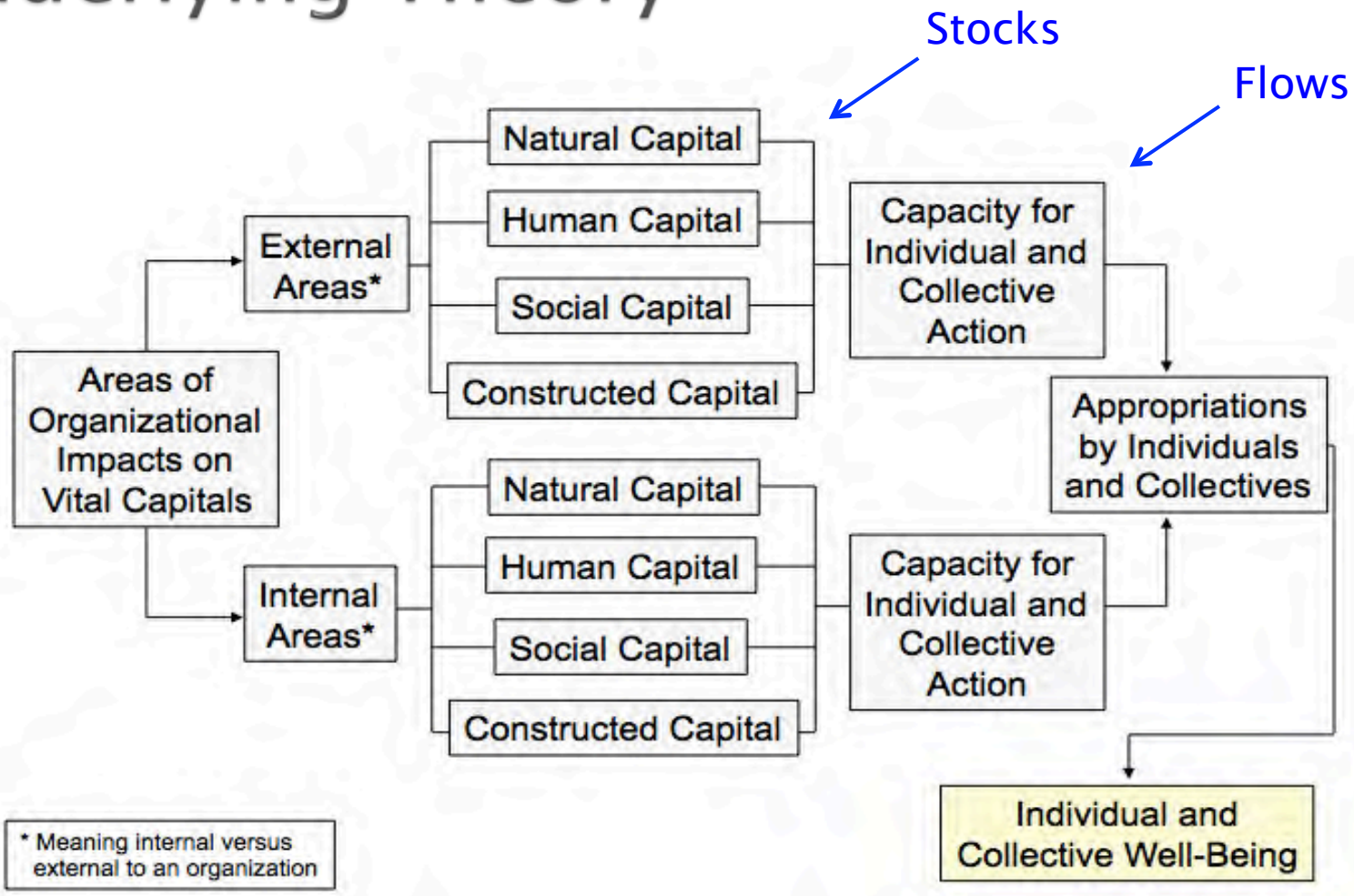
Underlying Theory



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Sustainability Metrics

General Specification for Context-Based Metrics

$$S = \frac{A}{N}$$

(*Actual* impacts on vital capital)

(*Normative* impacts on vital capital)

All scores plot to a quantitative sustainability performance scale and are mathematically manipulable as such

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Sustainability Metrics (cont.)

