

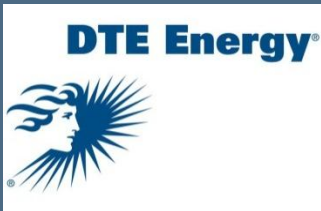
# NAVIGANT

ENERGY



## Michigan Building Energy Code Compliance Enhancement Study

[http://www.michigan.gov/mpsc/0,1607,7-159-52495\\_53750\\_54587-217193--,00.html](http://www.michigan.gov/mpsc/0,1607,7-159-52495_53750_54587-217193--,00.html)



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# Agenda

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## Project Team

**Navigant:** Overall project lead, responsible for Stage 1 including the baseline studies, potential study and attribution/allocation estimation

**MEEA:** Lead stakeholder engagement through Phase 1 and program design in Phase 2

**MSU:** Assist MEEA in the stakeholder engagement process and lead the effort to interview market experts to enhance the code compliance baseline research

**Britt/Makela Group:** Provide expert and strategic advice based on experience working at PNNL as part of the team to develop the energy code compliance assessment approach

## Clients

DTE Energy

Consumers Energy

# National Context

Code Compliance studies are becoming more and more common across the U.S., primarily driven by three factors:

1. Building energy code requirements becoming more stringent as newer codes continue to be adopted.
2. Utility programs needing to look beyond standard efficiency measures to meet saving goals
3. Some studies have found there are opportunities to help compliance through increased training and supply of resources.

## Selected Building Energy Code Compliance Studies Completed or Underway

### Residential Energy Code Compliance Studies

Alabama	Maine	Utah
Delaware	Massachusetts	Vermont
Idaho	Montana	Washington
Iowa	New York	
Kentucky	Oregon	

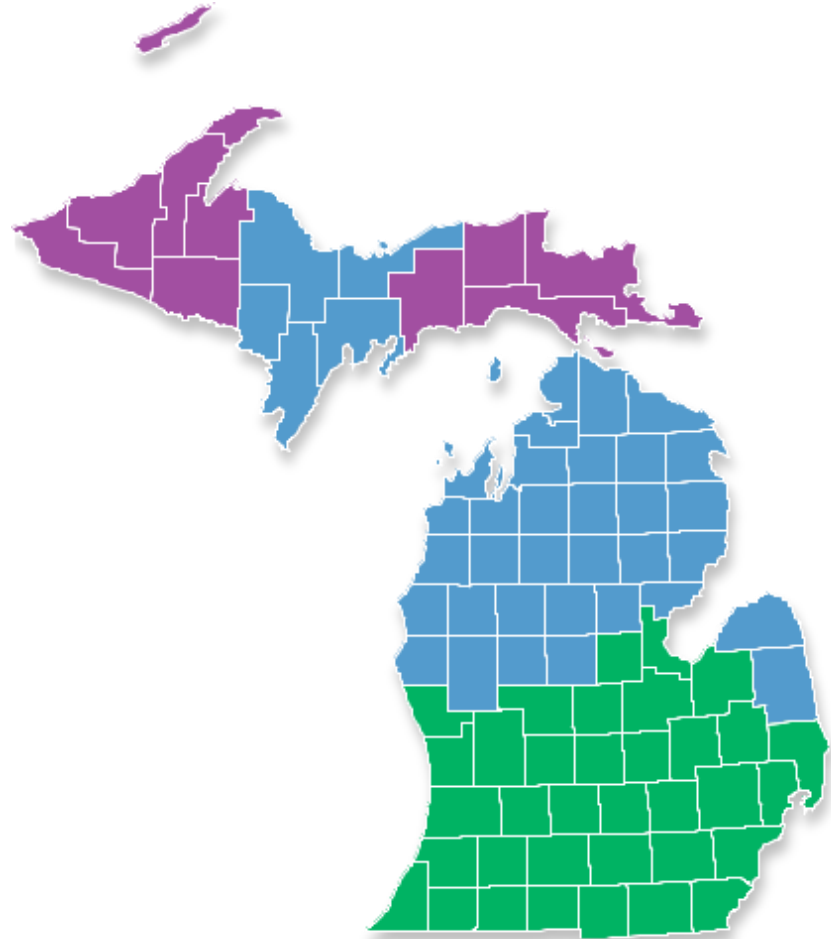
### Commercial Energy Code Compliance Studies

