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The Challenge of Institutional Investment in Renewable Energy

Climate Policy Initiative

David Nelson
Brendan Pierpont

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Executive Summary

Descriptors

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Related CPI Reports	The Impacts of Policy on the Financing of Renewable Projects: A Case Study Analysis, Global Landscape of Climate Finance 2012, Meeting India's Renewable Energy Targets: The Financing Challenge, San Giorgio Group Case Study: Walney Offshore Windfarms, Supporting Renewables while Saving Taxpayers Money, Risk Gaps.
Contact	David Nelson, Senior Director david.nelson@cpisf.org

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Executive Summary

With national budgets tight, policymakers look to private capital as a key source for funding energy and climate change related infrastructure. The big prize is institutional investors — pension funds, insurance companies, and other long-term investors — whose $71 trillion in assets form one of the largest pools of private capital in the world, leading policy makers to ask whether institutional investors could help meet the climate change funding challenge. In this paper we explore a particularly interesting component of that challenge, that of institutional investment in renewable energy.

Our analysis shows that given enough attractive investment opportunities and reduced policy barriers, institutional investors could become a significant source of capital for renewable energy. However, our research also suggests that, for the developed world, there is not a shortage of potential investment in renewable energy; rather there may only be a shortage of opportunities at the price — and level of risk — that governments and energy consumers are willing to pay. Institutional investors, with their distinctive risk/return requirements and longer-term objectives, might invest in renewable energy projects at lower returns (and thus prices) than other investors seeking shorter-term gains. Thus, the question becomes whether institutional investors have the potential to bridge the financing gap more cost effectively, and what would be needed to make this happen.

To map this potential and identify the barriers to achieving it, we interviewed more than 25 pension funds and insurance companies across North America, Europe, and Australia, as well as their consultants, bankers, renewable project developers, analysts, and academics. We analyzed their investment portfolios along with global and national data on institutional investors to supplement our interviews. Our analysis compared potential investment from institutions to renewable energy investment needs over the next 25 years, as estimated by the International Energy Agency (IEA).

These discussions and analyses indicate that the potential impact of institutional investment is highly dependent on how the investment is made. We identify three channels for investment in renewable energy, each of which can come in different forms, such as equity/company shares or loans/bonds:

- **Investment in corporations** is the easiest investment path for most institutional investors, whether through equity shares or corporate bonds. Our analysis indicates that institutional investors could easily provide corporations with all of the corporate equity and debt that corporations would need to fund their share of renewable energy for the next 25 years. But corporations make investment decisions based on their own strategy and financial considerations. Thus, institutional investment in corporations with renewable energy in their portfolios may not encourage these companies to increase their share of renewable energy, unless the relative attractiveness of these renewable energy projects is superior to other potential investments from a corporation's point of view. Furthermore, there are relatively few pure-play renewable companies. Therefore, institutional investment in corporations will do very little to change the current renewable energy financing dynamics, and is unlikely to contribute to lower financing costs for renewable energy.
- **Direct investment** in renewable energy projects is the most difficult for institutional investors. The skills and expense required to make these investments are likely to limit direct investment to the largest 150 or so institutions, while the illiquidity of these investments — the ability to sell the asset at a minimum loss of value if unexpected cash needs arise — limits direct investment, even for those large investors who have developed direct investment capabilities. We estimate that these institutions could provide, at most, roughly one quarter of the renewable energy project equity investment and one half of the related debt required between now and 2035. That having been said, direct investment in renewable energy projects creates an opportunity for institutions to improve their risk-adjusted return, by taking advantage of their size, sophistication, longer-term investment horizon and in some cases an ability to accept some illiquidity, while potentially lowering the cost of capital for renewable energy.
- **Pooled investment vehicles or investment funds** vary in fit and accessibility for institutional investors. A large, publicly traded pooled

investment fund could eliminate both the liquidity and size constraints; however, like corporate investment, it could also reduce the connection to underlying project cash flows and therefore the potential cost of capital advantage for renewable energy. Other fund designs could offer a better connection to the underlying assets — for instance by offering a "buy and hold to maturity" strategy, where the fund agrees to hold an asset for its life in order to deliver predictable cash flows — but in so doing may sacrifice their ability to offer liquidity. So far, the experience with pooled investment vehicles has been mixed, with some institutions concerned about high fees and the uncertain cash flow profiles on offer.

