

# sonen capital

Social & Environmental impact investment management

A collage of various banknotes and coins from different countries, including Brazil (Central Bank of Brazil), Mexico (Banco de México), and Costa Rica. The banknotes feature various designs, including a toucan, a butterfly, and a building. The coins also feature various designs, including a toucan and a butterfly. The collage is overlaid with a semi-transparent dark green rectangle containing the title 'Investing in Conservation'.

## Investing in Conservation

An Assessment of an Emerging Market to Help Save the Planet



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PARA LA CONSERVACIÓN  
DE LA NATURALEZA, A.C.  
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Dear Readers,

We are pleased to provide you with these introductory reading materials in advance of your participation in *“Investing in Conservation: an assessment of an emerging market to help save the planet”* taking place on April 27, 2016 in Mexico City. We are pleased to support the work of Fondo Mexicano para la Conservación de la Naturaleza, A.C. and Confluence Philanthropy, in introducing Mexico’s banking and investment community to the compelling opportunity to deploy investment capital at scale, while driving critical environmental and conservation benefits.

Our intent with this report is to provide a brief overview into key sectors of the global economy in which a conservation and sustainability oriented investment approaches can provide market based investment returns and positive environmental and conservation benefits. In producing this report, we have curated content from a number of Sonen’s industry leading publications. For those interested in the complete versions of the contributing reports and additional information, we have included a list of relevant publications at the end of this presentation.

This report focuses on three areas:

1. Sustainable real assets, specifically sustainable timberland, green real estate, sustainable ecosystems and green infrastructure.
2. The United Nations Sustainable Development Goals, and how they can be used as a framework to target and evaluate the impact of investments.
3. The Divest/Invest movement around fossil fuels.

We trust you will find this report helpful in preparation for the engaging conversations the Conference will stimulate and the inspirational message from Dr. Jane Goodall’s keynote address.

Best regards,

Raul Pomares  
Founder, Sonen Capital LLC  
Member of Confluence Philanthropy

## Introduction to Sustainable Real Assets

**Sustainable real assets** are defined as real assets that incorporate social and environmental sustainability as a way to maximize potential returns. They relate largely to environmental themes including sustainable timberland, agriculture, real estate, land and water ecosystems and infrastructure.

Since the financial crisis in 2008, there has been a growth in interest in real assets investing - in particular, those that generate annual income, as a way to diversify and strengthen portfolios.<sup>1</sup> According to Credit Suisse, the contribution to global wealth from real assets has increased 23% (4.8% per annum) since 2008 and is expected to continue to increase at a rate of 5% per annum.<sup>2</sup> In our view, the tangibility and long-term nature of real assets investments, together with corresponding current income generation are the underlying value drivers of this asset class, and they are the foundational characteristics on which many of the perceived benefits of real assets investing are based.

As the investment sector looks to capture the potential benefits offered by real assets, the investable universe – including both investable deals and other sophisticated strategies – is large and growing. Not only has there been an increase in real assets investors, but new strategies continue to emerge, including those that incorporate social and environmental sustainability as a means to generate “alpha”<sup>3</sup> (alpha is the excess returns of a fund relative to the return of a benchmark index. An alpha of 29 basis points, for example, means that the fund returned 0.29% more than the index) and enhance returns from real assets.

Sustainable real assets strategies share the conventional view that a long-term approach is key to fully realizing the underlying value of real assets while also delivering environmental and social benefits associated with these assets, which we believe can further enhance values. Sustainable real assets strategies are particularly well-suited for investment opportunities that deal in or rely on resource scarcity and the deterioration of vital eco-systems, for both humans and wildlife, as they are intrinsically tied to environmental health. In addition to the above conventional advantages of real assets, investment activity in sustainable real assets is driven by the realization that sustainable management practices are critical to both economic and environmental survival and value creation. This realization is underpinned by a number of deep-rooted, global secular trends related to resource scarcity which, when combined with

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<sup>1</sup> Travato, Elisa (2012). “Market monitor: Asset allocation trends - Financial crisis catalyst for change in asset allocation.” Professional Wealth Management.

<sup>2</sup> Credit Suisse, 2013. Credit Suisse: Research Institute Thought Leadership from Credit Suisse Research

<sup>3</sup> <http://www.investopedia.com/terms/a/alpha.asp?o=40186&l=dir&qsrc=999&qo=investopediaSiteSearch&ad=SEO&ap=google.com&an=SEO>

increasing resource demand – from population growth, urbanization and an expanding middle-class, particularly in heavily populated emerging economies throughout Asia, Africa and Latin America – drives fundamental market-driven opportunities to incorporate sustainable practices into the natural resource and built environmental sectors. We believe returns from investing in real assets can be augmented as a result of the following factors:

- » Industries around the world – particularly those dependent on natural resources – are faced with the challenge of reconciling resource scarcity with the growing demand that comes with increasing populations;
- » Across industries, environmentally and socially responsible resource management practices can reduce costs, increase productivity, and improve the availability, longevity and quality of natural resource systems well into the future, thereby boosting worker health and productivity;
- » There is strong and growing consumer and investor demand for products that are produced sustainably and/or certified;
- » Infrastructure needs – particularly related to renewable energy and natural resource management – continue to outpace the public sector’s ability to satisfy them;
- » The demand for energy sourced from renewable power is growing and will continue to keep pace with population growth, while public policy (including subsidies, tax credits, etc.) and the regulatory landscape continue to establish increasingly stringent targets for the creation of renewable energy and emissions standards; and
- » Public support and corresponding funds for sustainable natural resource management is growing along with market mechanisms through which sustainable investors can monetize the environmental benefits created through long-term conservation and restoration efforts.

