



SUSTAINABLE RETURN ON INVESTMENT (SROI) CAN HELP GET PROJECTS FUNDED/APPROVED

This is a time like no other. Decision makers at all levels are challenged to respond to funding opportunities and sort through a myriad of project requests, community dreams and national needs. There is no lack of worthy projects and real needs.

HDR is helping clients sort and prioritize projects based on long-term sustainability and funding eligibility. To help make these tough decisions and determine the "best case" for project success, we have developed proven tools that are part of HDR's Sustainable Return on Investment (SROI) process. Using this approach, organizations are positioning themselves to develop projects and programs that provide economic, social and environmental value, backed by business cases that are "green," transparent and accountable.

"THE ABILITY TO ASSIGN MONETARY VALUES TO THE FULL COSTS AND BENEFITS OF SUSTAINABLE INITIATIVES WILL UNLOCK THE DOOR TO ADDITIONAL PUBLIC INVESTMENT."

Thomas Menino
Four-term Mayor of the City of Boston

SROI Methodology Guides Your Decision Making Process

- Buildings
- Community Values
- Corporate Responsibility
- Emissions
- Energy
- Market Conditions
- Mobility
- Site Development
- Waste
- Water



WHAT IS SROI?

The SROI process accounts for a project's triple-bottom line—its full range of environmental, social and economic impacts. The process builds on best practices in cost-benefit analysis and financial analysis methodologies, complemented by state-of-the-art risk analysis and stakeholder elicitation techniques. The SROI process identifies the significant impacts of a given investment, and makes every attempt to credibly assign monetary value.

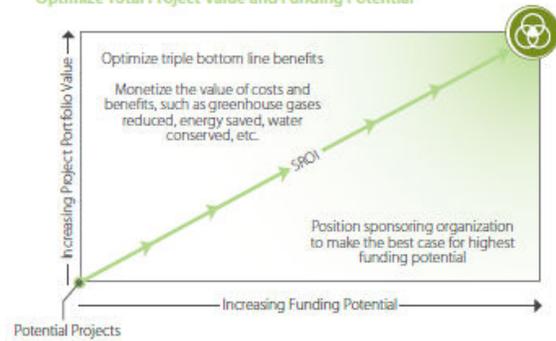
Any relevant impacts that cannot be assigned a monetary value also will be identified, and ideally quantified, by the process. Results are presented in innovative ways that help clients and their stakeholders prioritize projects, better understand trade-offs and evaluate risk.

SROI is a methodology that identifies projects that will best accomplish your goals of choosing projects that optimize the total value of your investment, and positioning your project with the best possible business case for funding.

SROI builds on economic theory to estimate the monetary value of a project through its environmental, social and economic impacts. The process provides decision support to increase the likelihood of project funding by prioritizing sustainable initiative benefits. SROI helps communicate the full value of your sustainable initiative by including not just the direct cash effects, but also the indirect and non-cash effects a project will have on your

organization, as well as the monetary value of the externalities generated—something almost always overlooked in financial assessments. This complete "triple bottom line" view is invariably of great interest to stakeholders.

Optimize Total Project Value and Funding Potential



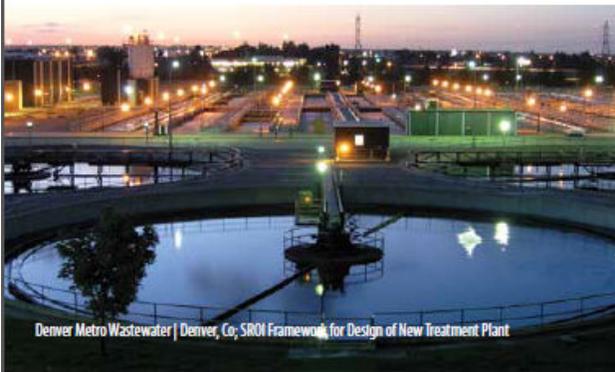
US Army | Fort Belvoir, VA, SROI Analysis of New Hospital Complex

HOW DOES THE SROI PROCESS WORK?

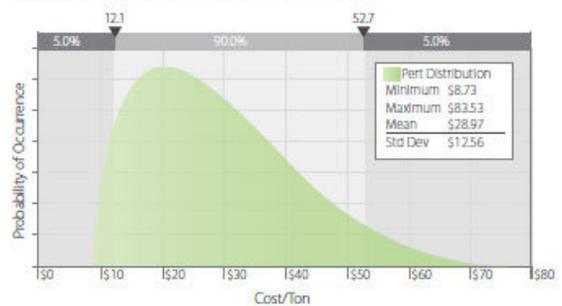
Decisions considering sustainability require more inclusive forecasting of future costs and benefits. Elements such as water quality or CO₂ currently have no tradable value and are not captured by financial return on investment analyses. Assigning monetary value to such elements sometimes involves a high-level of uncertainty. SROI relies on evidence and expert opinions to determine the economic, social and environmental value of investments. Monetary values are determined across a probabilistic spectrum to account for this uncertainty. For example, the divergent perspectives on the value of a ton of CO₂ can be shown as a distribution of potential values. The median value is one that is supported by the U.S. Federal Government. By accounting for uncertainty, greater assurance is realized in the process of identifying the best and highest value projects.

