

KEYNOTE INTERVIEW

The power of energy efficiency



*Energy efficiency is essential to achieving both net zero and energy security, says Partners Group's co-head of private infrastructure Americas, **Todd Bright***

Q Why is energy efficiency such an important component of the drive to reach net zero?

What many people don't realise is that energy efficiency is slated to be the single biggest contributor to emissions reduction, according to forecasts produced by the International Energy Agency in its sustainable development scenarios. Energy efficiency represents the cheapest and fastest way to reduce carbon emissions. In fact, the IEA believes that energy efficiency could contribute as much as 40 percent towards the GHG abatement efforts that will help meet the Paris Agreement goal of keeping temperature rises well below two degrees Celsius by 2050.

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In other words, energy efficiency may not get the attention that renewable generation does, but it is an indispensable component of climate change mitigation.

Budderfly, a company that we have recently invested in, on behalf of our clients, provides energy efficiency as a service. The business already has around 3,000 sites installed and our plan is to grow well beyond that. With its current sites, Budderfly is already reducing around 1.3 billion kWh of electricity usage, which is equivalent to almost a million tons of carbon

emissions over a 10-year contract – the same as the annual carbon emissions of around 120,000 homes. This just goes to show the impactful contribution that energy efficiency can have towards achieving net zero.

Q Where are energy efficiency solutions concentrated at present, and where do they need to focus going forward?

Historically, the focus has been on bigger facilities, the so-called MUSH markets – municipalities, universities, schools and hospitals. But we believe the commercial chain market to be a far more underserved and impactful opportunity. That is where Budderfly

“We believe the energy-efficiency-as-a-service sector will roughly double in size over the next five or six years”

is focusing its attention. The energy consumption per square foot at a quick service restaurant, for example, is somewhere between five and 10 times more intensive than a MUSH site. Energy efficiency plays have previously focused on these larger organisations because they are more significant. It is possible to deploy millions of dollars of capex at MUSH sites compared with tens of thousands per site at commercial chains. But the impact that commercial chain deployment can have is, relatively speaking, significantly greater.

Q What are the different energy efficiency solutions that are available?

There is a whole range of energy

efficiency solutions available today. The industry started out by doing a lot of lighting retrofits. By replacing incandescent lightbulbs with LED lightbulbs, you can reduce electricity consumption by between 75 and 80 percent. So that represented real low-hanging fruit.

But the range of solutions has now extended into more efficient appliances, including refrigerators and freezers, and heating, ventilation, and air conditioning systems. These HVAC systems can be equipped with smart thermostats, which are WiFi enabled and actually learn the patterns of traffic inside a building, adjusting temperatures accordingly – empty spaces, of course, don’t need to be heated or cooled.

A typical Budderfly installation will cover 20 or more integrated solutions ranging from the installation and replacement of hardware equipment to a number of Internet of Things devices that can be used to meter and control the components within the site.

Q What new opportunities is IoT creating within the field of energy efficiency?

IoT and cloud computing capability is really taking energy efficiency to the next level, providing the opportunity to create microgrids within sites, which can then be wired together centrally and managed as a resource.

It is also important to remember that these energy efficiency plays don’t only apply to old buildings. When a new building is constructed, it is typically done in such a way to minimise upfront cost. More efficient equipment tends to be more expensive and so isn’t engineered into the original design, even though that more efficient equipment is economically beneficial over the longer term. That is where Budderfly can come in and retrofit new equipment, generating significant savings for the occupier.

Q What role can energy efficiency play in

addressing the energy security concerns that are so acute right now?

Tackling energy security is all about ensuring domestic supply, and energy efficiency solutions represent a domestic supply source if you think about it in reverse. By being able to monitor and control these systems centrally, they can act as a dispatchable resource that can be turned on and off in the same way as a power plant. In that sense, energy efficiency can also help with grid resilience because you can reduce load on the system at times of peak demand.

Certainly, energy efficiency is a major contributor, not only to net-zero ambitions, but also to grid resilience and energy security.

Q What technological advances are you seeing in the energy efficiency space?

The tech advances that we are seeing really link to this use of IoT and cloud computing to marry energy efficiency software with hardware. The founder of Budderfly comes from a software-as-a-service background and the company has also developed its own hardware, which it installs to help monitor and manage the systems. In fact, it has eight patents on these components that then feed into its proprietary software, allowing it to manage and monitor thousands of sites.

That’s the future of this business: treating all of this dispatchable load as an aggregated resource and getting paid by the grid operator to turn that load on and off when needed. It’s not part of our base case for investing in this company, but it is definitely an area of growth for Budderfly and for the industry more broadly.

Q Do you see synergies between what Budderfly is doing and the rest of your portfolio?

What Budderfly does is certainly applicable across our real estate and private equity portfolios, as well as other

Saving energy through efficiency

Partners Group acquired a majority stake in US energy-efficiency-as-a-service company Budderfly in July this year

Budderfly provides outsourced solutions for energy management and infrastructure upgrades for underserved commercial and industrial businesses with repeatable footprints, such as restaurant chains, assisted living facilities and retail franchises.

The company's services include the measurement, reduction, management and funding of energy demand and consumption through the design, integration and installation of automated controls, proprietary software, metering and a patented utility billing interface and billing system which currently supports over 400 utility companies across the US.

Budderfly enters into long-term contracts with customers and earns revenues through a share of the energy cost savings generated by the efficiency upgrades and the management and monitoring of energy use and demand.

Partners Group plans to accelerate growth by expanding sales capacity and execution on new site installations, as well as broadening customer offerings; investing in software, analytics and network technologies; and making strategic acquisitions.



infrastructure assets that we own. For example, last year we invested in a community solar and battery storage company called Dimension Renewable Energy, on behalf of our clients.

Dimension is ideally suited to serving Budderfly's commercial chain customers, providing them with cheaper solar energy, as well as lowering their consumption through energy efficiency

technologies. At a portfolio level and a corporate level, decarbonisation is a major theme for Partners Group.

Q How would you describe the growth prospects for the energy-efficiency-as-a-service subsector?

The sector is definitely at an inflection point. Energy efficiency has been

around for as long as I have been in the energy industry – some 30 years – but it has historically been viewed as a sleepy little business, with the sole objective of saving money on utility bills. Now, however, with the advent of this technology that allows for the remote monitoring and controlling of these systems and the increased momentum behind the drive towards net zero, the sector is being taken to a whole new level.

Indeed, we believe the energy-efficiency-as-a-service sector will roughly double in size over the next five or six years. It is not an industry that has experienced that kind of growth in the past, but several factors are driving significant tailwinds for the sector. These include increased focus on achieving utility bill savings in this high inflation environment, which has translated into unprecedented increases in tariffs. This is enhanced by a global focus on decarbonisation and exciting new tech advances – it's certainly a big growth market.

Q What kind of regulatory environment are energy efficiency solutions operating in and what further regulatory support would you like to see?

One of the things that we like about this industry is that it is not dependent on government incentives. It is a market driven purely by economics. However, regulatory tailwinds are obviously advantageous, and we were disappointed to see that while the Inflation Reduction Act, recently passed in the US, did contain incentives for energy efficiency at a household level, there were no such provisions for businesses.

There are a range of grants, loans and sales tax abatements that companies can tap into at a state and local level. Budderfly continues to utilise those incentives in order to optimise the economics of the sector. But, as I said, we do like the fact that this is not a bet on government incentives, which inevitably involve political risk. This is a sector that stands on its own two feet. ■