Many real assets sectors utilize or rely on a wide variety of natural resources, which creates critical linkage to the broader environmental health and quality of larger eco-systems. For example, productive cropland and subsequent agriculture investments, rely heavily on soil health, quality and conservation as well as the availability of clean water among other factors. Sustainable investing stresses the importance of incorporating sustainable practices to enhance the fundamental value of the underlying investable asset. Because of the long-term nature of many real assets investments, they may provide a well-matched vehicle for interested investors to convert environmentally and socially sustainable practices – the success of which typically depends on patient capital – into financial returns.



## Sustainable Real Assets: A Closer Look

There are a myriad of attractive investment opportunities for investors to generate incremental financial, environmental and social returns when sustainable practices are applied. For the purposes of this report we will explore real assets investment themes of: sustainable timber, green real estate, sustainable ecosystems and green infrastructure. This section takes a closer look at the investing landscape where the inclusion of sustainability could serve to improve financial returns and provide long-lasting sustainable attributes for an increasingly resource-constrained globe. Although they are described separately, these themes are highly interrelated and investments have cross-cutting thematic relevance. For each theme, we define the investment opportunity, briefly discuss the market and provide an overview of how a sustainable approach can generate both competitive and augmented financial returns. The table provided at the end of each subsection serves to summarize what might be included in a typical investment, the overarching investment case, possible investment stages, primary and secondary revenue sources, potential exit strategies and measurable impact outcomes. The tables are meant to provide a starting point to educate the reader; an investment in any of these themes can be highly complex.

### Sustainable Timberland

Traditional timberland values are dependent on a combination of the value of harvestable trees in addition to other underlying value generators, such as development and mineral rights, rights of access and recreational activities and the value of underlying ecosystem services. The value of the harvestable tree stock is highly dependent on the species, quality and size of this inventory. High value hardwoods (e.g., maple, cherry and walnut) destined for furniture and other high-quality, value-added products are typically grown in naturally regenerating forests whereas softwoods species (e.g., pine, fir and spruce) are often grown on re-planted plantations, which serve as the core wood for biomass energy pellets and building materials, such as structural lumber, among other uses. Historically, core timber producing areas have included North America – in particular Canada and the Pacific Northwest, Northeast and Southern US – Australia, New Zealand, Scandinavia, Chile and Brazil. Sustainable investments in timberland seek to capture value based on traditional timber market dynamics – characterized by a relatively fixed supply of timberland combined with increasing demand from timber hungry and supply-

***Sustainable timberland includes investment in forestry operations that sustainably grow, harvest, process and/or distribute timber products, such as logs, lumber, pellets, etc. for use in commercial and residential construction, manufacturing and energy production.***

constrained markets, such as Europe (a region lacking adequate timber resources to be self-sufficient), India and China (countries where forest supply and production is not keeping pace with demand) – while also capturing additional value through the implementation of sustainable forestry management practices [See Figure 1].

Institutional investors have historically invested in timberland resources based on attractive realized returns from the current cash flows generated from forest product sales (e.g., logs, lumber, pellets, etc.) combined with the sale of subdivisions and non-core properties for higher and better use (“HBU”) buyers (such as property developers), who are willing to pay premium prices for such properties. Core value drivers for timber product revenues are timber prices, species and product mix, biological growth and forest management, which can potentially, either add or detract value. Such practices seek to maximize economic value, by optimizing near-term harvestable timber stock, while still maintaining or enhancing the long-term sustainability of these forests and their ecological value. Rather than managing forests to maximize short-term returns, managers employ good silvicultural practices, such as pre-commercial thinning and selective harvests, to optimize long-term value. By doing this, forest managers move away from producing a preponderance of small trees in lieu of producing fewer large trees, which command greater value [see Figure 2]. Additionally, forests that are third-party certified as “sustainably-managed” can potentially realize price premiums and/or ensure higher market interest. Non-timber forest products including the sale of non-timber forest products, hunting and recreation fees, conservation credits, and water and mineral rights can also enhance revenue streams. Furthermore, sustainable timberland investors can sell working forestland conservation easements, which allow timberland owners to continue sustainably harvesting timber, while monetizing their land values (and preserving the sanctity of these timberlands in perpetuity) through the public values inherent in their newly conserved land base.

Timber has long been an attractive diversification vehicle due to high historical Sharpe ratios that are indicative of strong risk-adjusted returns, low correlation to equity markets, opportunities to provide early leverage on upfront investments, favorable tax benefits and/or subsidies, inflation protection and market trends that tends to be more stable and longer-lived, as well as counter-cyclical, to a traditional stock and bond portfolio.<sup>4</sup> We believe this sector is particularly attractive for investors with long-term investment horizons, as it can take decades for trees to grow to an optimally harvestable size. As of roughly 20-30 years ago, timberland investing began to gain more traction amongst institutional investors, and eventually attracted high net worth individuals, pension funds, endowments and other interested parties, that make the sector today a widely accepted and desirable asset class and portfolio diversifier. Estimates

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<sup>4</sup> Weyerhaeuser, Rick. (2005). *An Introduction to Timberland Investment*.

of the total investible timberland universe are approximately \$160 billion worldwide.<sup>5</sup> Of the \$75 billion worth of investable timberland in the US<sup>6</sup>, roughly \$7-8 billion would fall into the sustainability investment niche.<sup>7</sup> Table 1 summarizes the potential strategies that are available and the rationale behind sustainable timber investing.