Georgia	Utah
Indiana	Wisconsin
Nebraska	

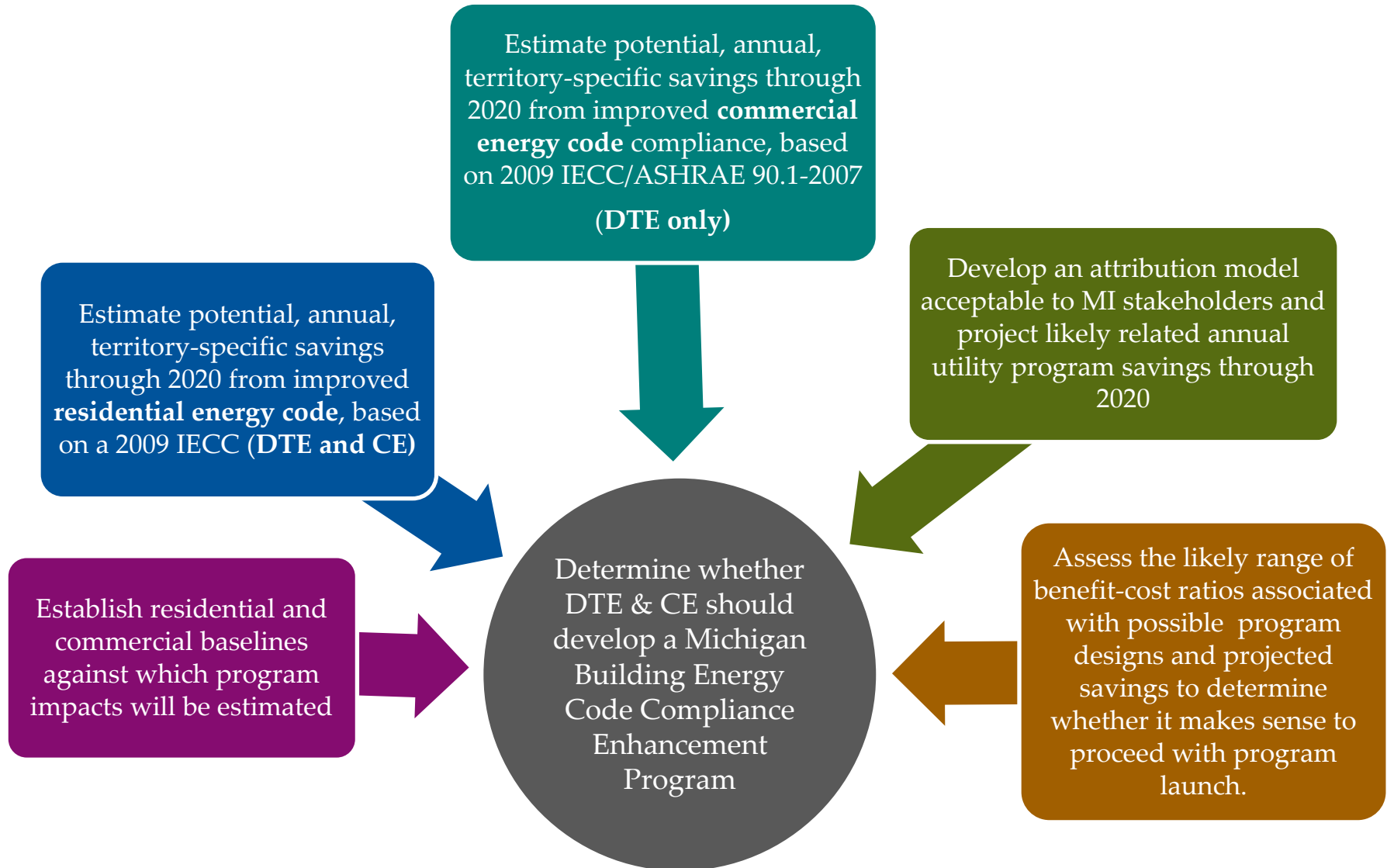
The lists presented here are selected examples of code compliance studies. This is in no way meant to be a complete list.

# Overall Michigan Research Objectives

- » Enable DTE and CE to decide whether the potential energy savings and benefit-cost are sufficient to justify moving forward with a **pilot program to enhance building energy code compliance** in their territories
- » **Develop the baselines** against which program initiatives and results will be assessed

