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Overcoming Obstacles to Financing Energy Efficiency in the HVAC and Building Sector

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Introduction

The impact of building energy use in the EU and the need for energy efficiency in the HVAC and building sector is undisputed. As building stock is responsible for approximately half of the total energy demand in the EU and roughly 36% of its CO_2 emissions, the mandate for more efficient buildings is expected to only grow stronger. While there is ample opportunity to power buildings with renewables, strive for nearly zero-energy buildings and upgrade building stock to be smarter, digitized and interactive, the obstacle of accessing finance continues to limit what can be achieved today.

Therefore, decoding the financial mechanisms that have the potential to drive investment and increase the pace of market growth is vital for developing the sector and mitigating climate change.

Energy efficiency as an asset

Understanding the big picture financial engineering processes that can advance investment in energy efficiency starts with looking at energy savings as an asset, a **sellable item**.

For an investor this means, for example, paying for a HVAC upgrade upfront and then being paid back out of the money saved by the building owner through lowered energy bills. For the building owner, this could look like redirecting money toward an investor, which would have otherwise been paid in energy costs caused by an inefficient HVAC. This process turns energy efficiency into an 'asset' – meaning that the savings are turned into an item which can be measured and sold. This concept is the basis of green investment in an energy efficiency context and a starting point for more ambitious large-scale financing necessary for the energy transition.

Shortfalls to gaining financing

Joule Assets Europe works with financiers and investors across Europe to facilitate investment in energy efficiency and small-scale renewables projects. Through SEAF Horizon 2020 work, Joule developed a platform called eQuad to help European energy efficiency project managers (ESCOs or energy service companies, engineering firms, and construction companies) access appropriate project finance while lowering upfront due diligence costs for investors.

The assessment of numerous potential energy efficiency measures on eQuad highlighted the shortfalls of standalone energy efficiency projects from an investor's vantage point and the difficulty typical energy efficiency projects face in meeting investment criteria. In many instances, projects were too small to attract the interest of investors. Moreover, aggregating projects was often not possible, as the varying measures frequently had different levels of risk.

Joule's experience with eQuad showed that many of the essential building blocks needed to establish investment in energy efficiency assets are currently missing. These key elements include common practices for setting measurability in agreements, determining how risk is evaluated, and selling energy efficiency as a service successfully to end clients. Like other industry professionals in this sector, Joule has witnessed that the different ways these elements are being understood, discussed and executed has led to a general lack of clarity that often results in project failure. **Increased failure rates, time, due diligence and costs, are all by-products of this status quo.**

Building the foundation for investment and growth

To develop the foundation for financing multiple projects under good conditions for both parties, Joule is working to create a standard set of structural documents and procedures. These foundational elements include standardized risk assessment protocols to eliminate lengthy due diligence, investor-grade Energy Performance Contracts and standardized sales processes for creating robust pipelines.

By solving the ambiguity around issues like risk assessment, project valuation and sales through standardization, more investors can successfully engage with the industry and failure rates are lowered. Similarly, the development of robust customer-focused sales processes that offer energy efficiency as part of a managed service as opposed to a sales of a technology (e.g. the sale of a managed service versus the sale of HVAC) are enabled by these improvements and facilitate the participation of more and more customers. These changes are increasingly important in an evolving and competitive market like that of energy.

Bringing investors onboard

At present, each investor uses their own methodology and benchmarks to uniquely evaluate projects. Since this is done independently in-house, it is valuable to understand the process and how project developers can get projects ready to meet investment criteria. In order to gain insight on the various investment criterion and minimum thresholds to engage investors, Joule has collected these criteria from multiple investors compiled during their negotiation activities and reviewed them with their investor partners. Willingness to invest in energy efficiency upgrades and technologies like cogeneration, Building Management Systems and HVAC was broadly seen across the board. Several investors would further invest in projects like district heating or generation such as solar photovoltaics or other renewable energy systems.

Finance types of the different investors varied from 10–100% equity to straight debt as well as included other models. The sampled investors were largely agreeable to Energy Performance Contracts of either guaranteed or shared savings. In terms of size criteria, the minimum project size considered by investors was commonly 50,000 € with a minimum portfolio size of 1 to 5 million euros.

While investing in standalone energy efficiency measures are often not lucrative enough for investors, who typically look to fund projects of at least 1 to 5 million euros, pooling together assets/projects can make groups of energy efficiency measures attractive. This is the case for most commercial or industrial energy efficiency projects that widely vary in cost but often fall in the range of 150,000 to 1 million euros. However, in order to aggregate projects successfully, they must be comparable and follow the same format. Therefore, standardized customer contracts and project risk mitigation measures are required (both of which are now available for review).

Value of aggregation and securitization

Given the gap between standalone projects and the bar for investor interest, the aggregation of energy efficiency measures is needed to meet an investor's threshold and gain financing for most projects.

Going a step further, once financing is achieved, securitization of assets can offer further value to the investment community. Securitization as a process allows energy efficiency assets to be bundled again or repackaged for sale or trade in larger units. The potential impact of these kinds of mechanisms are significant as they would open a door to the type of large-scale investment and transition currently limited.

Although aggregation and securitization may seem like simple solutions, the legal implications and due diligence for each energy efficiency project involved can increase time and cost to the point that it is no longer feasible. Therefore, as mentioned above, standardizing the quality and contractual framework associated with each asset (each project) is required as a first step to accelerate the due diligence and legal obligation preventing market growth, as well as enable project aggregation. As part of the LAUNCH consortium, Joule Assets works alongside TNO, BNP Paribas Fortis, EnerSave Capital and New Energy Group to develop standardization and securitization models for energy efficiency measures.

While there are many implications of projects like LAUNCH, small and medium sized enterprise are in a unique position to benefit from the developing foundation for aggregation of sustainable energy assets.

Links to broader policy

In the midst of new policy direction influencing plans such as the European Green Deal or the strategy behind the declaration of climate emergency, there is a need for holistic systems change. Addressing access to financing for a just and inclusive energy transition is a crucial piece of this greater systems change.

The widespread use of financial mechanisms like off-balance sheet financing and implementation of standardization and securitization models for energy efficiency measures will improve access to financing and involvement for all citizens and sectors. Policies that enable these tools will help to unlock access to capital along with the reality of a more efficient Europe for all.

Case study: financing HVAC-as-a-Service

A HVAC company serving industrial customers by installing best-in-class technologies procured on a project-by-project basis wanted to increase their competitiveness by improving their offering to customers to provide HVAC-as-a-Service (HVACaaS). The new business model means that the company offers financing for the technology, perform the installation, and provide maintenance.

In setting up this new business line, the company went to their local bank to secure a financing solution and learned that they would need to apply individually for project financing on a one-off basis. In addition, the bank would view the company on-balance sheet every time they applied. This restricted the number of projects the company could take on at any given time and introduced a cumbersome and inefficient process. As a result of this news, the company was at risk of not being able to develop its HVACaaS business line and in jeopardy of losing the 400,000 € pipeline of projects it had already secured.

Turning to eQuad as a tool, the company was able to present their pipeline as a portfolio of bankable projects for investors and receive an off-balance sheet solution from an investor. The investor then worked with Joule to structure a Special Purpose (SPV) of 5 million euros entirely owned by the fund. The advantage of the SPV was that it facilitated the company to pay for the upfront and maintenance costs of their initial pipeline as they established capital for future projects. Through eQuad, the company was able to accelerate the development of their HVACaaS solution. ■