Sustainability Quotients for Ecological Impacts

$$\text{ecological sustainabitilty performance} = \frac{\text{net actual impact on carrying capacity of natural capital resulting from organizational activity}}{\text{net normative impact on carrying capacity of natural capital resulting from organizational activity}}$$

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Sustainability Metrics (cont.)

Sustainability Quotients for Social Impacts

$$\text{social sustainabitilty performance} = \frac{\text{net actual impact on carrying capacity of anthro capital resulting from organizational activity}}{\text{net normative impact on carrying capacity of anthro capital resulting from organizational activity}}$$

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Conceptual Framework for Metrics

AOIs* \ TBL		Environmental	Social	Economic
Natural Capital		√		
ANTHRO CAPITAL	Human Capital		√	√
	Social Capital		√	√
	Constructed Capital		√	√

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Bottom Line Type	#	Area of Impact (Capital Stock Type)*	Nature of/Basis for Denominator, e.g.
Environmental	1	Water (N)	Location-specific by watershed (USGS)
	2	Solid Waste (N)	Location-specific by landfill capacity
	3	Non-GHG Air Emissions (N)	Federal and state requirements
	4	Land/Habitat (N)	Do no harm (zero tolerance)
	5	Life/Biodiversity (N)	Do no harm (zero tolerance)
Social	6	Climate Change Mitigation (H, S, C)	GHG stabilization scenario
	7	Internal/External Social Programs (S)	Various, TBD
	8	Internal/External Infrastructure (C)	Various, TBD
	9	Direct Human Impacts (H)	Do no harm (zero tolerance)
	10	Direct Social Impacts (S)	Do no harm (zero tolerance)
	11	Direct Infrastructure Impacts (C)	Do no harm (zero tolerance)
Economic	12	Livable Wage (H)	Local standards
	13	Work/Family Balance (H, S)	e.g., FTE = ≤ 1.2
	14	Direct Human Impacts (H)	Do no harm (zero tolerance)
	15	Direct Social Impacts (S)	Do no harm (zero tolerance)
	16	Direct Infrastructure Impacts (C)	Do no harm (zero tolerance)

N = Natural Capital
H = Human Capital
S = Social Capital
C = Constructed Capital

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Proof of Concept (cont.)

Context-Based Water Metric Commercially Deployed

Corporate Water Gauge™

General Mechanics, Inc. - Main Plant
Water Sustainability Report - 2007

Quotient Scores

ANALYSES AT SUBBASIN LEVEL 4	Score	
Economic		
Numerator / Denominator = 13,542,813 / 550,212,817 =	0.025	= Sustainable
Per Capita		
Numerator / Denominator = 13,542,813 / 55,229,092 =	0.245	= Sustainable
Intensity		
Numerator / Denominator = 13,542,813 / 54,111 =	250.278	gallons per lb

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Proof of Concept (cont.)

Context-Based Climate Metric
Commercially Deployed

Ben & Jerry's Global Warming Social Footprint 2005-2007

	2005	2006	2007
Reference figure: B&J Full-Time Employees	505	514	508
B&J Total Number of People Feet[1]	129	127	125
Global Population (Billions)[2]	6.470	6.549	6.628
Global Population Indexed to 2005 Baseline	1.000	1.0122	1.0244
Carbon Emissions Required to Stabilize CO_2 at 350ppm: The Denominator			
Maximum Annual Global Emissions Allowed under WRE 350 Scenario (GtC/yr)[3]	7.608	7.571	7.534
Allowable Annual Carbon Emissions Indexed to 2005 Baseline of WRE 350 Scenario	1.0000	0.9951	0.9903
Annual Carbon Emissions Allowed Per Capita/People Foot at B&J Under 350 ppm Scenario based on 2005 Baseline of 11.16 tC/yr/People Foot Reduced for Global Population Growth	11.16	10.97	10.78
Actual Net Carbon Emissions at B&J's: The Numerator			
Actual Annual Carbon Emissions at B&J's (tC/yr)	1,442	1,279	1,274
Net Cumulative Carbon Emissions at B&J's (tC): The Numerator		1,158	2,197
B&J's Global Warming Social Footprint (CO_2 Stabilization-related Only)			
Actual Cumulative Carbon Emissions at B&J's, (tC): The Numerator		1,158	2,197
Cumulative Carbon Emissions Allowed under WRE 350 Scenario, weighted (tC): The Denominator		1,388	2,737
Global Warming **Societal Quotient** Expressed in Cumulative Per Capita/People Foot perspective[4]		0.834	0.803

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Thanks!

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