

Whitepaper

# Greening Mortgages: An Imperative for Financial Institutions



# Abstract

It is no secret that we are amid a climate emergency. The World Economic Forum's Great Reset program, the European Union's historic stimulus package for green initiatives, the new US regime re-joining the Paris Agreement, and growing focus on environmental, social, and governance (ESG) investing are all steps in a favourable direction. Industries including financial services and corporations will play a crucial part in achieving this goal and technology will be a huge catalyst in the co-creation of sustainable solutions.

According to the UN Environment Programme (UNEP), emissions from buildings have hit a record high with the sector contributing to 38% of all energy related CO2 emissions.<sup>1</sup> This offers a game-changing opportunity that the global mortgage industry is yet to seize – leveraging technology to offer financial products that promote greener homes. Given the significant latent demand for green mortgage, banks must seize the opportunity to convert conventional 'brown' mortgages. The way forward lies in identifying customer segments receptive to renovating homes to make them green, improving awareness on the measures that borrowers can take to achieve this objective, and offering suitable financial products to incentivize borrowers to adopt green initiatives and move toward sustainable homes. This white paper discusses opportunities for banks to green their mortgage portfolio, proposes a technology solution to facilitate green mortgage initiatives, and highlights the value proposition.

## Sustainable Financing: Technology Shows the Way

Climate change and its overwhelming impact on all walks of life is in the spotlight globally. Various stakeholders including financial institutions, businesses, corporations, and governments have a crucial role to play in establishing measures to mitigate climate risk. Given financial institutions are central to economic activity, they can play a pivotal role in supporting and driving policies aimed at mitigating and managing climate risks. Banks can promote sustainable production and consumption by limiting or curtailing funding to organizations whose activities result in adverse environmental, social, and governance (ESG) impact while channelling capital toward green projects and initiatives. To achieve this objective, banks must embrace technology-driven innovation across product development, knowledge management, designing and streamlining green practices, and accelerating the adoption of green initiatives.

Mortgage is one area that offers banks a slew of opportunities for positive climate action. While the mortgage portfolio of most banks predominantly comprises 'brown' mortgages, banks can offer green loans to enable customers to make home improvements and transition to sustainable

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[1] UN environment programme, Building sector emissions hit record high, but low-carbon pandemic recovery can help transform sector – UN report, December 2020, Accessed March 2021, <https://www.unep.org/news-and-stories/press-release/building-sector-emissions-hit-record-high-low-carbon-pandemic>

homes in turn converting 'brown' mortgages into green mortgages. Green mortgages have lower default risk and higher loan-to-value ratios. Moreover, green mortgages are usually offered at lower interest rates. However, despite these advantages, banks face challenges in growing their green mortgage portfolio. This can be attributed to low awareness about green mortgages among borrowers, misconceptions around high cost of green homes, and limited use of data insights in defining strategy.

# Approach to Moving to Green Mortgages

A key hindrance in switching to green mortgages is the likely lack of access to expert advice and guidance for customers. In the absence of an analytics-driven platform or a digital marketplace, banks are not able to offer an end-to-end solution to customers. Consequently, customers often reach out to different home improvement solution providers leading to delays, inefficiencies, and disjointed and poor customer experience.

So, how do banks convert their existing 'brown' mortgage portfolios into green ones? We believe that a step-by-step approach can help (see Figure 1).