Figure 1: Global Timber Market Trade Flows<sup>8</sup>



Figure 2: Forest Product Values

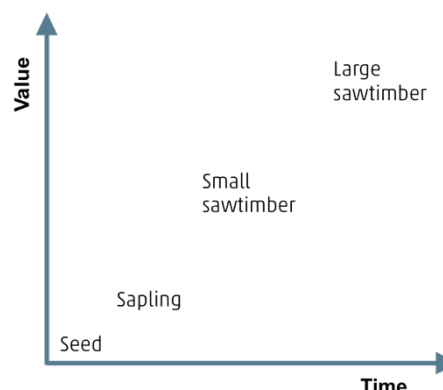


Table 1: Investment Opportunity Summary – Sustainable Timber

Type of Investment	Sustainability Investment Case	Investment Stages	Revenue Sources	Exit Potentials	Measurable Impact
<ul style="list-style-type: none"> <li>Investment in a TIMO<sup>8</sup> or other entity that would purchase plantation or naturally forested land and/or facilities for growing, processing, or distributing timber products</li> </ul>	<ul style="list-style-type: none"> <li>Growing demand for timber products (i.e., from rebounding building markets and biofuels) within which the demand for responsible products is high</li> <li>Environmentally-sound management can maintain and/or enhance timber resources for future use</li> </ul>	<ul style="list-style-type: none"> <li>Sourcing</li> <li>Planting</li> <li>Harvesting</li> <li>Processing</li> <li>Distribution</li> </ul>	<ul style="list-style-type: none"> <li><u>Primary</u></li> <li>Timber product sales</li> <li>Sale of assets</li> <li><u>Secondary</u></li> <li>Hunting and recreation fees</li> <li>Conservation credits</li> <li>Non-timber forest product sales</li> </ul>	<ul style="list-style-type: none"> <li>Sale to other forestry investors</li> <li>Sale to forestry companies</li> <li>Sale to developers</li> </ul>	<ul style="list-style-type: none"> <li>Acres under conservation easement</li> <li>Jobs maintained and supported</li> <li>Number of ecosystem services provided</li> <li><u>Certification</u></li> <li>Forestry Stewardship Certified (FSC)</li> <li>Sustainable Forestry Initiative (SFI)</li> <li>American Tree Farm Systems</li> </ul>

## Green Real Estate

Investment opportunities for green real estate are largely driven by global trends in urbanization and redevelopment, as well as regulatory requirements around increasingly stringent energy efficiency standards, and increased consumer demand for sustainable building attributes. Green real estate investments primarily generate value through the cost savings and

<sup>5</sup> New Forests, 2012. Responsible Investment in the Forest Sector: Recommendations for Institutional Investors [http://www.newforests.com.au/news/pdf/articles/Responsible\\_Investment\\_in\\_Forestry.pdf](http://www.newforests.com.au/news/pdf/articles/Responsible_Investment_in_Forestry.pdf)

<sup>6</sup> Ibid.

<sup>7</sup> Based on information presented in Lyme Timber, 2013. RISI Forest Products and Timberland Investment Conference Proceedings.

<sup>8</sup> TIMO: Timber Investment Management Organization

energy efficiency of heating and cooling systems, lighting, insulation, windows and appliances, solar energy etc. for both renovated and newly constructed buildings.

***Green real estate investing focuses on activities including the construction, retrofitting and management of energy efficient, low GHG emissions, sustainably designed buildings and properties.***

Through the incorporation of sustainable practices, “green building” investors generate higher returns by lowering long-term operating costs and/or charging rental or sale price premiums associated with growing interest in sustainable buildings. As one of the greatest consumers of energy and contributor of dirty emissions, the building sector holds significant opportunity for improvement, which the IEA estimates will require at least USD\$12 trillion of investment by 2050,<sup>9,10</sup> indicating that there are substantial investment opportunities in the sector.

Furthermore, in 2013, the market value for all Leadership in Energy and Environmental Design (LEED) and Energy Star properties – two of the leading green building certifications in the US – exceeded \$128 billion.<sup>11</sup> According to a study produced by Maastricht University and the University of California, Berkeley, LEED or Energy Star certified properties command sale price premiums of about 13% (accounting for property differences and temporal price dynamics).<sup>12</sup> Investments in green real estate may be attractive due to the depth and breadth of opportunities that exist to meet the global needs of future development and growth by incorporating sustainability into the building sector.

Real estate investing, although capital intensive, offers the potential for attractive returns from net cash flows generated during the life of the investment, e.g., from lower operating expenses, rental premiums as well as potential upside from property sales. Green real estate operates similarly except that sustainability principles are incorporated into the value proposition from which investors can access premiums and other favorable incentives associated with sustainable real estate practices. Based on many factors including the risk-return profile at various stages of the real estate development process, investors can decide where and when they choose to invest. When it comes to green real estate investing, this decision will depend upon whether the investments are targeting retrofits or undertaking new ground-up construction activities, among other factors. Table 3 summarizes the various options available to investors along with the rationale for executing sustainable practices as part of green real estate sector.

<sup>9</sup> IPCC 2007 as quoted in UNEP, 2011. [http://www.unep.org/greeneconomy/Portals/88/documents/ger/9.0\\_Buildings.pdf](http://www.unep.org/greeneconomy/Portals/88/documents/ger/9.0_Buildings.pdf)

<sup>10</sup> IEA, 2013. Transition to sustainable buildings : strategies and opportunities to 2050

<sup>11</sup> NCREIF, 2014. Sustainable Summary Report: 2013. [https://www.ncreif.org/public\\_files/SustainableSummaryReport\\_2013.pdf](https://www.ncreif.org/public_files/SustainableSummaryReport_2013.pdf)

<sup>12</sup> Eichholtz, P. Kok, N. and J. Quigley, 2013. The economics of green building. The Review of Economics and Statistics. March 2013, 95(1): 50–63.



