Perspectives on Sustainable Development Finance

Infrastructure Investment for the 21st Century

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The Global Demand for Infrastructure Investment

US$4.5 trillion is needed annually to fulfill the 17 United Nations Sustainable Development Goals (SDGs) from now until 2030, with a current annual shortfall of US$2.5 trillion. Covering the investment shortfall will require a blended finance approach, recruiting both the public and private sectors. Private investors can contribute by financing the development of revenue-producing assets. In this way, private investors may render a societal benefit, while potentially achieving strong and stable returns and fulfilling their investment mandates.

Given the need for new projects, deferred capital expenditures, and replacement cycles, there is also a tremendous opportunity now to chart a path to a sustainable future. How we decide to plan, site, design, finance, and build infrastructure will have an impact for decades. Investors have particular influence over this process, and can encourage projects that are both economically attractive and environmentally sustainable. Furthermore, we believe it will be impossible to invest in real assets in the future without a rigorous sustainability approach.

While the components of a civil society are as diverse as the UN's SDGs, infrastructure is fundamental to every facet of our economy, environment, and society. As supporters of the SDGs, we encourage you to join us in addressing this investment shortfall.

Source: United Nations, the World Wildlife Fund.

Addressing the Shortfall in Infrastructure Investment

The UN estimates that fulfilling its SDGs will require an average annual investment of US$4.5 trillion. Current investment falls short by US$2.5 trillion.

Infrastructure quality is insufficient in many developing economies.

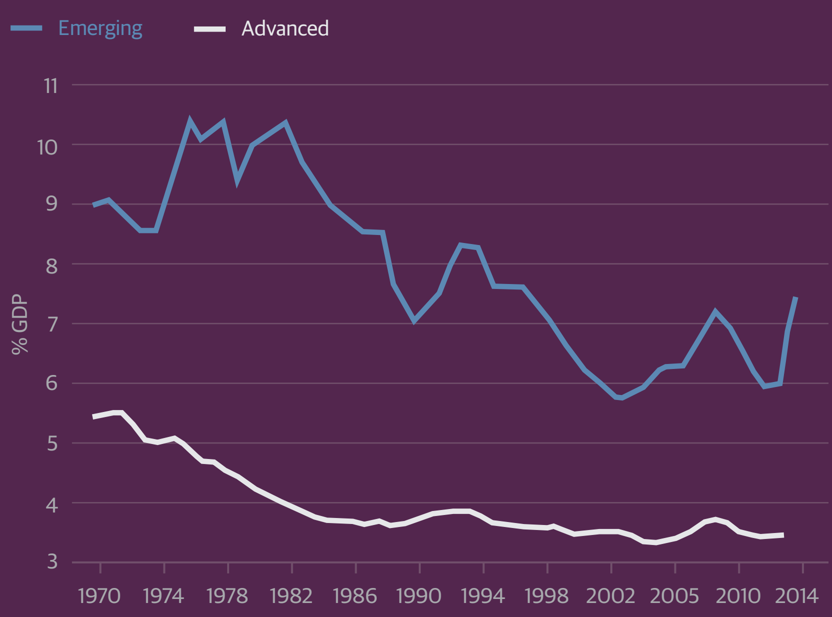
- 663 million people lack access to clean water
- 2.4 billion people lack access to basic sanitation
- 1.2 billion people lack access to reliable electricity

Infrastructure is also insufficient in developing economies, leading to:

- Constrained economic growth
- Inefficient energy production and utilization, resulting in greater carbon intensity
- Degraded quality of life and negative social impacts

Yet real public investment as a percentage of GDP has been declining in developing and advanced economies.