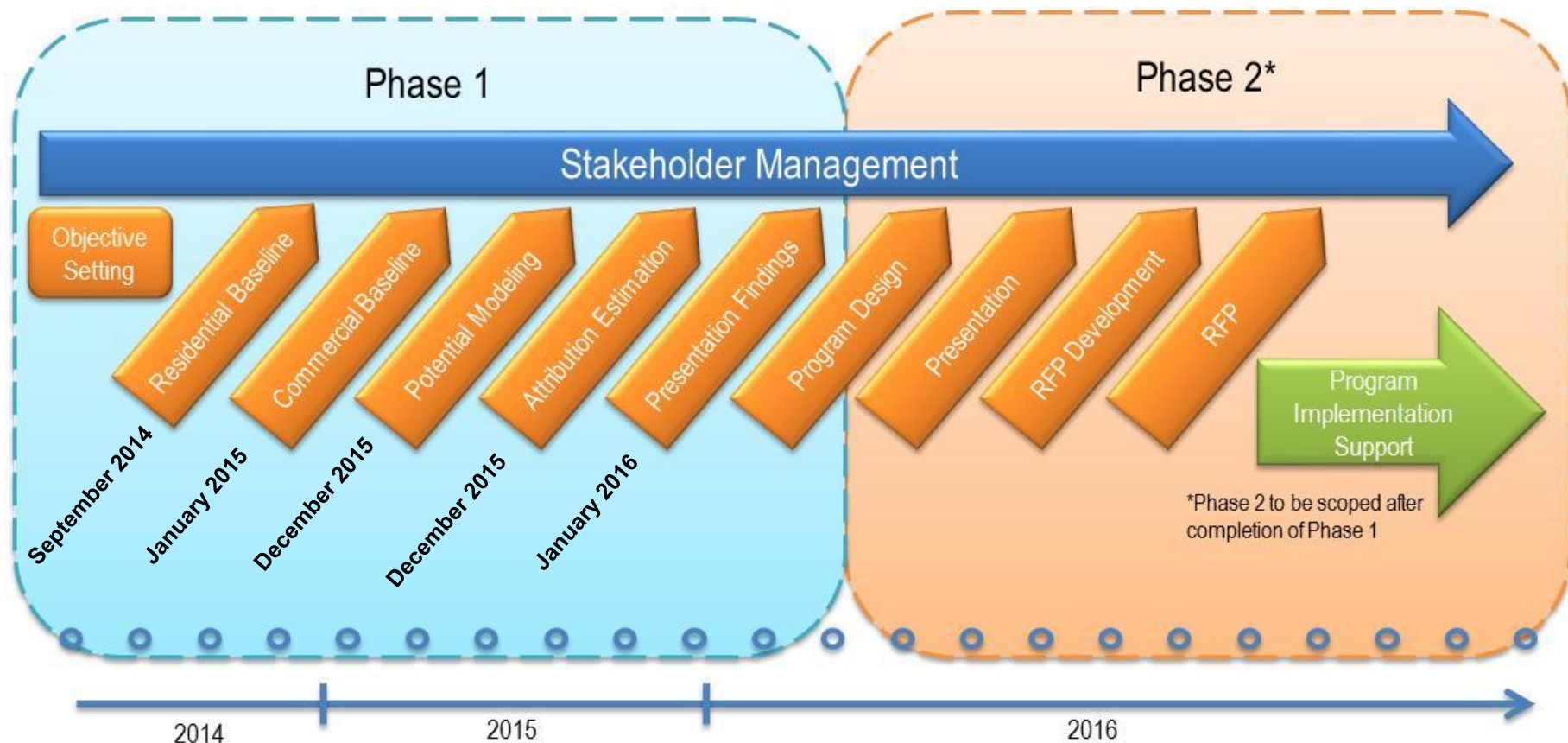


# Research Components



# Project Timeline

Today's presentation relates to Phase 1 activities, which are projected to run through the end of 2015.



Phase 2 work is contingent on Phase 1 showing that the benefits of establishing a Michigan code compliance enhancement program (either or both residential and commercial) outweigh the costs.

# Step 1: Stakeholder Engagement

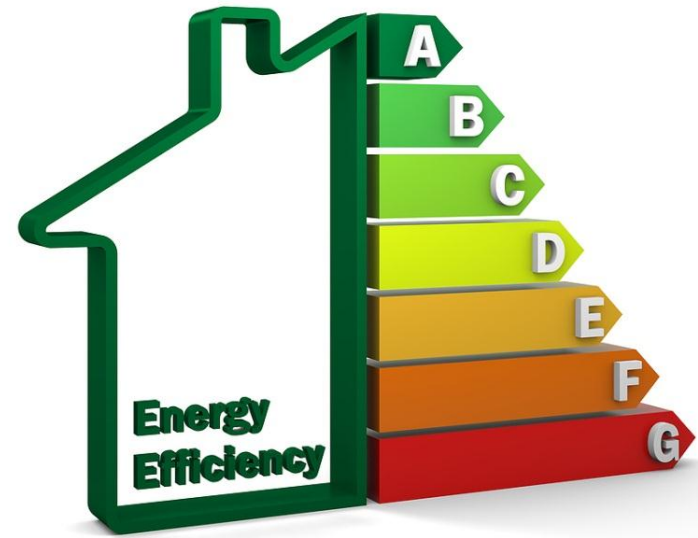
- » **The Goal:** Obtain industry support for our research, and in the event a program is launched, for the program itself.
  - The team will be visiting many building departments – municipal, county and state – to do the necessary research.
  - Our key research activities include the review of building plans and going to both new construction and renovation sites.
- » Our primary research activities are dependent on the support of building departments across the state, and we want them to know that they will benefit if this results in a utility program.