Table 3: Investment Opportunity Summary – Green Real Estate

Types of Investments	Sustainability Investment Case	Investment Stages	Revenue Sources	Exit Potentials	Measurable Impact
<ul style="list-style-type: none"> <li>&gt; Investment to construct and/or retrofit sustainable commercial and/or residential buildings and properties</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Green real estate accesses growing markets while offering sale price premiums</li> <li>&gt; Increased efficiencies reduce operating/maintenance costs and may generate rent premiums</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Planning</li> <li>&gt; Construction</li> <li>&gt; Retrofitting</li> <li>&gt; Operations &amp; Management</li> </ul>	<ul style="list-style-type: none"> <li>&gt; <u>Primary</u></li> <li>&gt; Rental rates</li> <li>&gt; Sale of property</li> <li>&gt; <u>Secondary</u></li> <li>&gt; Cost savings</li> <li>&gt; Price premiums</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Sales to individuals</li> <li>&gt; Sale to commercial property buyers</li> <li>&gt; Sale to REITs or other institutional investors</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Energy saved/conserved</li> <li>&gt; Square footage retrofitted with energy efficiency improvements</li> <li>&gt; Percent of properties located in low-income geographies/census tracts or providing services to disadvantaged populations</li> <li>&gt; <u>Certification</u></li> <li>&gt; LEED, Energy Star, National Green Building Standard, BREEAM</li> </ul>

## Sustainable Ecosystems

Healthy, functioning ecosystems can improve resilience to climate change and are the basis for sustainable water resources and food security.<sup>13</sup> When preserved or sustainably managed, landscapes can provide valuable ecosystems that may reduce or eliminate the community's need to build costly infrastructure and water treatment facilities, for example. Investments that conserve high conservation value landscapes, such as wetlands, and/or promote water and land

management practices that seek to maintain or enhance ecosystem services can generate financial value as a result of increased production quality and/or quantity, pricing premiums, operating cost reductions and the incremental payment for ecosystem services (PES). Furthermore, such investments can generate tremendous value through significant and measurable improvements to the environmental health, and quality of life on a local and global scale.

***Sustainable ecosystem investments target landscapes with high conservation value and have objectives to:***

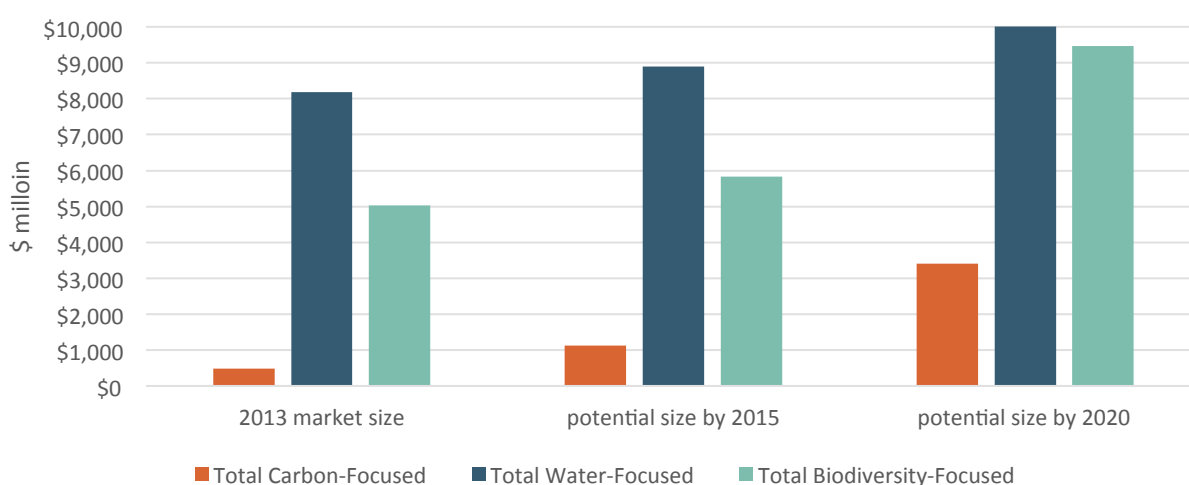
- 1) protect ecosystems with high conservation value, and*
- 2) maintain and/or enhance ecosystem services.*

<sup>13</sup> UNEP, 2013. BUILDING THE ECOLOGICAL FOUNDATION OF FOOD SECURITY  
The Case for Sustainable and Resilient Ecological Food systems in agriculture dominated landscapes in Africa and  
[http://www.unep.org/themes/freshwater/pdf/the\\_critical\\_connection.pdf](http://www.unep.org/themes/freshwater/pdf/the_critical_connection.pdf)

Regional land and water conservation markets are expected to grow substantially over the next several decades, driven in large part by economic growth, changing demographic and consumer demands, environmental stress and increasing natural resource scarcity. Exacerbating these issues, water and land resources are becoming increasingly divided amongst multiple competing end-users including industry, agriculture, mining, power generators, domestic consumers and recreational users all of whom are vying for an increasingly scarce resource. It is estimated that, by 2030, 47% of the global population will be living in areas of high water stress.<sup>14</sup> Land use approaches that serve to regenerate resource availability, and setting aside key properties to facilitate groundwater recharge, can offer one potential solution to address and limit the effects of resource scarcity.

Globally, the private water market is estimated to be about \$220 billion, with an annual growth rate of 4-5%<sup>15</sup>. PES markets continue to develop and mature, creating massive opportunities for investment. The water-focused PES market alone is estimated at just over \$8 billion and expected to grow to over \$11 billion by 2020.<sup>16</sup> When combined with other PES markets – focused on carbon, biodiversity, marine, etc. – total PES market estimates exceed \$190 billion (see Figure 3).<sup>17</sup> It seems increasingly likely that policymakers will continue to attach higher value to the services that ecosystems provide, including flood protection, carbon sequestration and air quality maintenance encouraging further growth of PES markets. Table 4 summarizes the options available and rationale behind sustainable ecosystem-focused investing.