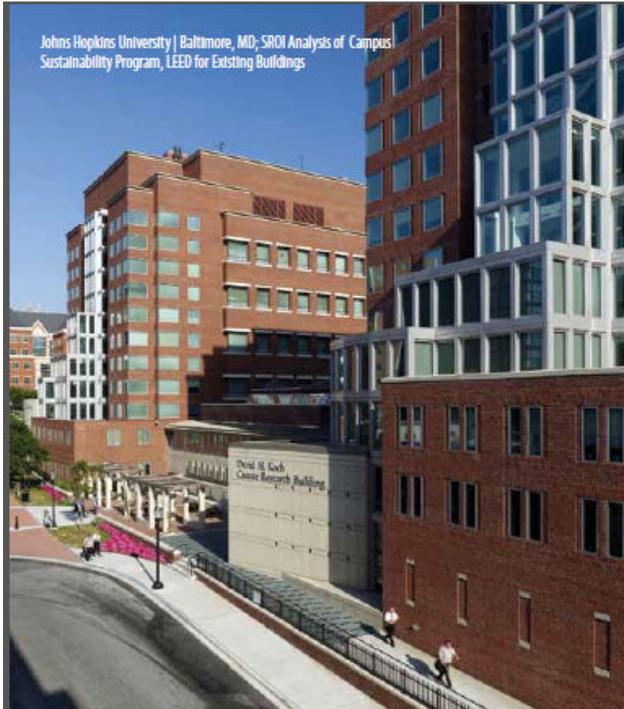


HDR's SROI process involves four distinct steps:



Probability Distribution - Value of a Ton of CO₂





Johns Hopkins University | Baltimore, MD; SROI Analysis of Campus Sustainability Program, LEED for Existing Buildings

"SROI REVEALS THE HIDDEN VALUE IN PROJECTS."

David Lewis, Ph.D.
Chief Economist, HDR Inc.



US Trade and Development Association | Lima, Peru; Economic and Financial Analysis of Municipal Solid Waste Initiatives

SAMPLE OF RECENT SROI PROJECTS

HDR provides leadership for sustainable Initiatives and context sensitive expertise to many clients. SROI has been applied on projects of all scales for design refinement, choosing among project alternatives and ranking projects in a capital plan. The following chart provides recent examples where HDR has applied its SROI methodology across market sectors, such as Architecture, Transportation and Water.

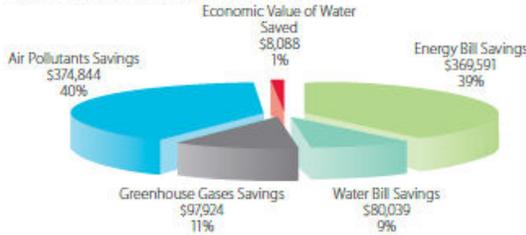
Client	Project
BNSF Railway - Fort Worth, TX	The analysis of the Tehachapi Trade Corridor capacity expansion led to \$54 million in grant funding
Boston Redevelopment Authority - Boston, MA	The city of Boston used SROI to analyze its portfolio of American Reinvestment and Recovery Act funding projects
City of Ottawa - Ottawa, ON	Developed a framework to rank city streets for rehabilitation based on the triple-bottom line costs and benefits
Denver Metro Wastewater District - Denver, CO	Developed a framework to help the district make sustainable decisions on a new wastewater treatment plant
Johns Hopkins University - Baltimore, MD	An analysis was performed on JHU's Campus Sustainability Initiative project to help achieve LEED certification
Metropolitan Transportation Authority - New York, NY	Contributed framework to "The Final Report of the Blue Ribbon Commission on Sustainability and the MTA"
National Park Service - Denver, CO	Developed a framework to help the NPS make sustainable decisions related to their transportation systems
US Army Corps of Engineers - Fort Belvoir, VA	Performed analysis on a new \$1.2 billion community hospital at Fort Belvoir to meet Federal mandates
US Department of Veterans Affairs & US Army - Fort Bliss, TX	Used SROI to help the military make sustainable design decisions on a new \$1.45 billion military hospital
US Trade and Development Association - Lima, Peru	Performed analysis of potential municipal solid waste initiatives for the city of Lima

WHAT YOU GET: SROI OUTPUTS

Organizations are looking for specific evidence of benefits presented in a transparent "green" business case. HDR's SROI process provides decision makers with two sets of data: financial return on investment and sustainable return on investment. With these metrics, decision makers will be able to identify a series of projects that not only pay for themselves, but achieve the highest value.

