

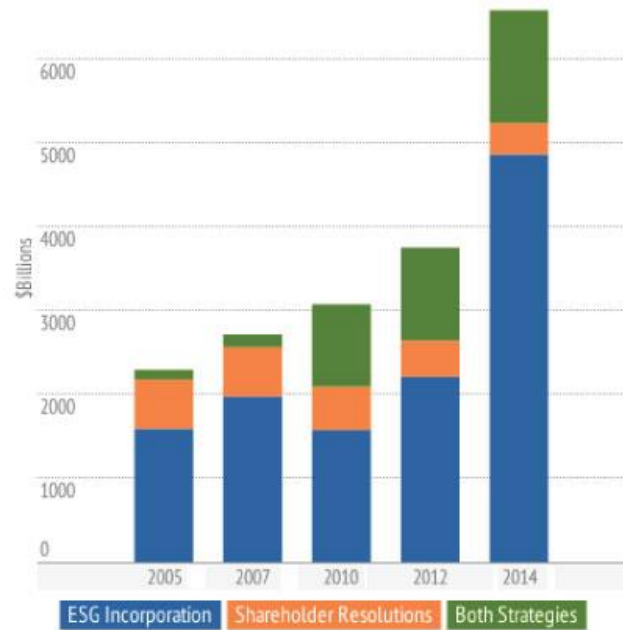
Impact Investing for Climate Solutions

December 1, 2014



Background: Growth of SRI

Growth of SRI 2005–2014



US(SIF)
FOUNDATION
The Forum for Sustainable
and Responsible Investment



Background: The Clean Trillion

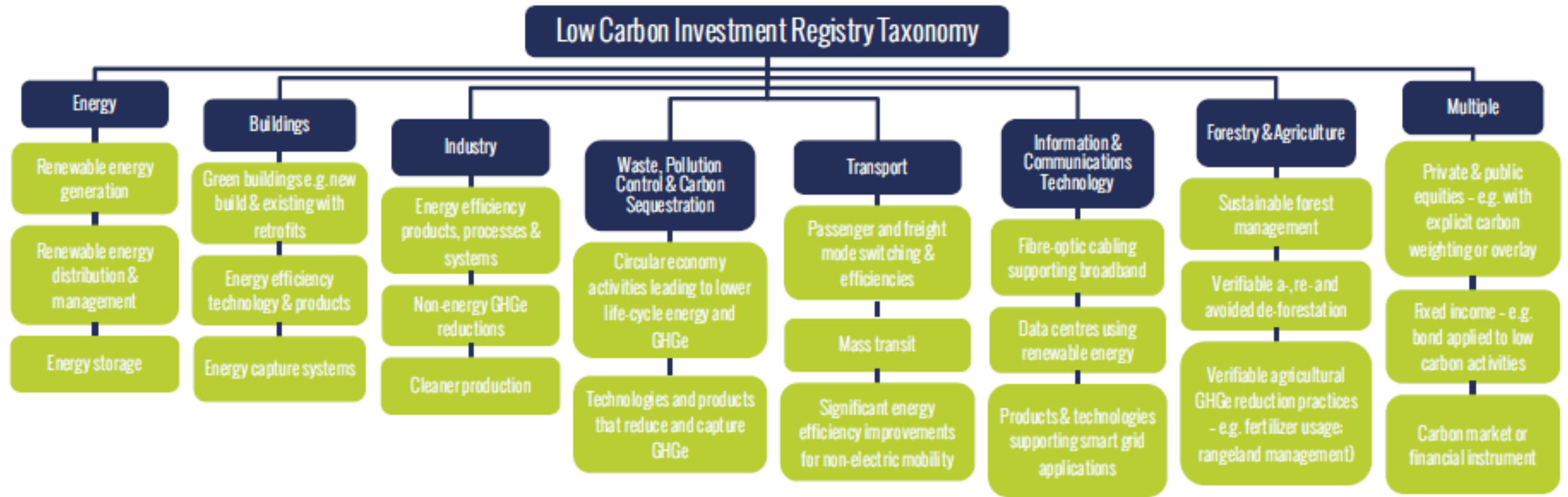
- ▶ The IEA Estimates that \$1 Trillion per year in investments is needed to meet energy demand while keeping Global Warming below 2°C
- ▶ Internationally \$254 billion was invested in clean technology in 2013 and \$286 billion was invested in 2012
- ▶ The Clean Trillion represents both a major investment opportunity and a daunting global challenge.



Clean Trillion: Benefits and Barriers

- ▶ Benefits of Increased Clean Energy Investments:
 - Improved Portfolio Performance
 - Reduced Climate Risks
- ▶ Barriers to the Clean Trillion:
 - Relative Lack of Suitable Investment Vehicles
 - Risk/Return imbalance
 - Lack of Regulatory Support

Defining Low Carbon Investment



Low Carbon v. Climate Solutions

- ▶ Low Carbon investments do not necessarily bridge the clean energy gap.
- ▶ Investments in Climate Solutions include renewable energy, energy efficiency and resource optimization, smart growth and sustainable transportation, and sustainable agriculture and land management.
- ▶ The remainder of the presentation will present Climate Solutions Investment Options Across Asset Classes.