Figure 3: PES Market Size Estimates<sup>18</sup>



<sup>14</sup> World Water Development Report 2012.

<sup>15</sup> S-Network Global Water Indices.

<sup>16</sup> Ecosystem Marketplace, 2013.

<sup>17</sup> Ecosystem Marketplace, 2013.

<sup>18</sup> Data sourced from Ecosystem Marketplace, 2013

Table 4: Investment Opportunity Summary – Sustainable Ecosystems

Types of Investments	Sustainability Investment Case	Investment Stages	Revenue Sources	Exit Potentials	Measurable Impact
<ul style="list-style-type: none"> <li>Investments in high conservation value landscapes to protect, maintain or enhance ecosystem services</li> </ul>	<ul style="list-style-type: none"> <li>PES markets are growing and becoming more sophisticated thereby offering stable revenue streams</li> <li>Resource scarcity is driving the increase in conservation land value</li> </ul>	<ul style="list-style-type: none"> <li>Sourcing and feasibility</li> <li>Acquisition</li> <li>Restoration/Conservation</li> <li>Operations and management</li> </ul>	<ul style="list-style-type: none"> <li><u>Primary</u></li> <li>Sale of conservation credits</li> <li>Sale of assets</li> <li><u>Secondary</u></li> <li>Conservation easements</li> <li>Hunting and recreation fees</li> </ul>	<ul style="list-style-type: none"> <li>Sale to individuals</li> <li>Sale to other institutional investors</li> <li>Sale to public entity</li> </ul>	<ul style="list-style-type: none"> <li>Area of land restored</li> <li>Ecosystem services provided or maintained</li> <li>Area of land under conservation easement</li> </ul>

## Green Infrastructure

The market for green infrastructure is experiencing strong growth driven by both public and private sector demand for renewable energy (e.g., wind, water, solar, biomass, biofuels, etc.) improved energy efficiency, waste-to-energy (WTE), waste management and recycling and water infrastructure. In addition, without improvements in energy efficiency and the corresponding rehabilitation of existing infrastructure assets, preferably through renewable sources, neither public nor private finance can address resource scarcity at the levels needed to keep pace with projected global population growth.<sup>19</sup> The World Economic Forum estimates that infrastructure investments will need to exceed at least \$5 trillion annually to meet the demands of a growing global population by 2030.<sup>20</sup> Additional annual investments of \$0.7 trillion would be needed for the investment activity to help that transition to a “green growth” scenario.<sup>21</sup>

Market demand for power sourced from renewable resources continues to grow globally, particularly in emerging economies, creating what we believe are attractive long-term opportunities for investors around the world. The International Energy Agency (IEA) estimates that renewable generation alone would require \$6 trillion of investment to keep pace with current energy demand projected to 2035.<sup>22</sup> This is likely an underestimate as it does not take into account the growing appetite for renewables and associated investment required to meet increasingly stringent regulatory requirements and still maintain and expand the necessary energy infrastructure to keep pace with population growth. The European Commission

<sup>19</sup> McKinsey Global Institute, 2011. Resource Revolution: Meeting the world’s energy, materials, food and water needs.

<sup>20</sup> World Economic Forum, 2013. The Green Investment Report: The ways and means to unlock private finance for green growth. [http://www3.weforum.org/docs/WEF\\_GreenInvestment\\_Report\\_2013.pdf](http://www3.weforum.org/docs/WEF_GreenInvestment_Report_2013.pdf)

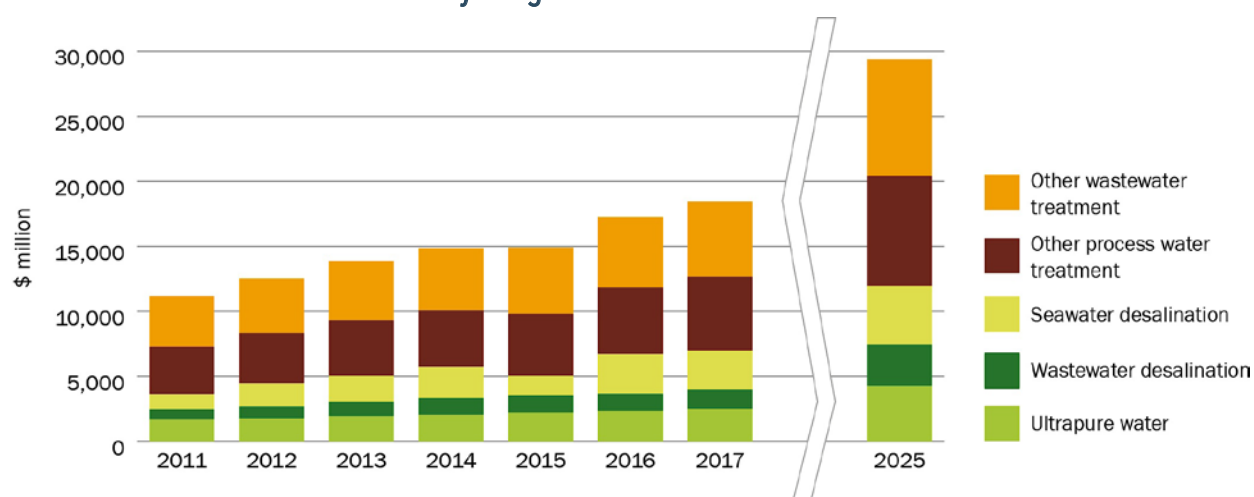
<sup>21</sup> Ibid.