Real Public Investment in Advanced and Emerging Economies



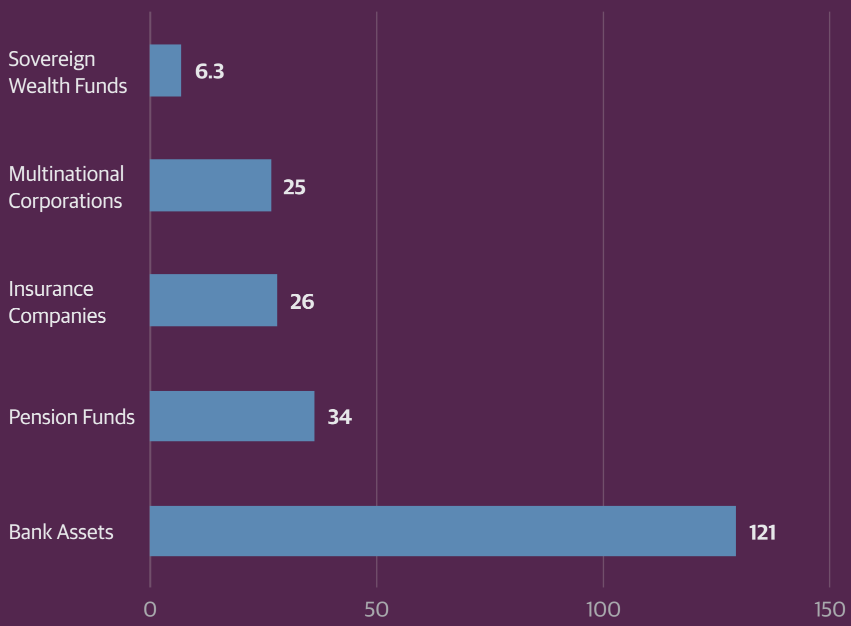
Source: UN, IAEA, IMF, Citi Research, Haver Analytics.

Supply of Investable Capital

The total size of Global Capital Markets is estimated at US$218 trillion. An allocation of just 1.1 percent of institutional assets would cover the US$2.5 trillion infrastructure gap while supporting sustainable development around the world.

Persistent low yields present a significant challenge for investors, and cause capital to seek better returns.

Private Sources of Capital in US$ Trillions



Source: WEF

Infrastructure is key for every UN SDG. Today's decisions will chart our course for decades.

- Infrastructure supports every one of the UN SDGs
- Efficient investment can improve the sustainability of infrastructure. Historically, 60 percent of global greenhouse gases can be attributed to the development and use of conventional infrastructure
- Investment decisions will determine a path towards a sustainable future—or lock in wasteful and polluting structures

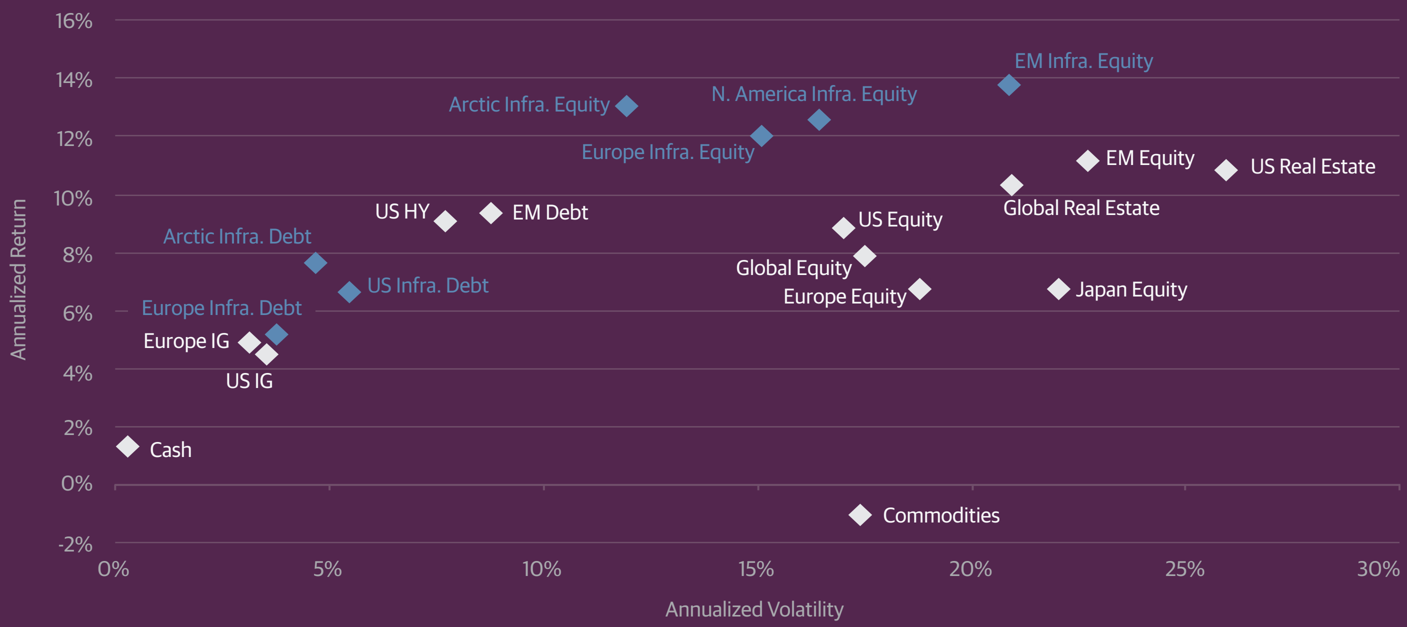
The Business Case for Sustainable Infrastructure