Climate Solutions By Asset Class

- ▶ Asset Classes:
 - Real Estate
 - Private Equity/Venture Capital
 - Public Equity
 - Exchange Traded Funds
 - Mutual Funds
 - Fixed Income
 - Cash and Cash Equivalents
- ▶ Investment options exist for all major asset classes. Returns are generally comparable to traditional investment options. Domestic and International opportunities are available.



Real Estate: Overview

- ▶ Real Estate Climate Solutions include:
 - “Green building; sustainable timber–, farm– and ranchland and nature conservation; brownfield redevelopment...and smart growth and transit–oriented development” (from <http://www.ussif.org/climatereinvestment>)
- ▶ Investment Options
 - Green Real Estate Investment Trusts (REITs)
 - Property and Real Estate Investment Funds

Real Estate Example: Iroquois Valley Farms LLC

- ▶ Formed in 2007, Iroquois Valley Farms was the first socially responsible farmland company in the United States focused on supporting sustainable food production and the mid-size family farmer. Iroquois Valley Farms is committed to preserving farmland, facilitating organic land management practices, supporting local food markets, providing land access opportunities to family farmers and creating values-based agriculture investment opportunities.
- ▶ **Environmental Impact**: Riparian filter and forest buffers, grassed waterways and field borders, cover crops, pasture and perennial grasses, renewable energy projects, certified organic fields, agroforestry practices
- ▶ **Financial Impact**: Initial investors have achieved a valuation at 2.5x money, representing a 16% internal rate of return



Real Estate: Supporting Resources

- ▶ *Energy Efficiency and Real Estate: Opportunities for Investors*
 - (<http://www.ceres.org/>)
- ▶ Green Real Estate Sustainability Benchmark
 - (<https://www.gresb.com/>)
- ▶ An Investment Perspective on Green Building Market Transformation
 - (http://www.huffingtonpost.com/rick-fedrizzi/an-investment-perspective_b_6005614.html)

Private Equity/Venture Capital: Overview

- ▶ Types of Climate Solutions Available:
 - Renewable Energy, Clean Tech, Resource Optimization, Energy Efficiency
- ▶ Investment Options:
 - Clean-Tech Venture Capital
 - Environmental Impact Investing Funds

Private Equity/Venture Capital Example: Physic Ventures

- Physic Ventures is a venture capital fund focused on building “breakthrough technologies, products, and services in health and sustainability” (physicventures.com)
- In the sustainability space, Physic Ventures focuses on Sustainable Lifestyle products and services.
- For example, Physic Ventures is an investor in Energy Hub, a consumer–interfacing Smart Grid product.

Private Equity/Venture Capital: Supporting Resources

► [ImpactAssets 50](#)

- This database of Impact Investment Funds includes many private equity/venture capital funds focused on clean-tech, renewable energy, and other climate solutions
- http://www.impactassets.org/ia50_new/

Public Equity: Overview

- ▶ Public Equities offer the following Climate Solution Strategies:
 - Energy Efficiency, Renewable Energy, Sustainable Agriculture, Transportation.
- ▶ Investment Options:
 - Direct Equities
 - Yield Co's
 - Exchange Traded Funds
 - Mutual Funds

Direct Equity Examples

- ▶ First Solar Inc. – Renewable Energy
 - “First Solar Inc. designs and manufactures solar modules using a proprietary thin film semiconductor technology that is one of the lowest cost in the world.” (<http://investor.firstsolar.com/>)
- ▶ Tesla Motors Inc. – Low-Carbon Transportation
 - “Tesla Motors uses proprietary technology, world-class design and state-of-the-art manufacturing processes to create a new generation of highway capable electric vehicles. We utilize an innovative distribution model based on Company-owned sales and service centers.” (<http://ir.teslamotors.com/>)
- ▶ ABB Ltd. – Energy Efficiency
 - “ABB is a global leader in power and automation technologies. Our solutions improve the efficiency, productivity and quality of our customers’ operations while minimizing environmental impact.” (<http://new.abb.com/about>)

Yield Co Example: NRG Yield

- ▶ A Yield Co is a publicly traded company with a predictable cash flow, paying most of its earnings in dividends. Yield Cos are common in the energy industry, and a number of renewable energy yield cos exist.
- ▶ “NRG Yield is a dividend growth-oriented company formed by NRG Energy, Inc. that owns, operates and acquires a diversified portfolio of contracted renewable and conventional generation and thermal infrastructure assets in the United States. As of June 30, 2014, our contracted generation portfolio includes four natural gas or dual-fired facilities, ten utility-scale solar and wind generation facilities and two portfolios of distributed solar facilities that collectively represent 1,914 net MW.”

