KEYNOTE INTERVIEW

Bringing efficiency to the lower mid-market

Energy efficiency is a key piece in the energy transition puzzle, particularly for decarbonising cities, says Ridgewood's Michael Albrecht

Energy efficiency is gaining a foothold in the minds of governments and energy transition investors alike. Almost $700 billion has been spent on energy efficiency investment support since 2020, according to the International Energy Agency, while in the US the Inflation Reduction Act provides $86 billion in funding incentives.

Full deployment of energy efficiency could result in as much as a 34 percent abatement in industrial carbon emissions, says the US Department of Energy. The rollout and evolution of smart city technologies could also play a big role in tackling the urban carbon footprint. Michael Albrecht, managing partner at Ridgewood Infrastructure,

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discusses the growth of the asset class and opportunities in the lower mid-market.

Q What makes the energy transition in the lower mid-market particularly compelling?

The lower mid-market in the US is a large and fragmented segment of the market, representing a deep and fertile backdrop against which we are executing. Approximately 40 percent of infrastructure transactions in North America require equity of $150 million or less, and only around 10 percent of the capital raised by GPs is sized to focus on this universe of investment opportunities.

There is relatively more opportunity and relatively less competition in the lower mid-market, which encapsulates a structural inefficiency that we view as highly attractive. We typically originate investment opportunities on a direct and bilateral basis, support transformative scaling and value creation during our holding period, and eventually exit to the broad universe of larger and longer-horizon investors seeking core infrastructure attributes.

We are executing this strategy across four primary infrastructure subsectors: water, transport, utilities and the energy transition. Within the energy transition, we are primarily focused on energy efficiency and smart cities infrastructure.

Q Where is the opportunity for energy efficiency in the lower mid-market?

I like to call energy efficiency the "lowest hanging fruit" in our energy transition. It absolutely must be "plucked" on the way to a lower carbon, more sustainable future. And in so doing, we are excited about the opportunity to create meaningful value for our investors and partners. Our energy efficiency investments focus on two often overlooked segments of the market: commercial and industrial (C&I), and municipal, university, school and hospital (MUSH).

One of our portfolio companies, Ecosave, is primarily executing energy efficiency infrastructure investments and retrofits in the C&I market. Ecosave owns and operates high-efficiency boilers and chillers, as well as building controls that reduce energy consumption that leads to meaningful cost and CO2 emissions savings.

Another of our portfolio companies, Environmental Infrastructure Partners, is primarily focused on opportunities in the MUSH market, where it owns and operates a range of sustainability infrastructure including EV charging stations and smart meters. Our most recent investment, MN8 Energy, also focuses on an array of solutions, including renewable energy and energy storage, that reduce carbon dioxide emissions.

The C&I and MUSH markets have certain similarities. Importantly, they are highly fragmented, with many hundreds of thousands of buildings. Many of these buildings were developed and built several decades ago. In many cases, building owners see the value potential of "going green" but do not view doing so as core to their operations.

"By collecting and analysing data on resource usage patterns, cities can identify inefficiencies and implement targeted strategies"

A huge volume of carbon dioxide is emitted in these C&I and MUSH buildings, which often run on antiquated systems and without the benefit of state-of-the-art technologies.

Q How has the IRA affected appetite for energy efficiency investments and how is policy shaping interest in the asset class?

We avoid investments where performance is premised on the receipt of government subsidies. Over decades of experience, we have seen government programmes come and go. Spanish feed-in tariffs underwrote many

Q What areas of the smart city model are particularly attractive?

We expect smart city applications to proliferate over the coming years. The US is focused on reducing energy consumption, and bringing ESG benefits to future generations. This will drive multiple projects across the country.

We are focused on essential infrastructure that generates durable, uncorrelated cashflows with inflation protection. The smart city model offers multiple opportunities to execute this. Some examples that we find particularly compelling are smart meter infrastructure, LED lighting installation and energy consumption reduction infrastructure. The opportunity to decarbonise is huge.

Smart city applications will also evolve, leading to new opportunities to decarbonise and reduce energy consumption. We expect the smart city applications to become even more efficient and advanced, allowing current projects that are not currently viable to become commercially possible.

hundreds of megawatts of renewable generating capacity until they were cancelled and left investors holding the bag. Another example that comes to mind is the New Jersey Solar Renewable Energy Credit programme, which exemplifies the potential for instability of clean energy policies that hinge upon political support in congress and state houses.

With history – and our lived experience – as a guide, we are focused on investments that can perform without government subsidies. We target investments that operate with regulated protections or under long-term contracts, thereby generating high-quality, non-correlated, inflation-protected cashflows.

That being said, to the extent we are able to take advantage of legislation – such as the IRA – to enhance performance, we certainly will. Direct pay, tax equity, cash grant and other incentives can be additive to our investment underwriting.

Q What are some of the challenges of scaling energy efficiency? And how might that be overcome in the future?

A primary challenge to scaling energy efficiency in the market relates to the high initial costs associated with these upgrades. Implementing energy-efficient technologies often requires significant upfront investment, which can be a barrier for individuals and businesses, especially for building retrofits and/or industrial upgrades.

Investments in energy efficiency are often considered non-core to the operations of building owners, which are instead focusing their resources on other projects and initiatives. This is especially prevalent in leased spaces, where landlords may be responsible for making energy efficiency upgrades, but tenants reap the benefits through reduced energy bills. This disconnect can discourage investment in energy efficiency.

Our portfolio companies are focused on addressing these challenges through energy performance contracts and energy service agreements, which spread out costs over time. Our companies are also able to split incentives between landlords and tenants creating mutually beneficial "win-win" situations where both parties benefit from reduced costs and more sustainable, lower-carbon operations.

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Q How can investment in smart cities complement energy efficiency efforts?

Investment in smart cities complements energy efficiency through integrating technological innovation and community engagement to support energy transition efforts and build more resilient, efficient and liveable cities.

Smart city technologies, such as Internet of Things sensors and data analytics, enable real-time monitoring and optimisation of energy use, water consumption and waste management. Our Environmental Infrastructure Partners portfolio company owns smart water meters around the country, including in Jackson, Mississippi, which has in the past faced significant challenges with its water infrastructure.

By collecting and analysing data on resource usage patterns, cities can identify inefficiencies and implement targeted strategies to reduce consumption and improve overall resource efficiency. Furthermore, IoT-enabled water meters result in fewer cars on the road to read analogue meters, which helps reduce CO2 emissions.

Smart cities can also facilitate the integration of renewable energy sources and battery storage; this is an area of focus for MN8 Energy, which is our most recent investment. Smart grids equipped with advanced monitoring and control systems can manage the variability of renewable energy generation, optimise energy distribution, and enable dynamic pricing mechanisms to incentivise renewable energy use and storage.

Lastly, I will highlight the need for greater investment in smart transportation infrastructure, including electric vehicle charging stations and mobility-as-a-service (MaaS) platforms. By promoting the adoption of EVs and reducing reliance on fossil fuel-powered vehicles, smart cities can decrease transportation-related emissions and improve air quality. ■