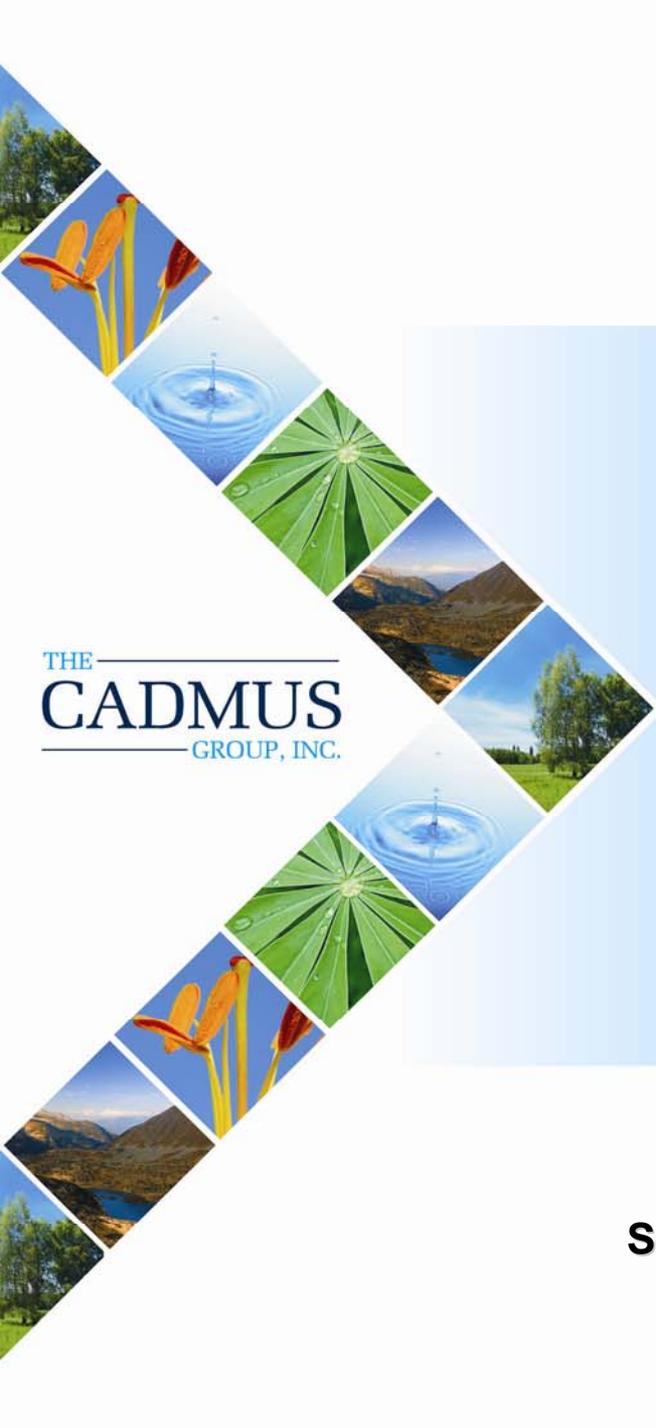


**NIST Workshop on Sustainable  
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THE  
**CADMUS**  
GROUP, INC.

## **Genuine Metrics**

**Using Genuine Savings & the GRI Indices to  
measure Sustainability**

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# The Requirement:

*In addition to measuring regulatory compliance of a firm, a sustainability metric should also:*

