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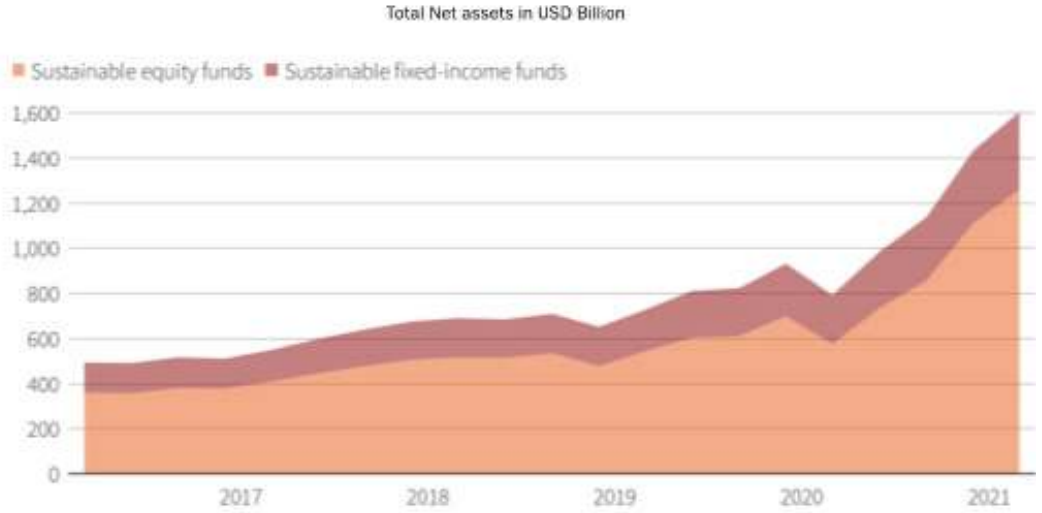
Accelerating the Transition to a Sustainable Future

You don't have to look far for headlines pointing out the need for a more eco-friendly interaction between man and nature, nor are we without frequent reminders that outdated infrastructure is leaving many people in harm's way as catastrophic weather events continue to escalate. Government funding and private investment intended to address this complex challenge are increasing dramatically.

In fact, during COP26, *The New York Times* reported, "Global finance industry says it has $130 trillion to invest in efforts to tackle climate change" which could make achieving Net Zero by 2050 the central focus of finance for decades to come.



Source: Morningstar Direct, Manager Research. Data as of March 2021

MOVING BEYOND ESG

Addressing environmental sustainability is a complex and evolving challenge requiring more than simple checklists completed with readily available data.

As the critical components of change - policy, technology, and regulation - evolve to meet the challenge, our ability to drive funds to the most environmentally beneficial efforts is critical.

It is our belief that we must prioritize environmental benefit using scientific analysis to identify scalable, measurable, repeatable, and contextually material investment opportunities.

But with investment firms racing to meet the demand for "green" investments, the resulting whirlwind of self-identified "green bonds" and "climate strategies" has created a murky pool of options to choose from. Distinguishing which investment opportunities will meaningfully help to get us to this lofty and necessary goal requires a level of scientific knowledge and investment experience few people or firms have, along with the resources to do the required research both prior to investment and at regular intervals for the lifetime of the financed project.

It is essential to understand the derivative impacts of these programs in many domains, including:

- to the environment
- to local economies
- to global social equity
- to geopolitical stability

With no time or money to waste, where should the money and effort go?

What will give us the geometric progression of environmental benefit that we have become accustomed to expecting on the financial benefit side of the investments equation - a compounding of environmental interest over time? This paper considers the option of prioritizing investments in the development of Thick Sustainable Infrastructure.

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What Is Thick Sustainable Infrastructure?

Let's begin by focusing on Infrastructure projects, due to their scale and impact, both positive and negative, on humans and the environment. These are, broadly speaking, carbon emissions reduction, carbon sequestration, water conservation and habitat protection projects and range from transitioning energy production/greening the grid, to sustainable agriculture, with many others in-between. These are the projects that have the greatest potential for doing good, or harm to the environment.

Many of these projects are funded through the Municipal and Corporate Bond Markets.

With our focus on Thick Sustainable Infrastructure development projects, we need to identify which of the available bonds fund projects that are, and will be, the most reliably beneficial to the environment - which sustainable infrastructure projects will result in meaningful, long-term environmental benefit?

Thickness Standards:

- Scalability
- Measurability
- Repeatability
- Contextual Materiality

Putting the environmental benefit first

If we view the environment as finite and use an "E-first" approach, determining that the environmental impact of a project is as beneficial as possible prior to moving to financial and other screens, we prevent the tendency to settle for "good enough".

This, E-first evaluation process centers on assigning a science-based "Thickness" score to each opportunity, where Thickness is a measure of the ultimate environmental benefit – the thicker, the better. Specifically, we need to identify and quantify the expected environmental impacts of each project relative to four basic forms of natural capital: Energy, Water, Habitat, Atmosphere.

