

Potentials for Adapting Danish Sustainable Houses to Climate Change: Simulation Study on the Effects of Climate Change in Low-Rise Sustainable Houses

Journal of Architectural Engineering

Authors: Mikkel Poulsen Rydborg and Camilla Brunsgaard

DOI: [10.1061/\(ASCE\)AE.1943-5568.0000484](https://doi.org/10.1061/(ASCE)AE.1943-5568.0000484)

Video title: *How Climate Change Affects Housing: A Study on Danish Sustainable Houses*

Video Script

Climate change is a threat to the housing sector as residents are more exposed to its effects than those in commercial buildings. Houses should, therefore, conform to changes in the environment. Studies show that sustainable houses built to mitigate climate change are more vulnerable to climate change effects. This is due to their focus on saving energy.

In a new study, researchers from Denmark performed simulations to test the viability of three low-rise Danish sustainable houses. The simulations showed that the currently adopted strategies might not be sufficient in the future.

Future housing architectures should be efficient at mitigating the impacts of climate change without needing active cooling. To do this, they need to adopt a mix of active approaches, such as air conditioning, and passive approaches, such as planting trees and solar shading.

This can help future houses achieve a balance between energy efficiency and resiliency to climate change.