Barriers to achieving investment potential

While direct investing has the greatest potential to lower financing costs, even the one-quarter to one-half potential will be very difficult to achieve. The reality is that a series of barriers, including energy policy, financial regulation, and investment practices within the institutional investors constrain their ability to invest in renewable energy, and may keep the investment potential from being reached.

The investment case for renewable energy almost always has a significant policy element, while the institutions are themselves subject to their own set of regulations. Three types of policy discourage institutional investors:

1. **Policies that encourage renewable energy, but in ways which discourage institutional investors;** for example, the use of tax credits as an incentive mechanism in the U.S. discourages investors like pension funds that are tax exempt and for whom the credits may have less value.
2. **Policies addressing unrelated policy objectives which unintentionally impede institutional investors from renewable energy investment;** for example, in Europe, policies intended to ensure the functioning of energy markets make investors choose between renewable energy generation and the transmission assets they may already own.
3. **Energy policy and renewable energy specific policy that is lukewarm, or inconsistent and creates perceived policy risk;** for example, retroactive tariff cuts in Spain or start-stop expiration of incentives in the U.S. create an aura of uncertainty that makes institutions ponder whether building a team to invest directly in renewable energy will make economic sense in the long-term.

Maintaining secure pension funds and insurance policies is an important limitation on direct investment. The primary objective of institutional investors is to provide services such as pensions and life insurance at reasonable costs, with a very high degree of certainty. These investors must maintain appropriate levels of liquidity, transparency, diversification, and risk to maintain this certainty. Financial regulation codifies these requirements, and in so doing may limit direct investment or in other ways impact the attractiveness of direct renewable energy investment.

Investment practices of all but a few of the institutional investors are only beginning to catch up with the opportunities available. Many pension funds will not invest directly in any illiquid assets, while many others have not built the specialist investment expertise to invest directly in renewable energy.

National pension policy varies widely between countries, so the funds available to invest in renewable energy are unevenly distributed. Ninety percent of the pension assets in the OECD are concentrated in just six countries, and even within these countries the size and style of the funds vary, leading to different investment potentials. Insurance assets are more evenly distributed across countries.

To provide one quarter to one half of required renewable energy project investment, institutional investors would need to rapidly expand the role of direct investment, build out direct investment teams (in large institutions), and be willing to allocate more of their capacity to accept illiquid investments — in exchange for higher returns — to renewable energy projects.

Five steps could help reach institutional investment potential

Based on our analysis, we identify five steps that could help to overcome these barriers and enable institutional investors to meet their potential to invest in renewable energy projects.

1. **Fix policy barriers that discourage institutional investors or investment funds.** However, many of the policy barriers exist to achieve important policy objectives outside of encouraging institutional investment. Thus fixes need to consider the value of increasing institutional investment versus the cost of implementing fixes. In some cases, appropriate exemptions or specific policies may encourage institutional investors.
2. **Improve institutional investor practices.** However, changing some practices, like increasing the tolerance for illiquidity and building direct investment teams, could impact both the risk profile of the institutions and the culture of their organization, which also requires careful consideration. We find that building this capacity may be difficult for institutions with less than $50 billion under management.

It is unclear whether these two steps would encourage enough institutional investment to lower renewable energy costs significantly. Thus, several additional actions could be taken to encourage renewable energy investment from institutions:

3. **Identify whether any regulatory constraints to renewable energy investment by institutional investors can be modified without negatively impacting investors' financial security, solvency or operating costs.** In some cases, the regulation of pension funds or insurance companies themselves constrains investment in renewable energy projects. Generally, this regulation is structured to ensure the solvency and security of the pension funds and insurance companies; therefore we see little room for major improvements. Any modification of these policies to encourage renewable energy investing must be carefully weighed against impacts they might have on the financial health of institutional investors.
4. **Develop better pooled investment vehicles** that create liquidity, increase diversification, and reduce transaction costs while maintaining the link to underlying cash flows from renewable energy projects; however the structuring and fee levels of such vehicles to date have limited the impact, so careful fund design will be essential.
5. **Encourage utilities and other corporate investors.** If the concern is raising enough finance rather than its cost, policy may need to be reoriented away from project finance toward corporate finance. Institutional investors are adept at investing in corporate securities, although funding renewable energy through corporate finance could limit the advantage that institutional investors may have in lowering the cost of finance for renewable energy.

This paper has highlighted concerns around each of these paths, but further research is necessary. Over the coming months and years CPI will continue to delve into each of these areas.