

How to improve energy efficiency of historically significant buildings

15 June 2021, by Ulrika Ernström



Improve energy efficiency – and preserve. A new thesis shows the way towards energy efficiency improvements of historic buildings that do not harm the buildings' heritage values. Photo: Petra Eriksson

How can historic buildings become more energy efficient while conserving their heritage values? A doctoral thesis provides the answer by presenting a new method for combining climate goals and heritage values in historic buildings stocks.

Renovate to improve [energy efficiency](#) of [historic buildings](#)—and at the same time preserve them for the future. It is not easy to balance careful administration of historic buildings with the need to make them more energy smart. A new thesis at the University of Gothenburg has taken up the challenge and shows the way towards improving energy efficiencies that does not damage the historic and cultural values. The goal is to make it easier to develop strategies for energy efficiency in large [building](#) stocks.

"Historic buildings are a significant part of our total building stocks," says Petra Eriksson, who has conducted her research in a collaboration between the University of Gothenburg and Uppsala University. "There are excellent opportunities for improved energy efficiency here. At the same time, we need to take into account the buildings' importance as part of our cultural heritage. If we are to achieve our climate and energy goals, we

need a broad-based approach that addresses not only individual historic buildings, but entire building stocks."

Categorizing buildings helps

The thesis presents a method that takes a [holistic approach](#) to the assessment of both potential energy savings and management of the buildings' specific conditions. The method includes categorized buildings representing a building stock and takes into account restrictions that limits which methods can be implemented if heritage values are to be preserved.

"By working according to this method, it becomes possible to visualize differences both within and between different parts of a building stock, which depends on the buildings' age, materials, construction and heritage values," says Eriksson.

Important support for decision makers

She regards the method as an important decision support tool for [decision makers](#), administrators and major property owners, enabling them to make more informed decisions about how to strike a balance between energy saving and conserving cultural values.

"I hope that future research will continue to support development in the area that leads to more standardized planning and decision support processes for stocks of buildings with cultural values," she says.

More information: Building Conservation with Energy Conservation—Towards differentiated energy renovation strategies in historic building stocks: gupea.ub.gu.se/handle/2077/68356

Provided by University of Gothenburg

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