<http://investor.nrgyield.com/phoenix.zhtml?c=251846&p=irol-irhome>



Public Equity Fund Examples: ETFs and Mutual Funds

- ▶ Guggenheim Solar Exchange Traded Fund:
 - “The Guggenheim Solar ETF (NYSE:TAN), seeks investment results that correspond generally to the performance, before the Fund’s fees and expenses, of an equity index called the MAC Global Solar Energy Index”
(<http://guggenheiminvestments.com/products/etf/tan>)
 - Top Fund Holdings include Sunedison Inc, Hanergy Thin Film Power Group, First Solar, Inc., Solarcity Corp.
- ▶ Pax World Global Environmental Markets Fund
 - “This global fund seeks long-term growth of capital by investing in common and/or preferred stocks of companies whose businesses, technologies and services drive resource optimization in the environmental markets: energy, water, waste and sustainable food and agriculture.”
(<http://www.paxworld.com/advisors/investment-strategies/pax-world-mutual-funds/global-environmental-markets-fund>)

Public Equity: Supporting Resources

- ▶ USSIF Sustainable and Responsible Mutual Funds Chart
 - <http://charts.ussif.org/mfpc/>
- ▶ List of Green ETFs for Responsible Investment
 - <http://wire.kapital.com/investment-idea/a-list-of-green-etfs-for-responsible-investing/>
- ▶ FTSE Environmental Markets Classification System
 - http://www.ftse.com/products/downloads/FTSE_Environmental_Markets_Classification_System.pdf
- ▶ MSCI Global Clean Technology Index Fact Sheet
 - http://www.msci.com/resources/factsheets/index_fact_sheet/msci-global-clean-technology-index.pdf

Fixed Income: Overview

- ▶ Fixed income, particularly Climate Bonds and Green Bonds, is a growing and increasingly important source of climate finance. \$34.32 Billion in Climate Bonds have been issued so far in 2014, up from \$10.98 Billion in 2013.
- ▶ Climate Bonds may be backed by a number of types of assets and cash flows.
- ▶ To date, Climate/Green Bonds have been issued by Development Banks, Corporations and Corporate Banks, Municipalities and States.
- ▶ Climate Bonds Support:
 - Renewable Energy, Green Buildings, Bioenergy, Green Municipal Development, and Sustainable Forestry, among other climate solutions



Fixed Income Examples

- ▶ SolarCity Solar Bond
 - SolarCity, the largest solar power provider in the US, has begun offering solar-backed corporate bonds to retail and institutional investors, with up to 4% interest.
- ▶ World Bank Green Bonds
 - The World Bank has issued a number of Green Bonds, financing many types of climate solutions.
 - The interest rate and term of these bonds varies widely.
 - Many of these bonds are highly rated, including a number of AAA bonds.

Fixed Income: Supporting Resources

- ▶ Green Bonds in Brief
 - <http://www.asyousow.org/wp-content/uploads/2014/reports/green-bonds-in-brief.pdf>
- ▶ Green Bonds Q&A
 - http://www.asyousow.org/wp-content/uploads/2014/04/greenbonds_qanda.pdf
- ▶ Green Bond Principles
 - <http://www.ceres.org/resources/reports/green-bond-principles-2014-voluntary-process-guidelines-for-issuing-green-bonds/view>
- ▶ Solactive Green Bond Index
 - [http://www.solactive.com/?s=green bond index&indexmembers=DE000SLA0FS4](http://www.solactive.com/?s=green+bond+index&indexmembers=DE000SLA0FS4)
- ▶ Climate Bonds Initiative
 - <http://www.climatebonds.net/>
- ▶ The Greening of the Corporate Bond Market
 - http://twitdoc.com/upload/lisa_nugent/green-bond.pdf



Cash and Cash Equivalents: Overview

- ▶ Community Development Banks and Credit Unions can provide loans for energy efficiency retrofits.
- ▶ Green/Sustainable Banks offer savings products that support alternative energy.



Cash and Cash Equivalents Example: New Resource Bank Impact CD

- ▶ The New Resource Bank Impact CD supports loans to:
 - Solar/Alternative Energy
 - Organic Products
 - Nonprofits
- ▶ Interest on the New Resource Bank Impact CD ranges from 0.5% to 0.55%

Cash and Cash Equivalents: Supporting Resources

- ▶ [Community Development Bankers Association](#)
- ▶ [National Federation of Community Development Credit Unions](#)
- ▶ [Global Alliance for Banking on Values](#)



Further reading and resources

- ▶ Ceres Clean Trillion Report
 - <http://www.ceres.org/resources/reports/investing-in-the-clean-trillion-closing-the-clean-energy-investment-gap/view>
- ▶ Resilient Portfolios and Fossil Free Pensions
 - <http://gofossilfree.org/wp-content/uploads/2014/05/Resilient-Portfolios-and-Fossil-Free-Pensions-ByHIPinvestor-GoFossilFree-vFinal-2013Oct31.pdf>
- ▶ Investing to Curb Climate Change
 - http://www.calvert.com/nrc/literature/documents/SRI_Climate_GuideInstitutional.pdf
- ▶ Institutional Pathways to Fossil Free Investing
 - <http://gofossilfree.org/se/wp-content/uploads/sites/13/2014/07/Rapport-Institutional-Pathways-to-Fossil-Free-Investing.pdf>
- ▶ Green America Resources
 - Greenamerica.org/fossilfree
- ▶ Low Carbon Investment Registry
 - <http://globalinvestorcoalition.org/low-carbon-investment-registry/>