<sup>22</sup> IEA, 2014. <http://www.iea.org/newsroomandevents/pressreleases/2014/june/name,72035,en.html>

estimated that Europe's energy infrastructure alone would require €1 trillion worth of investment for 2011-2020.<sup>23</sup>

The diversion of waste from landfills to WTE and recycling facilities is also expanding around the world representing additional opportunities for green infrastructure investors. The municipal solid WTE market alone is currently estimated to reach \$29 billion by 2016, driven in large part by the need to upgrade existing and established WTE plants.<sup>24</sup> As landfills reach capacity and as energy needs increase in step with population growth, there are increasing opportunities to satisfy needs with alternative energy production from waste. Water infrastructure is another area where significant investment is needed. Driven by the constraints on water resources previously described, growing water demand is expected to stimulate an estimated \$22 trillion in global water infrastructure investment over the next few decades<sup>25</sup> while the global desalination market is expected to more than double between 2011 and 2025.<sup>26</sup>

**Figure 4: Industrial Desalination and Water Reuse Market; Global Industrial Waste Recycling and Services Market<sup>27</sup>**



Source: Global Water Intelligence

Private sector investors have the opportunity to invest at various phases of the infrastructure project lifecycle, all of which have their own risk/reward profiles. Investors must assess their optimal opportunity based on many factors, including risk-reward preferences. Those who provide development equity and enter at the project concept/feasibility stage, will have a different risk profile than those who choose to invest at a later stage, once the facility is fully

<sup>23</sup> Office of the European Union, 2011. Energy Infrastructure.

[http://ec.europa.eu/energy/publications/doc/2011\\_energy\\_infrastructure\\_en.pdf](http://ec.europa.eu/energy/publications/doc/2011_energy_infrastructure_en.pdf)

<sup>24</sup> Frost & Sullivan, 2013. <http://www.frost.com/prod/servlet/press-release.pag?docid=287665623>

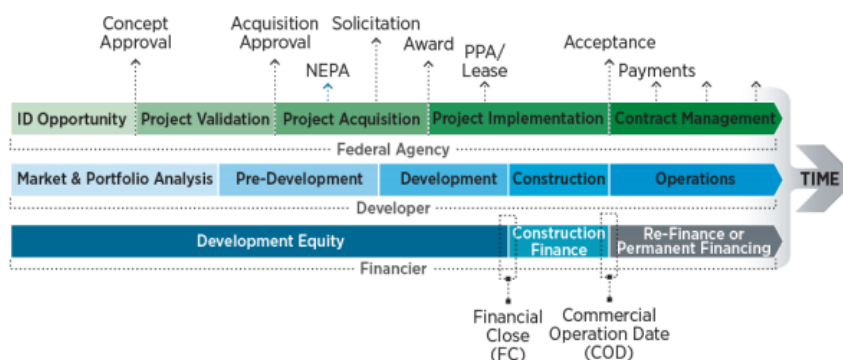
<sup>25</sup> KBI, 2013. Referencing Jacobs Securities, Global Water Primer, April 2011, referencing Booz Allen Hamilton

<sup>26</sup> Global Water Intelligence 2012.

<sup>27</sup> Source: Frost & Sullivan, TEKES Growth Workshop in Helsinki on 2nd October 2012.

operational and generating current income. Figure 5 provides an example of how private capital can finance infrastructure projects at various points along the life-cycle of an energy generation project.

Figure 5: Energy Project Development Process<sup>28</sup>



In recognition of the critical role private capital can play in meeting infrastructure needs, governments are developing favorable regulatory frameworks and policy environments to attract private-sector investors and make such opportunities particularly lucrative. The essential nature of the services provided by infrastructure assets, the scale of investment required and the fundamental improvements in regulatory environments offer a diversity of attractive investment opportunities. Through the incorporation of a sustainability perspective, investors can access growing infrastructure needs to facilitate the generation and use of renewable resources and reduce operating and future maintenance costs, thereby generating enhanced returns based on operating cash flows and/or asset sales. Table 5 provides a summary of the options available and the rationale for investors interested in capitalizing on the green infrastructure investment opportunity.

<sup>28</sup> <http://www1.eere.energy.gov/femp/pdfs/largeregguide.pdf>



Table 5: Investment Opportunity Summary – Green Infrastructure

Types of Investment	Sustainability Investment Case	Investment Stages	Revenue Sources	Exit	Measurable Impact
<ul style="list-style-type: none"> <li>&gt; Investments in construction and/or operation and management of infrastructure needed to generate and/or facilitate transmission and distribution of renewable and recycled resources, including energy, waste, and water</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Strong and growing political support, regulatory requirements, and consumer demand for recycling programs and clean power, particularly in emerging markets where power can be generated for local consumption</li> <li>&gt; There are extreme infrastructure challenges to meeting the demand for renewable energy, as well as to manage water and waste resources</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Feasibility</li> <li>&gt; Permitting</li> <li>&gt; Construction</li> <li>&gt; Retrofitting</li> <li>&gt; Storage</li> <li>&gt; Operations and management</li> </ul>	<ul style="list-style-type: none"> <li>&gt; <u>Primary</u></li> <li>&gt; Fixed payments from end user (e.g., water districts) based on contract (e.g. PPA)</li> <li>&gt; Sale of physical assets</li> <li>&gt; <u>Secondary</u></li> <li>&gt; n/a</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Sale to public user (e.g. utility, water district, municipality)</li> <li>&gt; Sale to another private provider</li> <li>&gt; Sale to another institutional investor seeking current cash yield (e.g., pension funds, insurance companies)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; MWh generated through renewable sources</li> <li>&gt; GHGs offset through renewable production</li> <li>&gt; Waste and/or water recycled</li> <li>&gt; Certifications: AWS International Water Stewardship Standard, US Federal Water Efficiency Requirements, GHG Protocol Accounting Standard</li> </ul>

## A New Framework for Impact Measurement

Beyond the financial investment case laid out in the previous section, an inherently linked objective of investment in sustainable real assets and conservation finance are tangible positive environmental outcomes. However, because historically the impact investment field has struggled to develop widely accepted and consistent terminology for underwriting criteria and reporting non-financial results, there has been a degree of ambiguity around how to measure and articulate impact outcomes.