# Step 2: Residential Baseline Development

- » **The Goal:** Assess the current level of residential energy code compliance as it impacts energy consumption.
  - The project team will consider various standard methodologies on which to base the approach, including The U.S. Department of Energy's (DOE) Building Energy Code Compliance Program (BECP) methodology outlined in *Measuring Energy Code Compliance (2010)* and a revised DOE methodology set to be released this fall.
  - The standardized methodology will be customized to meet Michigan specific requirements.
- » The residential energy code compliance assessment will include plan reviews and up to three on-site inspections of approximately 50-75 new construction and renovated homes.



# Step 3: Commercial Baseline Development

- » **The Goal:** Assess the current level of commercial energy code compliance as it impacts energy consumption.
  - The project team will again consider various standardized methodologies as the basis for the approach but will customize any standard methodology to Michigan specific requirements.
- » The commercial assessment will include plan reviews and on-site inspections of approximately 75 to 100 new construction and major renovation sites.
  - Interviews with architects, contractors and building departments will focus the scope of the on-site interviews.
  - Commercial on-sites will also be selected through a stratified sample to help target certain building types/sizes.



# Step 4: Potential Model Development and Attribution

- » **The Goal:** Estimating potential energy savings and cost-benefit from implementing an energy codes enhancement program.
  - The results of the residential and commercial energy code baseline development initiatives will be used to estimate potential energy savings from implementing an energy codes enhancement program.
  - Only future savings from enhanced compliance attributable to the utility program would be captured, and it would also be allocated between the involved utilities.
  - A rough benefit-cost analysis will be completed to determine the likely range of cost effectiveness of launching an Energy Codes Compliance Enhancement Program, individually in the residential and commercial sectors.



# Next Steps – Where will you See Us?

- » Presentations to Code Officials/Key Stakeholders to introduce the project
  - September 8-12: Code Officials Conference of Michigan (COCM)
  - September 18: Southeast Michigan Building Officials & Inspectors Association (SEMBOIA)
- » Mid-September: Preliminary Interviews with Code Officials
  - First round of interviews will help focus research sampling and questions for the on-site research

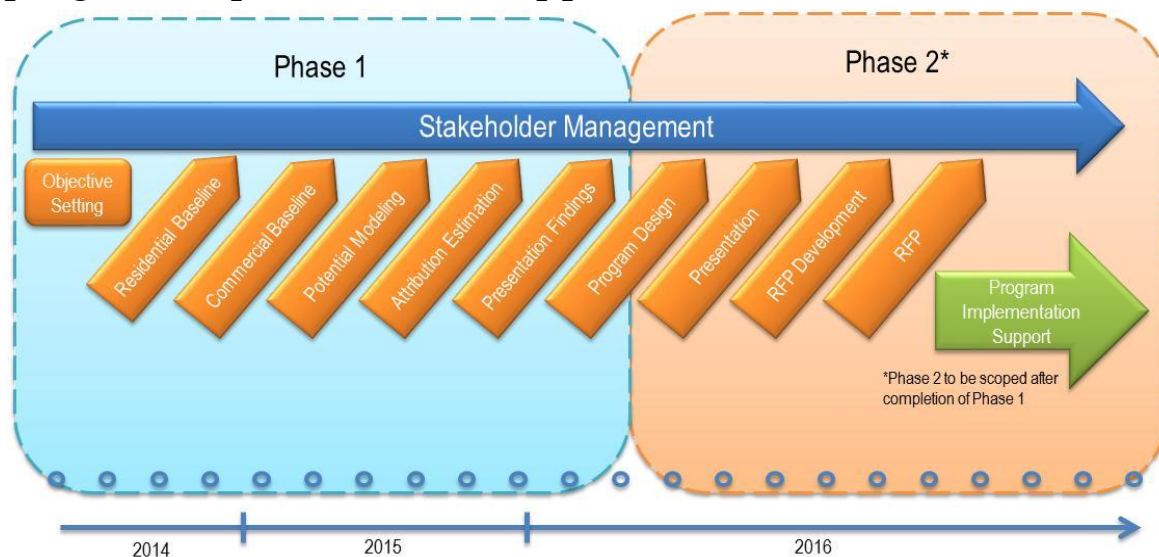


**Code Officials Conference of Michigan**



# Conclusion

- » Phase 1 work as outlined in this presentation will determine whether DTE and CE move forward with the Phase 2 program design and implementation.
- » If the Phase 1 work indicates a Michigan Code Compliance Enhancement pilot program to be cost effective, the next steps will include:
  - Program design for a residential and/or commercial code compliance program, as determined to be cost effective in Phase 1
  - RFP development to bring on contractor to run the residential and/or commercial code compliance program
  - Ongoing program implementation support



# Key CONTACTS



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