Scalability, measurability, repeatability, and contextual materiality are all required to meet Thickness standards for investment.

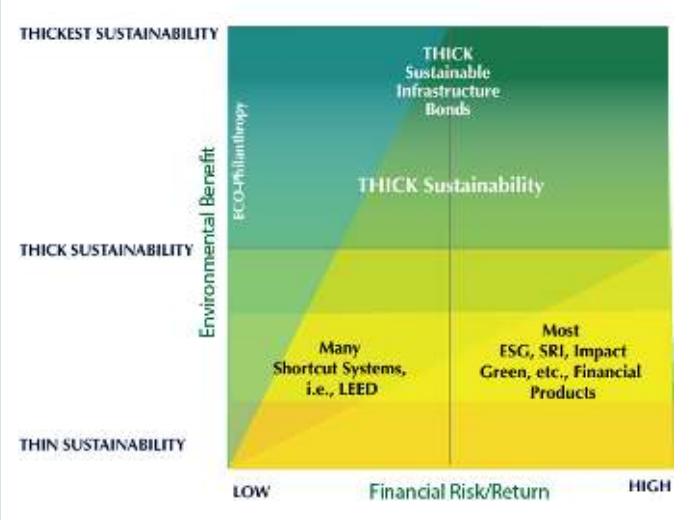
Environmental Analysis
What is impact on Natural Capital?
Does it meet Thickness Standards?

Financial Analysis

Maximizing Environmental Benefit without Changing Risk or Financial Benefit

Whether an investment is "green" or not oversimplifies a complex question. Deep analysis is necessary to identify investments that have (or will have) a measurable positive impact on the environment.

If we seek to accelerate the transition to a sustainable future, prioritizing environmental benefits without sacrificing financial benefits will need to become the goal.



Identifying Thick Sustainable Infrastructure Projects

Thick Sustainable Infrastructure projects and programs fall into two categories under the sustainability umbrella:

1. First, are those that seek to mitigate and adapt to immediate environmental risks and scarcities threatening human life as well as the environment. These are known as **Thick Resilient Infrastructure Projects** – they address the urgent environmental imperatives of our day, the destructive symptoms of climate change, resource depletion, water scarcity and unchecked habitat loss.

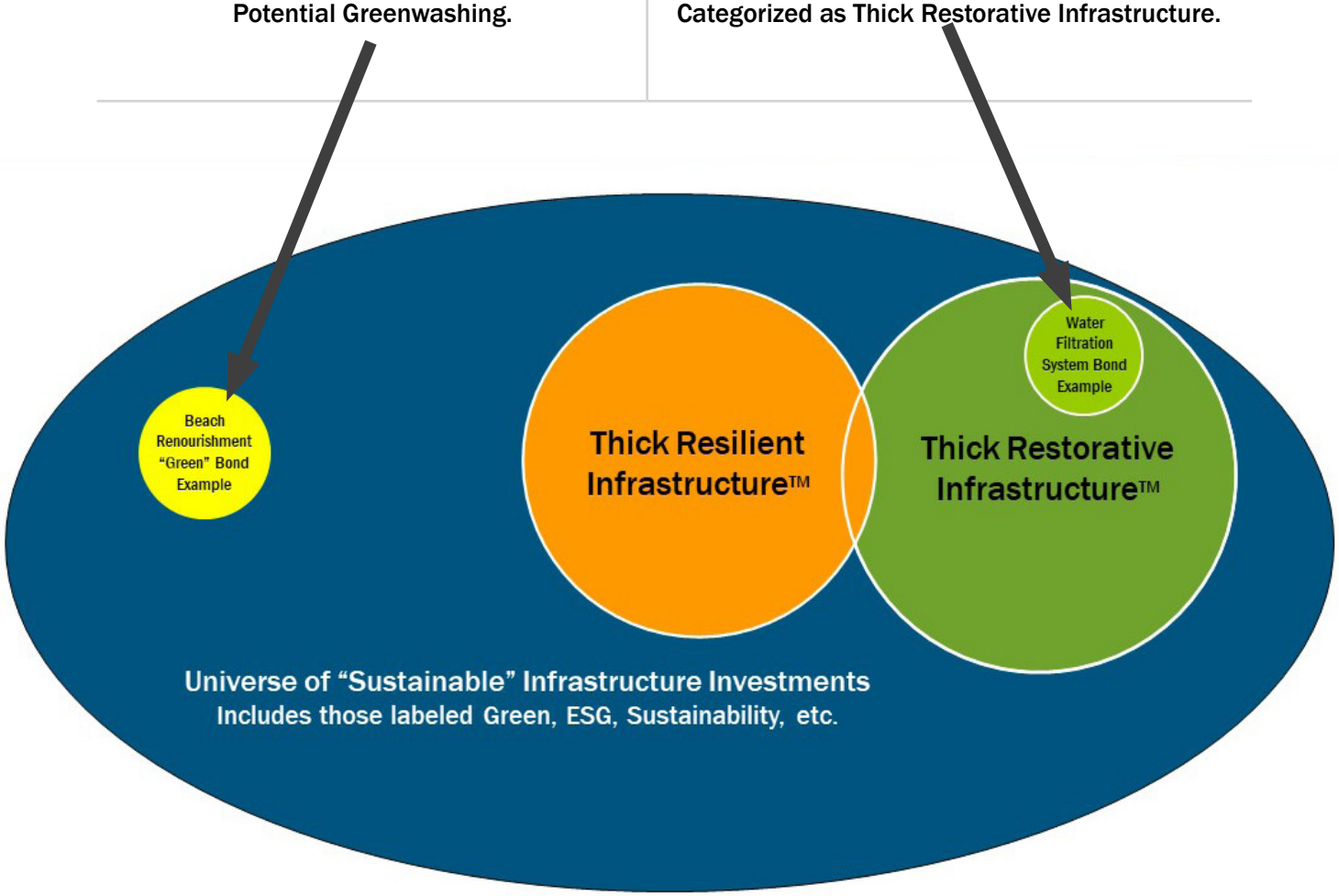
2. And second, are those that seek to preserve and restore natural resources and support a more rapid evolution to a sustainable use of those resources. These projects are known as **Thick Restorative Infrastructure Projects** - long-term investments addressing the root causes of climate change, resource depletion, water scarcity and habitat loss, with the potential to generate inter-generational wealth in both financial and environmental terms.

