

Incentivizing thermal renovations to improve energy efficiency of multi-owner buildings

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THE PROBLEM

Today, **five million residential buildings** are ‘thermal sieves’, a term for dwellings ranked in the two lowest categories of the country’s Energy Performance Certificate (EPC) scheme, with ratings of “F” and “G” and the speed of thermal renovation work is far too slow.

This is problematic as it jeopardizes the objective to become carbon neutral, an important step in reducing greenhouse emissions and taking climate action.

As a result, the European Commission has called for **doubling the renovation rate by 2030** and the **French government has introduced the Climate and Resilience Law in August 2021**, requiring many residential landlords to undertake renovation work to meet the new legal requirements.

The main argument put forward until now – that thermal renovation work is economically profitable – has proven insufficient to motivate residential property owners to undertake the required work.

This is a major challenge, particularly for multi-owner buildings (such as for example condominiums) where implementing thermal renovation work is even more difficult, due to the larger number of owners, each of whom might have different motivations and financial resources, as well as their governing mechanisms that make the decision-making process slower and more complex.

Residential building sector
accounts for

44%

of energy consumption and

27%

of country’s greenhouse
gas emission

To develop new services that accelerate the energy renovation process for multi-owner buildings in France, GEM's Chair “Energy for Society” initiated and sponsored a research project to better understand property owners’ willingness to pay for thermal renovation works in multi-owner buildings. A particular focus was on innovative mechanisms to finance those renovations.

THE RESEARCH

Researchers from GEM's energy management team undertook a series of qualitative interviews with key actors in the sector (e.g. consultants from local energy or building agencies) to identify the main attributes that owners in multi-owner buildings take into account when making decisions regarding thermal renovations. To identify different existing and potential financing mechanisms, an expert from Bank Populaire Auvergne Rhone Alpes was interviewed. Next, the researchers implemented a survey among more than 1200 residential condominium owners in France. Of those, about 41% were landlords and 59% owner-occupiers.

The experiment

Because observed data on innovative financing mechanisms for thermal renovation investments is not available, the survey included a stated preferences discrete choice experiment. This experiment consisted of presenting property owners with two or more hypothetical options and asking them to indicate which option they prefer based on a combination of different attributes. Attributes included investment amount, expected energy cost savings, relative energy cost savings compared to other owners in the same building, financing mechanism (either through private capital, a private loan or a collective loan repaid via the condominium charges), and, in case of loan financing, whether loans may be transferred to the next owner in case the condominium is sold (transferable loans). This method made it possible to observe trade-offs that individuals make between attributes when they are in a choice situation. Findings allowed the research team to **better understand how sensitive property owners are to different characteristics of energy renovations and financing services and to derive policy implications.**

47%

of owners ignore thermal performance of their dwelling

THE RESULTS

A large proportion (47%) of owners not only ignored the thermal performance (abovementioned EPC rating) of their dwelling, but have relatively little knowledge of existing and dedicated policy instruments (e.g. national one-stop shop or the existence of the collective loan to finance thermal renovation of condominiums).

Experimental results are surprising as they highlight that **residential property owners are on average strongly opposed to borrowing**, even at zero interest rate, to carry out the renovation work. Instead of taking out an individual or collective loan, many residential property owners prefer to pay via private equity. For loan financing, owners favor transferable loans to non-transferable loans.

« OWNERS PREFER COLLECTIVE LOANS WHICH ARE RE-PAID VIA CONDOMINIUM FEES RATHER THAN PRIVATE LOANS »

INFLUENCING POLICY AND RAISING PUBLIC AWARENESS

Thermal renovations in multi-owner buildings could be promoted by facilitating loans which are taken out by a third party such as the condominium manager and re-paid via condominium fees. The findings further provide support for innovative financing instruments that allow loans to be transferred to the next owner in case ownership changes. These include financing schemes that provide for de facto transferability of loans, such as on-bill financing and property assessed clean energy (PACE) financing, where repayment of loans for thermal renovation investments is linked to utility bills and property tax bills, respectively.

While such instruments are common in the United States, they do not yet exist in France. Finally, in light of households' heterogeneous preferences for financial mechanisms, policy makers or energy companies may design policies that allow owners in the same building to finance their part of the thermal renovation investment through the mechanism they prefer, rather than enforcing the same financing mechanisms on all owners.

« SOLUTIONS INCLUDE FINANCING SCHEMES THAT ALLOW LOANS TO BE TRANSFERRED IN CASE OWNERSHIP CHANGES »

« CARINE SEBI WAS INVITED TO TESTIFY AT THE FRENCH NATIONAL ASSEMBLY IN 2019 AND 2023 »

Given the researchers' expertise and the relevance of the research in the context of national and international climate targets, the current energy crisis and the related rising cost of living, Carine Sebi was twice invited to the French National Assembly (in 2019 and in 2023) to bring her testimony regarding the multiple market failures the renovation industry is facing, present research findings, and suggest solutions to accelerate the pace of renovation activities.

In 2021, she was also invited to the first Assises Nationales du Diagnostic Immobilier in Paris, a conference organised by CDI-FNAIM who represents about 1600 professionals specialised in real estate diagnostics. The conference gathered diagnosticians, real estate and housing professionals, social housing actors and public authorities to discuss the issue of "decency of housing" and its implications for renovations to improve energy performance and liveability.

As part of the Chair's own annual conference, the Rencontres de l'Énergie, Carine Sebi and Marie-Charlotte Guetlein organized a webinar in July 2022 to discuss their findings with key stakeholders from the Ministry of Energy Transition and the Ministry of Housing, as well as other important national and regional actors concerned with thermal renovations.

To raise awareness of thermal renovation benefits among the public, Carine Sebi was invited to provide her commentary on TV, on the radio and in the press (see some examples in list below).

Media engagement

TV

- Rénovation thermique : où sont passés les milliards ? Sens Public, Public Sénat, 25 janvier 2023

Radio :

- Économie d'énergie : le vrai/faux de la sobriété, Le Téléphone sonne, France Inter, 2022

Press :

- Rénovation énergétique : un rapport parlementaire préconise un triplement des aides publiques d'ici 2030, Le Parisien, 2023
- Rénovation thermique : la crainte d'une pénurie de main-d'œuvre, Libération, 2023
- Rénovation énergétique : le gouvernement s'en tient aux petits gestes, Vert : Le média qui annonce la couleur, 2023
- La rénovation énergétique, source d'inégalités? La Dépêche, 2022
- Pourquoi la rénovation énergétique des copropriétés est un casse-tête, BFMTV, 2022
- Rénovation énergétique : que recherchent les copropriétaires ? GreenUnivers, 2022
- Rénovation thermique : une nécessité mais beaucoup de galères, Le Dauphiné Libéré, 2022
- Passoires thermiques : la rénovation, nécessaire fardeau, Pour l'Éco, 2021
- Logement : Faut-il hausser le ton sur la rénovation thermique des bâtiments, comme le veut la Convention citoyenne ? 20 Minutes, 2020
- Rénovation énergétique en France, des obstacles à tous les étages, The Conversation, 2020
- À ce rythme, le plan rénovation énergétique de la France n'atteindra pas ses objectifs, The Conversation, 2019

Key academic publication

Fanghella V., Guetlein M.-C., Schleich J., Sebi C., 2023. Preferences on financing mechanisms for thermal retrofit measures in multi-owner buildings: A discrete choice experiment with landlords and owner-occupiers in France, Resource and Energy Economics , 74, August : 10139