We believe infrastructure investment can help institutional investors reach their goals. Some of the potential benefits include attractive risk-adjusted returns, low correlation to other asset classes, stable cash yield, long-lived physical assets, barriers to entry for competitors, and a measure of inflation protection.

As the following chart illustrates, infrastructure investments may provide attractive returns, often with less volatility than conventional debt and equity vehicles.

Infrastructure Investments Have Provided Attractive Returns, Often with Relatively Low Volatility

Data Range 2003–2016*

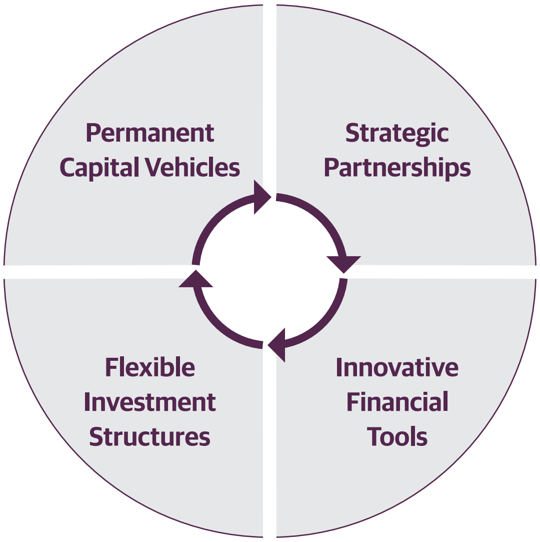


Source: Bloomberg, Guggenheim Investments. Data as of 8.12.2016. *Note: data on infrastructure debt is since 2006. The index for U.S. infrastructure debt is the Markit iBoxx USD Infrastructure Index, the index for European infrastructure debt is the Markit iBoxx EUR Infrastructure Index. Europe Infrastructure Equity is represented by the Dow Jones Brookfield Europe Infrastructure Index. North America Infrastructure Equity is represented by the Dow Jones Brookfield North America Infrastructure Index. EM Infrastructure Equity is represented by the Dow Jones Brookfield Emerging Markets Infrastructure Index. US IG is represented by the Barclays US Aggregate Bond Index. US HY is represented by the Barclays US High Yield Index. US Equity is represented by the S&P 500. Global Equity is represented by the MSCI ACWI. Commodities is represented by the Bloomberg Commodity Index. EM Debt is represented by the J.P. Morgan EMBI Global Index. EM Equity is represented by the MSCI Emerging Markets index. Japan Equity is represented by the Nikkei Index. Europe Equity is represented by the Euro Stoxx 600 index. Europe IG is represented by the Barclays Euro-Aggregate Index. US Real Estate is represented by the Dow Jones U.S. Real Estate Index. Global Real Estate is represented by the Dow Jones Global ex-US Select Real Estate Securities Index. Cash is represented by the BAML US 3-Month Treasury Bill Index. Arctic Infrastructure figures are calculated by Guggenheim Partners, and is a weighted composite of North America, Europe, and emerging markets. **Past performance does not guarantee future returns.**

Potential Models for Sustainable Development Finance

Permanent Capital Vehicles may match long-term funding to long-lived assets for optimal investment decision-making

Strategic Partnerships combine relationships, expertise, and capital of diverse partners, to ensure project development is a repeatable process



Managers should provide opportunities to invest selectively across geographies or sectors

Sustainable Development Bonds may scale impact with securitizations, backed by permanent capital vehicles

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