

## THINKING BIG: NARROWING THE INVESTMENT GAP FOR ENERGY EFFICIENCY IN THE EU



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**Standardisation and aggregation are prerequisites for enabling the securitisation of energy efficiency assets, and thus attracting institutional investor capital to help bridge the investment gap for energy efficiency in Europe.**

Achieving the Paris Climate Agreement goals requires trillions of dollars of investment globally in the coming decades to reduce greenhouse gas (GHG) emissions (IEA, 2014, 2017; IFC, 2016; New Climate Economy, 2016). Energy use across a broad range of sectors – industry, built environment, energy production, to name a few – is a key contributor to global GHG emissions. To meet the world’s climate goals, transitioning to clean sources of energy, and the efficient use of energy, needs to happen fast.

The headline energy efficiency target of the European Union (EU) is “at least” 32.5% energy savings relative to expected energy use in 2030. There is the possibility of this target being increased in 2023 when the European Commission reviews the EU’s GHG emissions reduction targets for 2030, to align with the climate ambition of the Green Deal (EC, 2020). Roughly €379 billion average annual investment (excluding in the transport sector) is needed for the EU to be confident that it will meet its 2030 energy and climate targets (EU, 2018). According to a study conducted by Trinomics for the EU, under business as usual (BAU) conditions, this annual figure is €230bn, so there is clearly an investment gap. A large proportion of this gap needs to be filled by investment in energy efficiency: a total of €282bn of average annual investment (almost 75% of total annual energy transition investment needs (€379bn)), which is €132bn more each year compared to BAU (EU, 2018). If the EU is going to meet its stated energy efficiency targets, additional investment flows are clearly needed.

### Energy efficiency investments: what are they?

An energy efficiency investment is “the incremental spending on new energy-efficient equipment or the cost of refurbishments that reduce energy use” (IEA, 2019). In the building sector, examples of energy efficiency investments include: more energy-efficient building envelope designs and materials, space heating and cooling, lighting systems, appliances, etc. In industry, examples include: investments in more energy-efficient manufacturing processes and equipment, ventilation systems, heating and cooling, air conditioning, etc. The energy efficiency market, in the context of this article, refers to the arena in which these types of investments are made and financed.

Institutional investors – organisations or companies that aggregate their clients' money and buy, sell and manage investment products on behalf of these clients – have over US\$100 trillion of assets under management globally, yet are often constrained in investing at scale into energy efficiency. The energy efficiency market is disaggregated and fragmented - many small-size projects across multiple sectors (e.g. households, industry, buildings, government facilities), which presents several issues, including: a lack of standardisation, and thus difficulties aggregating projects; relatively high transaction costs (e.g. legal, administrative, other due diligence activities) compared to larger projects; a lack of consistent data and information on performance and revenue streams of projects; and a lack of understanding and knowledge of investors about the risks and rewards of investing in energy efficiency (Cattaneo, 2019). These issues make the energy efficiency market a challenging, and often unattractive investment prospect for institutional investors, relative to other markets that offer more stable, predictable risk-return profiles. Capital is not flowing freely from institutional investors to the energy efficiency market, and this represents a missed opportunity for all stakeholders involved in trying to implement a successful energy transition – policymakers, project developers, institutional investors themselves, and society as a whole.

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One way of attracting institutional investor capital into the energy efficiency market is through securitisation (see Box 1), which is certainly not a new concept. It has been present in the financial markets for decades. One well-established example is in the real estate market with mortgage-backed securities (MBS). Mortgage payments are bundled together into tradeable securities (an MBS), each with different risk-return profiles, and subsequently sold to larger investors, such as institutional investors. By aggregating the cash flows and creating tradeable securities, risk can be diversified, thus mitigated, and transaction costs lowered. The securities created are more liquid and offer a scale that is attractive for large scale institutional investors.

**Box 2: What is securitisation?**

Securitisation is the process of aggregating cash flows, for example those generated from mortgages or from a power purchase agreement for a solar PV project, into standardised, tradeable assets, called securities. These securities are then sold to third party investors as, for example, green bonds (where the underlying cash flows are generated from low carbon projects). Securities that are backed by the underlying financial assets are called asset-back securities (ABS). Examples of underlying financial assets in the low carbon sector include: mortgages on certified buildings; loans/leases for electric vehicles, solar PV and wind power assets; and loans for energy efficiency improvements.