Output examples include:

1. Distribution of Benefits—Provides a clear distribution of benefits by type (e.g. air emissions, electricity bill savings) and entity (resource users, general public, etc.). This is useful for demonstrating alignment with various funding requirements. In some cases, the results can delineate potential opportunities for public-private partnerships.



2. Sustainable and Financial ROI Comparison—Quantifies financial metrics and provides a comparison between conventional return on investment and sustainable return on investment.

SROI		
Output Metric	Value	Notes
Annual value of benefits	\$930,485	Total value of benefits in one year
Energy bill reduction	369,591	Cash benefit
Water bill reduction	80,039	Cash benefit
Greenhouse gases savings	97,924	Non-cash benefit
Air pollutants savings	374,844	Non-cash benefit
Savings from reduced water use	8,088	Non-cash benefit
Net present value	\$10,194	PV benefits - PV All Costs
Return on investment	27%	Average rate of return on capital investment
Discounted payback period	6	Time in years to positive discounted cash flow
Internal rate of return (%)	23%	Discount rate making NPV = 0
Benefit to cost ratio	3.3	PV benefits/PV all costs
FROI		
Output Metric	Value	Notes
Annual value of benefits	\$449,537	Total value of benefits in first year
Net present value	\$2,660	PV benefits - PV all costs
Return on investment	12%	Average rate of return on capital investment
Discounted payback period	12	Time in years to positive discounted cash flow
Internal rate of return (%)	11%	Discount rate making NPV = 0
Benefit to cost ratio	1.6	PV benefits/PV all costs

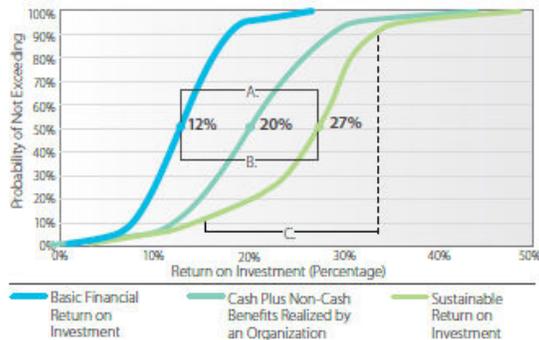
3. Non-Monetary Metrics—Data, such as tons of CO₂ emissions avoided, gallons of fresh water saved and injuries avoided, is useful for setting goals and reporting results.

Environmental	Annually
Tons of CO ₂ emissions avoided	3,943.6
Tons of CH ₄ emissions avoided	0.1
Tons of N ₂ O emissions avoided	0.1
Tons of SO ₂ emissions avoided	14.3
Tons of NO _x emissions avoided	4.4
Tons of PM emissions avoided	1.0
Tons of VOC emissions avoided	0.1
Gallons of fresh water saved	1,640,602
Tons of waste avoided	23
Social	Annually
Number of injuries avoided	1
Hours of productivity saved	16,783
Economic	Annually
Jobs created	2,781
Green jobs created	33
Equivalent barrels of oil saved	11,436

4. Sustainability "S" Curve—Illustrates the difference in value between FROI and SROI. Identifies the increase in net benefits and probability of success.

Using the SROI process allows decision-makers the ability to prioritize worthy—but competing—projects for funding based on the maximum financial and societal returns. In the following example, a project's outcome metrics are synthesized into an intuitive risk analysis model based on return on investment.

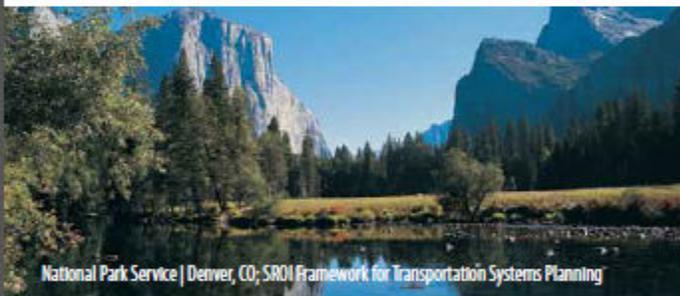
- A. Compare the financial return on investment and sustainable return on investment. In this example, the mean sustainable return on investment is more than double the traditional return on investment.
- B. Evaluate non-cash benefits, such as improvements in employee health and productivity, and the benefits to larger community.
- C. Assess the statistical likelihood that return will fall within an 80 percent confidence interval. In this example, SROI ranges from 15 percent to 34 percent.



06/06/07

HDR is a trusted partner with a track record of success in sustainable architecture, engineering and consulting. We are committed to offering our clients the best possible economic, social and environmental value by delivering integrated sustainable solutions. Our Sustainable Solutions Program includes an Internal Corporate Sustainability Initiative, a Climate Change Initiative and services in the following areas of expertise: buildings, mobility, water, energy, waste, community, site development and sustainable return on investment (SROI).

For more information about SROI, visit www.hdrsroi.com, or e-mail your questions to SROI@hdrinc.com.



www.hdrsroi.com

We practice increased use of sustainable materials and reduction of material use.

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