

# Climatic Zones for Energy Conservation in PA

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## Preface and acknowledgments

This report is one of a series of reports prepared by the Pennsylvania Housing Research Center (PHRC) that document or complement the development of an alternative energy code for housing for the Commonwealth of Pennsylvania. Its intended audience includes policy makers in state and local governments, building code officials, builders, contractors and others involved in the development or implementation of building code regulation in Pennsylvania.

This project was initiated at the request of members of the PHRC's Industry Advisory Council. The Council ensures that projects that are selected are important and relevant to the housing industry in Pennsylvania. This project received financial and other support from the following:

- The Commonwealth of Pennsylvania through the Pennsylvania Department of Community and Economic Development (DCED),
- The individuals, associations, and corporations that are members of the PHRC,
- The Hankin Endowment, and
- The Pennsylvania State University.

The report was researched and written by Eric Burnett and Mark Fortney. The assistance of Michelle McMullen and Angela Burnett in producing the final version of this report is appreciated.

The PHRC was responsible for initiating and producing this report. Two of our more general objectives are to stimulate discussion about housing and to promote the development of better and more affordable housing in Pennsylvania. We therefore welcome questions or other feedback regarding this report.

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Director

## Executive Summary

In November 1999, Pennsylvania's Governor Ridge signed the Uniform Construction Code (UCC) legislation into law, creating a statewide building code across Pennsylvania. The Act requires the Pennsylvania Department of Labor and Industry (DLI) to promulgate regulations to implement the requirements of the legislation. Chapter 3, Section 301 (c) Conservation, requires the DLI to promulgate regulations for prescriptive methods to implement energy conservation requirements that take into account the various climatic regions in the Commonwealth.

The PHRC has been asked to develop a PA-Alternative Chapter 11 to replace the International Residential

Code (IRC 2000), Chapter 11, *Energy Efficiency*. The intention is to provide a simpler and more flexible document that focused on Pennsylvania. It was necessary to properly account for the climatic variations as well as the distribution and extent of new housing activity across the state.

The objective of this brief project was to review weather records and data on housing starts and, within the very tight constraints on time and funds, assess the IRC 2000 climatic criteria. If appropriate, a better basis for energy regulation was to be developed.

As a result of this study it was decided that Pennsylvania, for the purposes of conserving domestic, space conditioning energy, should be divided into three climate zones as opposed to the six proposed in the IRC 2000. There are a number of reasons that support this simplification and the consequent benefits that this rationalization adds to the code process. This simplification will make implementation much easier for builders and reputators.