Once an investment is made, ensuring that proposed environmental outcomes are achieved necessitates ongoing systematic assessment.

Scientific analysis indicates that only a small percentage of "Sustainable" Infrastructure Investments available today meet the Thickness Standards outlined in this paper.

SAMPLE BONDS

Beach Nourishment Green Bond Palm Beach, FL	City of San Diego Water System Bond San Diego, CA
INITIAL ENVIRONMENTAL SCREENS	
Program to replenish lost beach sand Temporary, not perpetual improvement Property value focused Not scalable	Build advanced purification treatment plant Treat recycled water for potable use Strongly positive benefit to cost Highly scalable
Ultimate Environmental Benefit	
Thin **Potential Greenwashing.**	**Thick** **Categorized as Thick Restorative Infrastructure.**



Time, Funding, and Committment

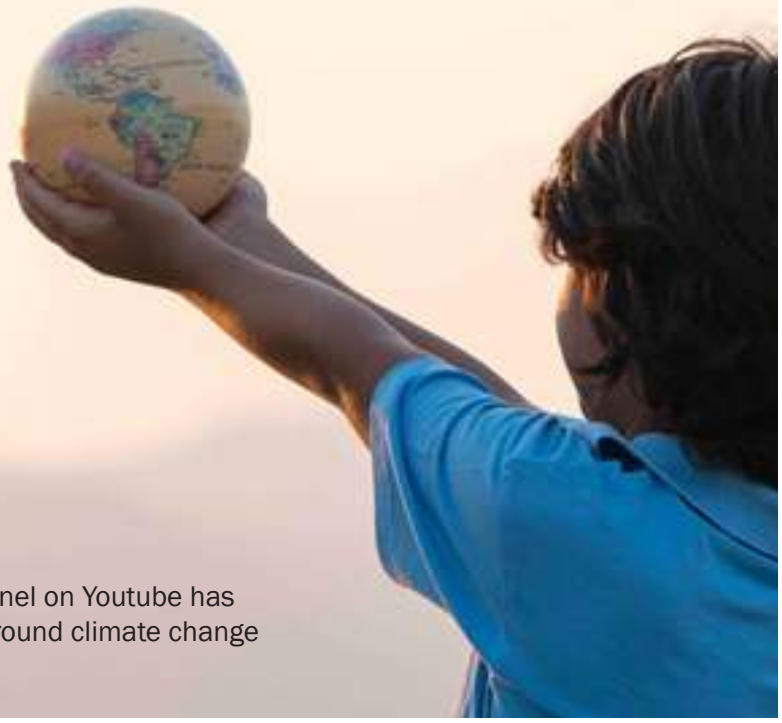
The process of identifying Thick Sustainable Infrastructure Investments is time-consuming and requires a high level of expertise in the quickly evolving science driving the shift to a sustainable future. The rewards for the extra work done to identify Thick Sustainable Infrastructure projects and investments, and monitor them over their lifetime are expected to be:

- Compounding environmental and financial benefit over time
- An accelerated pace of change to a more sustainable future
- Financial efficiency – greater environmental benefit for the investment
- The mitigation of unintended consequences

Prioritizing investments in Thick Sustainable Infrastructure can offer an accelerated path to Net Zero by 2050.

ZCM Sustainability

Committed to accelerating the transition to a sustainable future through investments in Thick Sustainable Infrastructure developments, prioritizing the E in ESG and offering the greatest verifiable benefit to the environment.



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LEARN MORE

Visit: www.zieglercap.com/sustainability

Youtube: www.zieglercap.com/TSIF

The Thick Sustainable Infrastructure Finance channel on Youtube has dicussions and deep dives into the major issues around climate change the and financing of solutions.

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