We believe an important step in helping clarify this ambiguity is the United Nations Sustainable Development Goals (SDG's) adopted in September of 2015 (we elaborate further on the SDGs below). The SDG's provide third party recognizable objectives that allow investors to have a common understanding when to targeting and evaluating their impact investments. Additionally, the investment requirements delineated to achieve the SDG's objectives are on the order of several trillions of dollars per year, which we see as an opportunity to scale capital for competitive financial returns and meaningful positive social and environmental impact.



The 17 SDGs provide an international call to action to achieve global sustainable development by 2030. The 2030 Agenda for Sustainable Development<sup>29</sup> is intended to mobilize public and private sector resources, calling explicitly on businesses and the private sector to:

1. Apply creativity and innovation to solve the sustainable development challenge;
2. Decrease the negative impact corporations have on sustainability; and
3. Increase the private sector's positive contribution to the sustainable development agenda.

Most significant to impact investors, the Agenda includes a specific call to action for the private sector to advance sustainable development by minimizing the negative impacts of business operations, and to increase the positive contribution that private capital can make through goods, services and responsible business practices.

The SDGs explicitly acknowledge that the private sector must be a part of the drive to sustainability, and in our view, these same sustainable development challenges present significant market opportunities for companies to deliver solutions relating to climate change, energy efficiency, transportation, reducing waste, water scarcity, resource scarcity and reducing poverty.<sup>30</sup>

Now, more than ever, carefully tailored investment strategies can play an instrumental role in addressing specific large-scale global challenges, and such investments can be measured and evaluated not just for financial performance but for their contribution to specific impact objectives.

*"As the SDGs form the global agenda for the development of our societies, they will allow leading companies to demonstrate how their business helps to advance sustainable development, both by minimizing negative impacts and maximizing positive impacts on people and the planet."*

*- SDG Compass Guide*

<sup>29</sup> <http://sdgcompass.org>

<sup>30</sup> *ibid*

## Real Assets Investment for the Sustainable Development Goals



**SDG 7 (Affordable and Clean Energy)** focuses on access to affordable, reliable, sustainable, and modern energy for all. Impact Targets include:

- Universal access to affordable, reliable and modern energy services
- Increase share of renewable energy in global energy mix
- Double rate of improvement in energy efficiency
- Expand infrastructure in developing countries



**SDG 11 (Sustainable Cities and Communities)** focuses on making cities and human settlements inclusive, safe, resilient, and sustainable. Impact Targets include:

- Ensure access to all for affordable and safe housing
- Access to safe, accessible and sustainable transport systems
- Reduce impact of cities particularly with waste management
- Build sustainable and resilient buildings especially in developing countries



**SDG 12 (Sustainable Consumption and Production Patterns)** focuses on the sustainable management and efficient use of natural resources. Impact targets include:

- Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- Substantially reduce waste generation through prevention, reduction, recycling and reuse
- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle



**SDG 14 (Life below Water)** focuses on the conservation and sustainable use of oceans, seas and marine resources for sustainable development. Impact targets include:

- Taking action for coastal ecosystems restoration and conservation
- Regulating harvesting and end overfishing
- Provide access for small-scale artisanal fishers to marine resources and markets



**SDG 15 (Life on Land)** focuses on protecting, restoring, and promoting the sustainable use of terrestrial ecosystems, sustainably managing forests, combatting desertification, and halting and reversing land degradation and biodiversity losses. Impact targets include:

- Promote the implementation of sustainable management of all types of forests, restore degraded forests and increase afforestation and reforestation globally
- Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

## Invest/Divest

The Divest-Invest initiative is intended to accelerate the transition to a sustainable economy by divesting from the fossil-fuel industry and investing in socially, environmentally and economically responsible companies. By focusing on climate solutions and the need for massive low-carbon investments across industries and business sectors, investors can play a key role in leading this global energy transition.

The transition to a clean energy economy requires a wide range of industrial and commercial solutions across all sectors and industries. The clean energy economy includes multiple business sectors, including power, electricity, waste management, energy efficiency, transportation, manufacturing, as well as food and agriculture.<sup>31</sup>

To date the Divest-Invest movement has pledges of over 500 organizations worth more than \$3.4 trillion pledging. This campaign is calling on investors of every stripe - from sovereign wealth funds to institutional endowments and retirement fund holders - to divest from the fossil fuel industries deepening the climate crisis and invest instead in climate solutions.

For more information please visit: <http://divestinvest.org>

## Stranded Assets

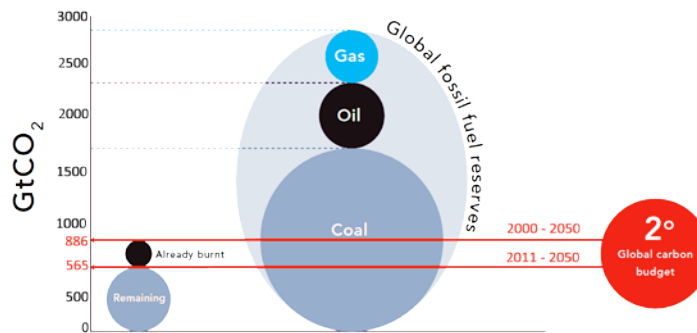
Concerns over climate change focus attention on a possible “carbon asset bubble” in which billions of dollars worth of fossil fuel reserves (driving energy companies’ market valuation) may be precluded from extraction and thus become “stranded”. Investors with exposure to energy companies are thus exposed to considerable portfolio risk should their reserves no longer form the basis for their financial valuation.