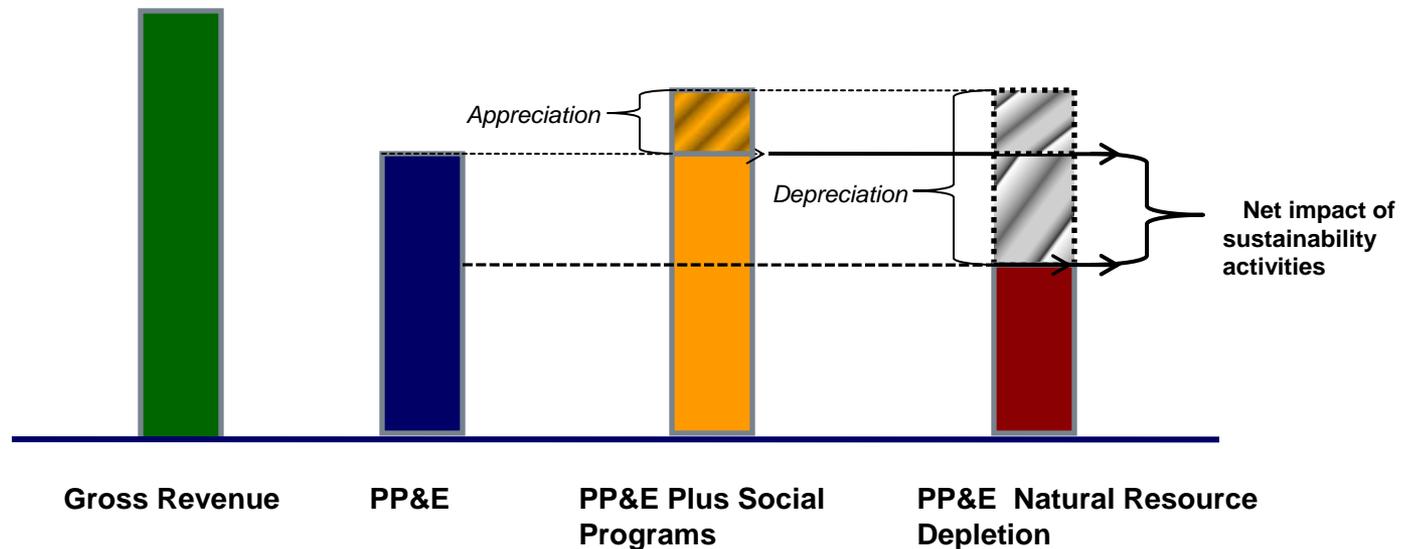
- Report the sustainability of their activities and programs using a single unified measurement.*
- Benchmark their progress over time, contrast performance with competitors or gauge it against industry norms.*
- Compare different sustainability options to enable more effective business decision-making.*

## *Genuine Metrics permits:*

- *Social, Environmental and Financial aspects of sustainability to be expressed using a single metric.*
- *Presenting performance in financial terms to support more effective decision-making.*
- *Use of recognized GRI indices and GAAP.*
- *Use of data already collected to satisfy financial and environmental regulations and GRI reporting.*

# Genuine Savings

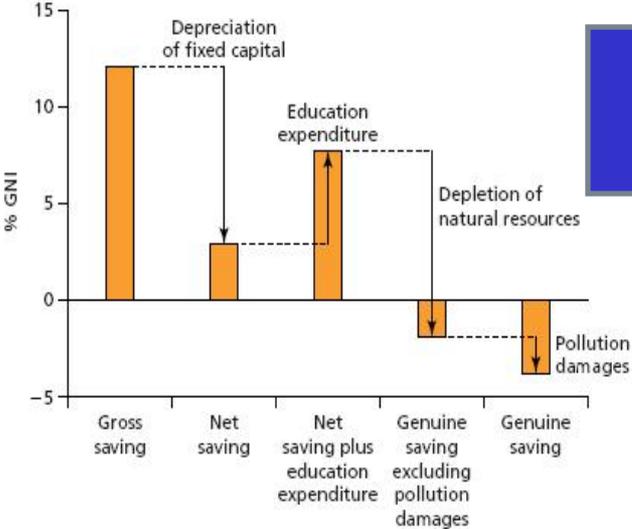
Genuine Savings uses the firm's PP&E as the baseline for its current sustainable base. Sustainability is calculated by adjusting this base for investments in or depletion of social capital and natural capital (resources).



# Synthesis of Genuine Savings & GRI

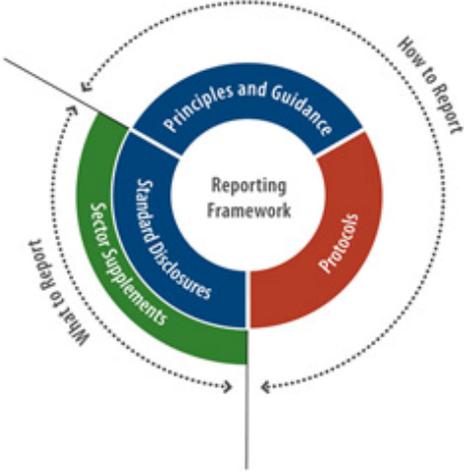


Based on World Bank's "Genuine Savings". Firm's PP&E is a proxy for sustainability.



To translate the Genuine Savings Model into an analytical framework for use at a corporate or operating level, we linked it to the GRI sustainability indices.