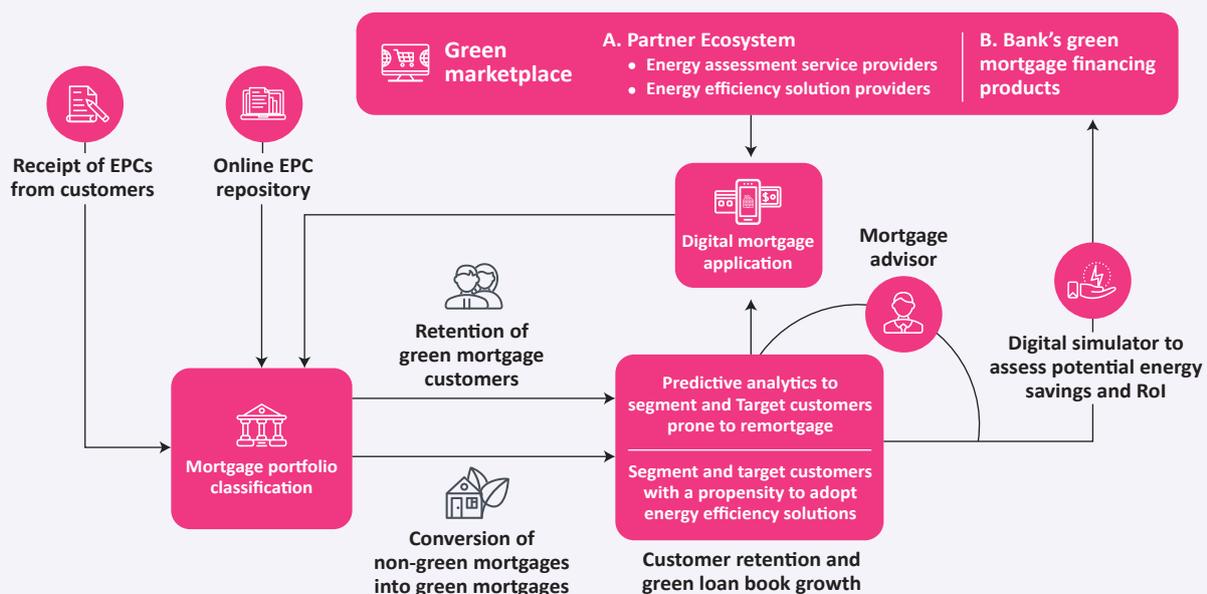


Figure 1: Approach to Transitioning to Green Mortgages

## Mortgage portfolio classification

Banks must identify and tag green mortgages by sourcing energy performance certificates (EPCs). These EPCs deliver key insights on energy efficiency of the house and can help ascertain if the property is green or brown. Sourcing EPCs for the existing loan portfolio and processing them with speed and accuracy at the desired scale, however, may pose challenges. An online EPC repository backed by an application programming interface (API) enabled integration framework can help in digital sourcing of energy efficiency data while artificial intelligence (AI) techniques can help in data extraction. Applying business rules to this data can help classify and tag the portfolio into green and 'brown' mortgages with speed and accuracy. Post classification, banks must offer targeted products to green mortgage customers to prevent churn. For example, green mortgage customers can be offered tailored products at lower interest rates. Similarly, banks must build awareness among 'brown' mortgage customers on energy efficiency options that can be adopted.

## **Customized energy saving options**

The next step is to suggest energy efficiency options that 'brown' mortgage borrowers can implement to transition to green mortgages. Banks must consider offering a digital simulator to enhance awareness among customers on possible energy efficient improvement initiatives for their homes. The simulator is a digital solution that requires inputs on customers' properties including location, size, equipment and appliances in use, and average electricity spends. Furthermore, the simulator leverages API frameworks and inbuilt AI algorithms to augment this information with data sourced from the land registry and utility companies, and then suggests personalized energy saving options, assesses potential savings, and estimates return on investment (RoI). The customer can then be directed to a digital, green marketplace or platform comprising energy consultants and energy saving products and solution providers.

## **Green, digital marketplace**

Given borrowers face challenges in accessing guidance on the energy efficiency initiatives they can undertake, mortgage lenders must play a pivotal role in addressing this. By implementing API frameworks and intelligent workflow engines, lenders can build a partner ecosystem or a one-stop-shop comprising energy efficiency consultants, product and solution providers (solar panels and heating and insulation equipment suppliers and so on), as well as green financing products. Based on an analysis of the recommendations of the consultants on energy saving options and the related RoI, homeowners can leverage the mortgage lender's partner network to implement green home improvement solutions. The ecosystem model enables new revenue streams and promotes customer stickiness as it helps banks bring together various service providers and consultants from their existing customer base. It also creates a symbiotic framework for the growth of green solution providers, promotes the adoption of green construction practices, and enables banks to expand their green mortgage portfolio.