The total CO<sub>2</sub> potential of the earth’s proven reserves is nearly 3000 GtCO<sub>2</sub>. 65% of this total is from coal 22% from coal and 13% from gas. If the world is to remain below 2°C warming and avoid catastrophic climate change (i.e. the “global carbon budget”), only one-fifth of these proven reserves can be used by 2050 (See Figure 6).

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<sup>31</sup> [Divestinvest.org](http://divestinvest.org)

**Figure 6: Comparison of the Global 2° C Carbon Budget with Fossil Fuel Reserves CO<sub>2</sub> Emissions Potential<sup>32</sup>**



### Evaluating carbon exposure in investment portfolios

Investors may consider reducing exposure to the potential carbon asset bubble and distance portfolios from additional exposure to related energy activities. As a complement to divesting from fossil fuels, investors also can consider investing in the clean energy economy. The transition to a clean energy economy requires a wide range of industrial and commercial solutions across all sectors and industries. The clean energy economy includes multiple business sectors, including power, electricity, waste management, energy efficiency, transportation, manufacturing, as well as food and agriculture.

As an example of this work, Sonen's disciplined investment process supports the transition to a low-carbon economy. As a result, companies that are part of the fossil-fuel industry and are currently targeted by Fossil Fuel Indexes<sup>33</sup> for divestment will not be held in our global equity strategy. Consistent with the Divest-Invest Philanthropy<sup>34</sup> campaign, Sonen's public equity positions include explicit exposures to themes in renewable energy, resource and energy efficiency, and low-carbon infrastructure and water (See Figure 7 & 8).

<sup>32</sup> Unburnable Carbon, The Carbon Tracker Initiative. P6.

<sup>33</sup> FossilFreeIndexes.com

<sup>34</sup> DivestInvest.org. Divest Invest Philanthropy is a platform for institutions that calls for fossil fuel divestment and new energy economy reinvestment. Several of Sonen's private foundation clients are signatories to the Divest Invest campaign.



Figure 7: Thematic Impact Breakdown in Sonen's Global Equity Strategy  
(As of 12/31/2015)

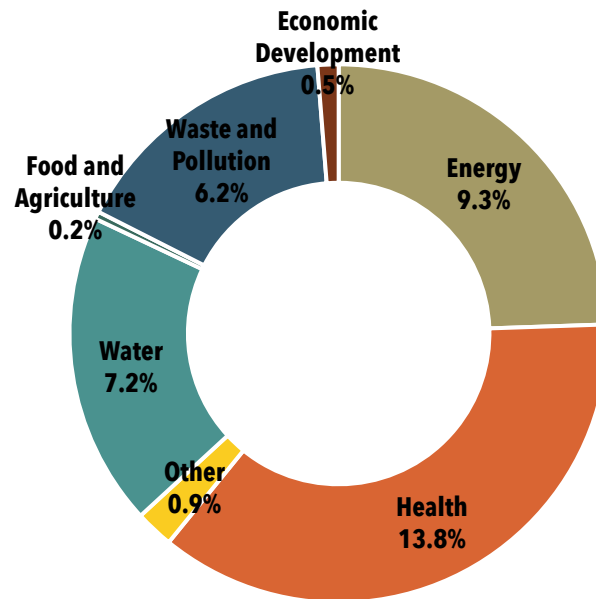
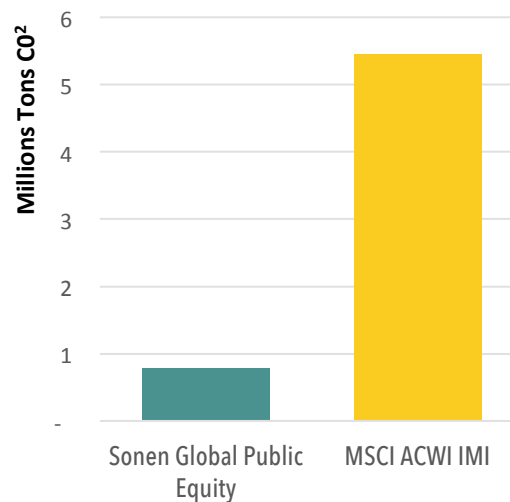


Figure 8: Weighted Total Carbon Emissions FY 2014  
(As of 12/31/2015)<sup>35</sup>



<sup>35</sup> Source Data: MSCI ESG Research 12/31/2015. At the time of publishing, FY 2014 represents the latest available year of data from MSCI ESG Research. Note: The chart reflects available data for the global equity strategy and the MSCI ACWI index. Not every company included in the index reports on carbon emissions.

## Other Resources

**2015 Annual Impact Report:** This report is the first of its kind report that directly links investment strategies to the United Nations Sustainable Development Goals (SDGs). Sonen's globally focused public equity, fixed income and real assets portfolios aim to deliver competitive financial returns while supporting several specific SDGs including climate change, clean energy, water and sanitation, sustainable cities, sustainable timber and green real estate.

**Sonen's Investment Approach to Divestment:** The Divest-Invest initiative is intended to accelerate the transition to a sustainable economy by divesting from the fossil-fuel industry and investing in socially, environmentally and economically responsible companies. Learn how Sonen helps investors play a key role in leading this global energy transition.

**Real Assets Primer:** Since the financial crisis in 2008, there has been a growth in interest in real assets investing as a way to diversify and strengthen portfolios. This primer provides investors and the general public with an introduction to (or update on) the sustainable real assets market.

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## Important Definitions & Disclosures

**MSCI ACWI:** The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 45 country indices comprising 24 developed and 21 emerging markets country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging markets country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

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