G3 Reporting Framework



Genuine Metrics

# Sustainability Categories

## Environment and Energy

- Raw Materials
- Direct/Indirect Energy
- Waste and Emissions

## Employee Programs

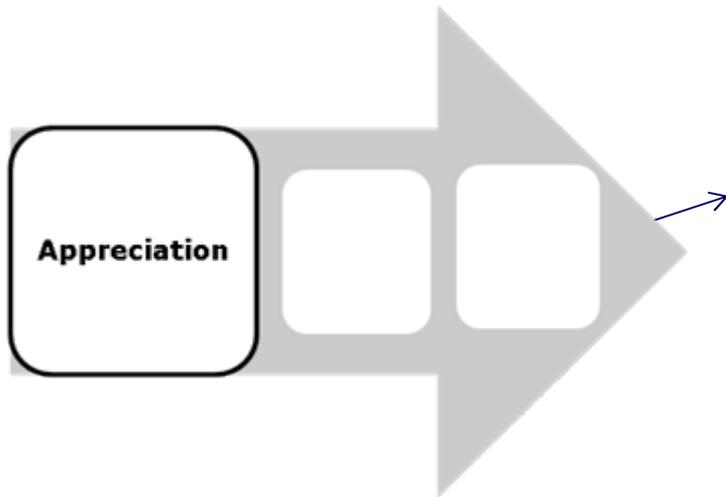
- Employee Training
- Reduction in Absenteeism

## Community Social Activities

- Anti-corruption Training
- Community Investments



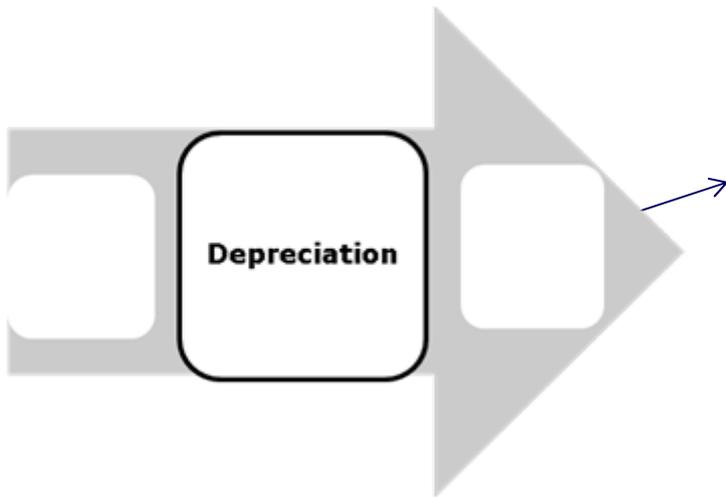
# Outputs Page



The first step is to account for the positive impacts associated with sustainability activities:

- Employee training
- Reduction absenteeism
- Investments in development
- Increased value of physical assets (e.g., increased fertility)

# Outputs Page



The second step is to factor on the negative impacts associated with operational activities as depreciation costs:

- Depletion of natural resources reflects the concept of rent or a depreciation of the asset (environment) measured by the difference in the market price for the resource minus the extraction costs.
- Pollution damage includes the cost of carbon, emissions (i.e., SO<sub>x</sub>, NO<sub>x</sub>), and waste.
- Example conversion factors include Energy Information Agency for fossil fuel costs; European carbon markets for emission values, etc.

# Outputs Page

<b>Genuine Metrics Sustainability Index</b>	
<b>Economic, Environmental, and Social/Human Performance</b>	
<b>Plant 1 - Watertown Office</b>	
<b>Revenues</b>	
Revenues	\$4,840,892.00
Net Revenue	\$4,840,892.00
<b>Costs</b>	
Operating costs	-\$2,993,073.00
Employee wages and benefits	-\$584,290.00
Payments to providers of capital	-\$127,056.00
Payments to government	-\$292,442.00
Community investments	-\$30,128.00
Total Costs	-\$4,026,989.00
<b>Net Operating Income</b>	<b>\$813,903.00</b>
<b>Graphs:</b>	
<a href="#">Natural, Social &amp; Human Capital Appreciation &amp; Depreciation</a>	
<a href="#">Net Impact of Sustainability Activities</a>	
<a href="#">Adjusted Net Income</a>	
Total Direct Energy Rent	-\$25,016.43
Direct Energy Cost of Carbon	-\$12,410.16
Total Indirect Energy Rent	-\$1,097.09
Indirect Energy Cost of Carbon	-\$1,081.15
Total Lumber Rent	-\$560.00
Total Waste Generated Cost	-\$2,564.00
Total Water Consumption Cost	-\$3,630.00
<b>Total Natural Capital Depreciation</b>	<b>-\$46,358.83</b>
Ark Cleanup	\$3,120.00
Hospital Donation	\$1,620.00
Library Donation	\$550.00
Science Fair Sponsorship	\$2,350.00
Other Social Investments	\$1,000.00
<b>Total Social Capital Appreciation</b>	<b>\$8,640.00</b>
Training Costs	\$4,200.00
<b>Total Human Capital Appreciation</b>	<b>\$4,200.00</b>
<b>Sum Net Impact of Sustainability Activities</b>	<b>-\$33,518.83</b>
<b>Final Adjusted Net Income (Net Savings)</b>	<b>\$780,384.17</b>
<b>The Plant 1 - Watertown Office's Final Adjusted Net Income (Net Savings) is 95.88% of its Net Operating Income.</b>	