## **Digital mortgage platform**

Once the customers finalise home improvement and energy efficiency initiatives and select the vendors through the green marketplace, the next step is to apply for green loans. For a smooth and seamless transition to green mortgages, lenders must integrate an omni-channel, self-service, digital solution into the ecosystem. Customers must be able to leverage an integrated digital platform to submit and track green mortgage and home improvement loan applications. This digital solution must leverage intelligent workflows to connect lender and borrower ecosystems, provide a single interface to pre-fill an application, enable digital processing, and monitor the progress of loans through intelligent workflows. This will facilitate efficient, simplified, and automated application process resulting in faster approvals, shorter time-to-funding, and higher conversion rate.

# Value Proposition of a Green Mortgage Ecosystem

Building a thriving and green mortgage ecosystem can deliver immense value to borrowers as well as lenders. These ecosystems allow borrowers to make sustainable choices through increased awareness, reap savings from enhanced energy efficiency and lower interest rates. They also offer a superior and seamless experience through the self-service backed digital green mortgage process.

Lenders also benefit tremendously with higher net promoter scores (NPS), a bigger green mortgage book and lower default risk. In addition, this enables business growth through new revenue streams and cross-sell and up-sell strategies. For example, customers availing a loan to

purchase a hybrid or an electric car and opting for digital account statements might be suitable targets for sustainable solutions such as green mortgage. Apart from this, banks can prevent churn by designing analytics backed attrition propensity models to proactively identify customers who pose a higher risk of opting for re-mortgage from competitors. Attractive green mortgage solutions can be crafted for such customer segments by leveraging the ecosystem of energy consultants and product and/or service providers in turn driving retention.

ESG investing, specifically the green bond market, has seen exponential growth in recent years with significant investments going toward the energy sector and low carbon building – a testament to the rising focus on embracing sustainable practices. Banks too can capitalize on this opportunity by deploying a cognitive rule-based solution configured with investor guidelines to identify qualified green mortgages and issue green bonds.

## Looking Ahead

The pandemic has brought the sustainability agenda to the forefront. While financial institutions have made some progress in this direction, there is scope for more. With rising focus on sustainable living, green mortgage is bound to become mainstream. Financial institutions must seize opportunities for green mortgage lending by leveraging technology to foster product innovation and create digital ecosystems that drive sustainability. Doing so will not only accelerate green mortgage adoption but also serve as a steppingstone for financial institutions to champion the net-zero agenda.

# About The Authors

## Karthik Kumar

Karthik Kumar is the global head of the Mortgage Practice of TCS' Banking, Financial Services and Insurance (BFSI) business unit. A seasoned professional, he has 24 years of experience across sales, operations, auditing and performance excellence, and reengineering. His mortgage experience spans transformation, solution architecture, delivery, project management, compliance management, and change agent for technology endeavors. Karthik is responsible for developing disruptive, digital and cognitive solutions for TCS' mortgage clients worldwide. He holds a Bachelor's degree in commerce (Hons.) from Delhi University, India, a 6 Sigma Black Belt, and is a Chartered Accountant from ICAI, India. Karthik is also an alumnus of the Stern Program in Executive Leadership, New York University, New York, USA.

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Nidhi Khanna heads pre-sales and solutions for the Mortgage Strategic Initiative unit of TCS' Banking, Financial Services and Insurance (BFSI) business unit. She has over 15 years of experience in program management, market research and analysis, designing bespoke solutions, and devising digital transformation and outsourcing strategies to help financial institutions achieve their growth and transformation agenda. She holds an MBA degree from SIES College of Management Studies with dual specialization in Marketing and Finance and a certificate in Design Thinking. Nidhi is also an Agile practitioner and a Shipley certified proposal writer. She is currently pursuing further education in sustainability.

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Jay Naik is a solution consultant at the Mortgage Strategic Initiative unit of TCS' Banking, Financial Services and Insurance (BFSI) business unit. He has nearly 12 years of experience in pre-sales and solution design as well as managing business operations and digital transformation programs across retail lending, corporate lending, and capital market domains. Jay holds a Bachelor's degree in Engineering from Nirma Institute of Technology, Ahmedabad, India, an MBA from the Indian Institute of Modern Management, Pune, India, and is certified in Design Thinking and Six Sigma Green Belt.

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