It is worth noting that there are some key differences between securitising the cash flows that are generated from an energy efficiency project with those from mortgage payments. Mortgages are backed by an asset as collateral (i.e. a property) that typically retains (or increases) its value over the long-term, and thus provides security to the lender (a bank or other mortgage provider) should repayments not be made by the borrower. The lender can claim the asset (property) in the event of non-repayment by the borrower, and can sell the asset and use the proceeds to offset the outstanding loan. The assets in an energy efficiency project (e.g. boilers, air conditioning units, lighting installations) often become either heavily depreciated in value over time or perhaps become worthless, meaning that the lender has no asset to claim in the event of non-repayment of a loan by the borrower. Another key difference is that the mortgage market is somewhat homogeneous, well understood by investors, has already produced a track record of performance data (on loans and property prices), and been somewhat standardised. This is not the case for the energy efficiency market, which is characterised by heterogeneity across different dimensions between projects – technology, size, energy end-user, etc. - making it inefficient, expensive, and sometimes even impossible to aggregate the cash flows from individual projects into tradeable securities.

Securitisation is already taking place in the context of the energy transition, for example with energy generation assets such as solar and wind. These generation assets also lose value over time, but projects are typically more standardised, and offer larger investment sizes than energy efficiency projects (in particular in the buildings sector), and thus can be bundled more easily. Solar and wind projects also generate positive cash flow streams, and thus are often perceived as less risky investments than the potentially uncertain cost savings from energy efficiency projects. Conditions for securitisation seem to be more favourable in clean energy generation than in the energy efficiency domain.

One approach already being taken to securitise energy efficiency assets in the building sector is to bind energy efficiency investments with mortgages, and create green mortgage-backed securities either in the residential or commercial space. Dutch lender Obvion, for example, has issued green residential mortgage-backed securities (RMBS) worth a total of almost €1.1bn, which have been certified by the Climate Bonds Standard for Low-Carbon Buildings (Climate Bonds Initiative, 2018). Commercial mortgage-backed securities (CMBS), asset-backed deals secure on mortgages for commercial property, are also being issued by lenders across the globe. These are creative ways to overcome the challenges of securitisation in a fragmented market such as energy efficiency.

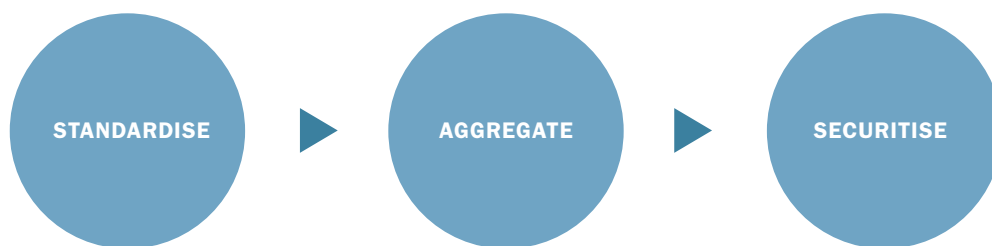


Figure 1: Standardise-Aggregate-Securitize

To move the energy efficiency market to one which can be securitised and tradeable, a fundamental step is to standardise processes, approaches, contracts, and other tools, so that it is more feasible and efficient to aggregate cash flows. The energy efficiency market currently does not have commonly used, standardised processes and materials – such as standardised energy performance contracts, due diligence processes for accessing loans and equity capital, risk assessment processes by investors, and so on. This hinders market growth because it increases transactions costs and lengthens project development cycles, both for project developers trying to implement energy efficiency projects, and investors interested in investing. Streamlining the market through standardisation can facilitate aggregation, and help to move the market towards one which can eventually be securitised (see Figure 1).

#### WHAT DOES THE FUTURE HOLD?

Securitisations are by no means the silver bullet to bridging the EU energy efficiency investment gap, but it can certainly be a crucial way of attracting large scale institutional investors into the market, by offering them opportunities that align with the EU's ambitions on sustainable finance. Initiatives that work on standardising materials and processes in the energy efficiency market are needed, to increase homogeneity across diverse projects and help facilitate aggregation of the project cash flows. An example of efforts to standardise is the Energy Efficient Mortgages Action Plan (EeMAP), which is part of a project led by the European Mortgage Foundation, that is looking to create a standardised, cheaper energy efficient mortgage ((Climate Bonds Initiative, 2018). Initiatives such as these can, and should, continue to be established under government funded programmes, then taken onboard and advanced by private sector practitioners in the energy efficiency market.

In conclusion, **standardisation and aggregation are prerequisites for enabling the securitisation of energy efficiency assets, and thus attracting institutional investor capital to help bridge the investment gap for energy efficiency in Europe.**

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