**Adjusted PP&E**

Office-specific revenues, costs, and net operating income.

Sum natural capital depreciation resulting from direct and indirect energy consumption, paper resources used, waste generation, water consumption, and cost of carbon.

Sum social capital appreciation resulting from social investments.

Sum human capital appreciation resulting from employee training activities.

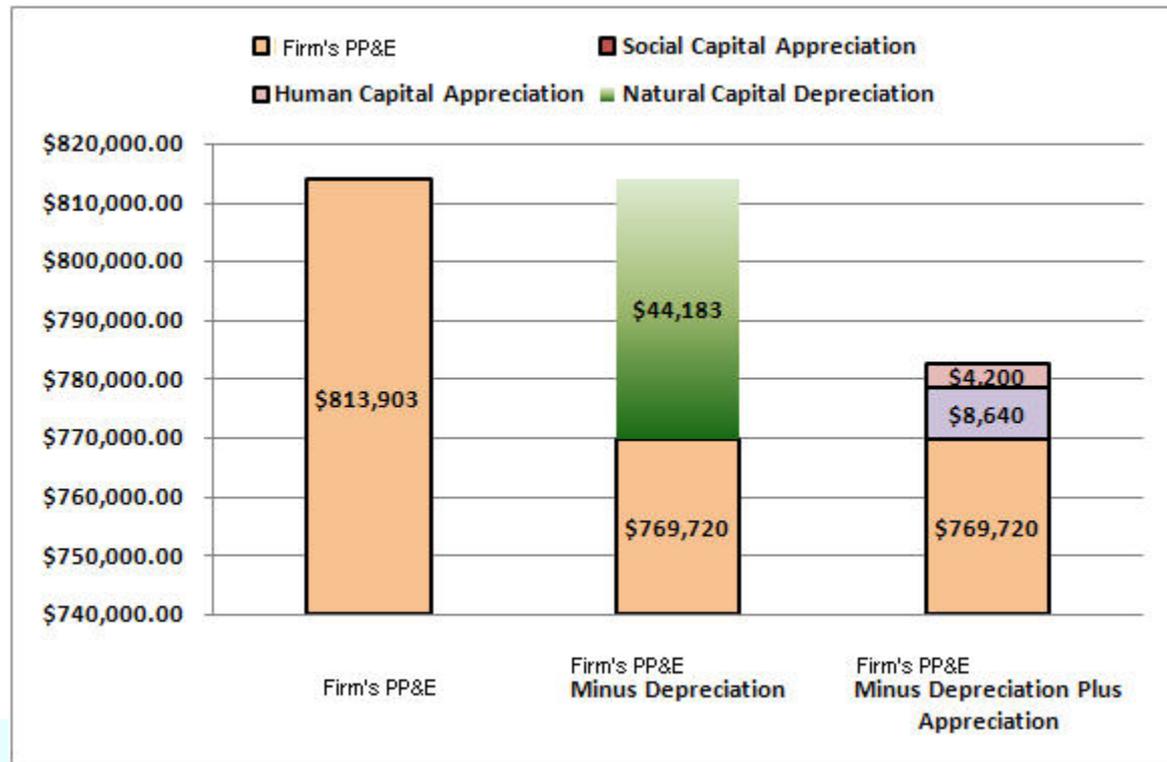
- Sum Net Impact of Sustainability = Sum Natural Capital Depreciation, Social & Human Capital Appreciation

- Final Adjusted Net Income = Sum Net Impact of Sustainability + Net Operating Income

The last step is to adjust the Property, Plant & Equipment (PP&E) upwards and downwards by the appreciation and depreciation costs to find the net impact of sustainability activities.

# Decision-making & Benchmarking

After establishing a baseline PP&E, organizations can evaluate options by adjusting inputs. Aside from reporting compliance, they can benchmark over time, and compare program options.



# Market prices used to approximate sustainable impacts

