

# Thermal Map

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## I. Short Project description:

Thermal Map is an open platform that promotes private investment in thermal retrofit, by reducing uncertainty and information gaps in the decision maker.

Users can find specific information on energy efficiency problems of their houses, technical solutions, companies and professional that perform thermal retrofits and financing tools to implement the energy efficiency improvements.

In addition, companies can find information regarding the demand for energy efficiency improvements by neighborhood and public institutions can find georeferenced information to focus public policies.

Digital tools such as thermal images are used in this platform for technical analysis and also to visualize the heat losses to the users of the houses.

## I. Research focus/core competencies related to project:

The focus of the project is the development of methodologies to assess the current energy situation of houses and the potential for improvement when implementing energy efficiency strategies, considering different user profiles and different types of housing present in cities.

## I. Relevant infrastructures related to the project:

Thermographic cameras and drones to carry out thermal mapping.



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The image displays four screenshots of the 'Mapa Térmico' web application, illustrating its energy diagnosis and exploratory features.

- Top Left Screenshot:** Shows the 'Mapa Térmico' logo and a sidebar with navigation options: 'Mapa exploratorio', 'Preguntas frecuentes', 'Soluciones constructivas', and 'Conozca los proyectos con CEV'. The main content area is titled 'Resultado de su diagnóstico energético' and shows a progress bar with three stages: 'Termografía', 'Desempeño', and 'Potencial de mejora'. A thermal map of a house is displayed, with a color scale from blue (low heat loss) to red (high heat loss). Text on the right explains that the map shows areas with the highest heat loss and areas with the lowest. A 'Mapa térmico del techo de su vivienda' is highlighted, with a note that it shows areas with the highest heat loss and areas with the lowest. A 'Conocer más' button and a 'SIGUIENTE >' button are visible.
- Top Right Screenshot:** Shows the same 'Resultado de su diagnóstico energético' screen. The progress bar is now at the 'Desempeño' stage. A 'VIVIENDA' card shows a 'Puntaje Regular' of 3. A 'Rango de puntaje energético' legend is shown on the right, with categories: 1 (May bueno), 2 (Bueno), 3 (Regular), 4 (Malo), and 5 (May malo). A 'Conocer más' button and a 'SIGUIENTE >' button are visible.
- Bottom Left Screenshot:** Shows the 'Resultado de su diagnóstico energético' screen. The progress bar is now at the 'Potencial de mejora' stage. A card titled 'Si hace mejoras de aislamiento y sellos en su vivienda el desempeño energético podría mejorar a:' shows a 'Puntuación actual' of 3 (Regular) and a 'Puntuación potencial' of 4 (Bueno). A 'HORROR POTENCIAL' of 15% is highlighted, with the text 'Manteniendo la temperatura interior' and '\$240.000 Ahorro anual potencial'. A 'Conocer más' button and a 'SIGUIENTE >' button are visible.
- Bottom Right Screenshot:** Shows the 'Mapa exploratorio' screen. It features a sidebar with navigation options: 'Mejore su perfil de empresa', 'Revisar solicitudes', 'Mapa exploratorio', 'Trabajos', 'Directorio de empresas y profesionales', and 'Preguntas frecuentes'. The main content area is titled 'Mapa exploratorio' and shows a map of a city with a blue circle highlighting a specific area. A 'Crear sesión Empresa' button is visible. A 'Interés de usuario:' section has a 'Selección por punto' dropdown, a 'Mostrar todo' button, and a 'Borrar selección' button. A 'Usuario que ha contactado mejores constructivas' section has a 'Si' button checked. A 'Usuario dispuesto a invertir:' section has a 'Si' button checked. A 'Solución constructiva:' section has a 'Todos' button and a list of options: 'Aislación techumbres', 'Aislación Muro', 'Aislación Piso', and 'Sellos puertas y ventanas'.

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## IV. Current partners from science and industry

Forestry Institute

Ministry of Housing and Planning

Ministry of Energy

Chilean Chamber of Construction

## IV. Outlook for future development:

The next stages of the project considers the collection of data for other cities in the south-central region of Chile, the improvement of the data model both for the analysis of thermographic images and for the modeling of the potential improvement for different users, including the rebound effect.