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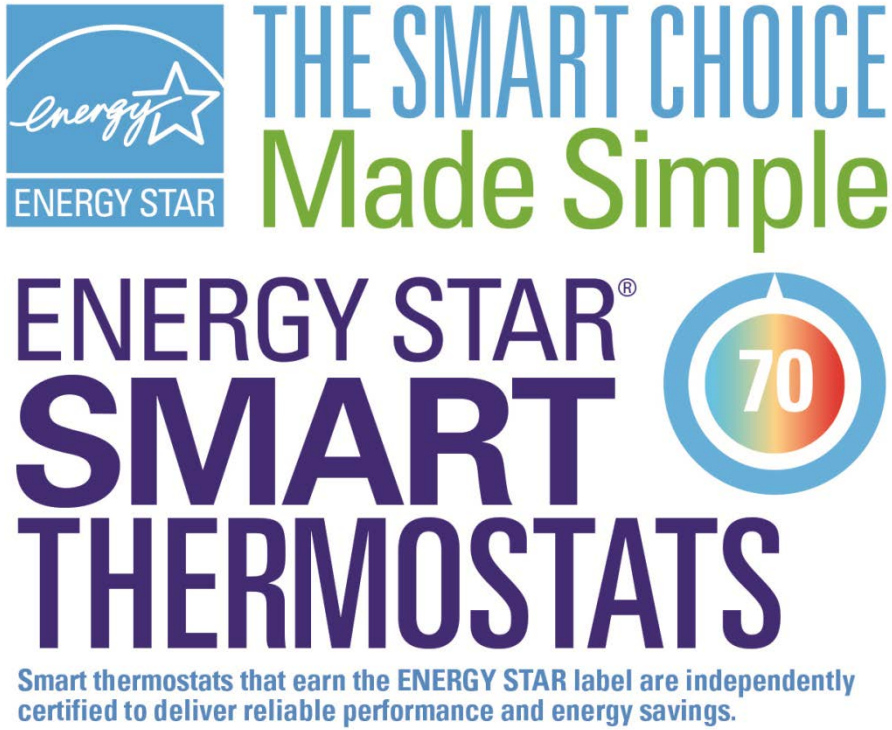
Protecting the Midwest's Environment and Natural Heritage

ENERGY STAR Certified Smart Thermostats:

The Smart Choice Made Simple



November 20, 2018

ENERGY STAR Now Certifies Smart Thermostats

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- ENERGY STAR now certifies a number of smart thermostat products as providing a minimum of **8%** heating and **10%** cooling energy savings
- Products are qualified for the ENERGY STAR label by using runtime and temperature data to quantify the runtime reductions due to control decisions from smart thermostats
- The ENERGY STAR method was determined through a robust stakeholder process that included exhaustive input and review from industry, regulators, national labs and other stakeholders
- Products that have received the ENERGY STAR designation need to submit aggregate savings data and associated statistics to the US EPA **every six months** in accordance with the ENERGY STAR Method to Demonstrate Connected Thermostat Field Savings to maintain the certification

Michigan-specific ENERGY STAR Values Are Much Higher Than The National Floor

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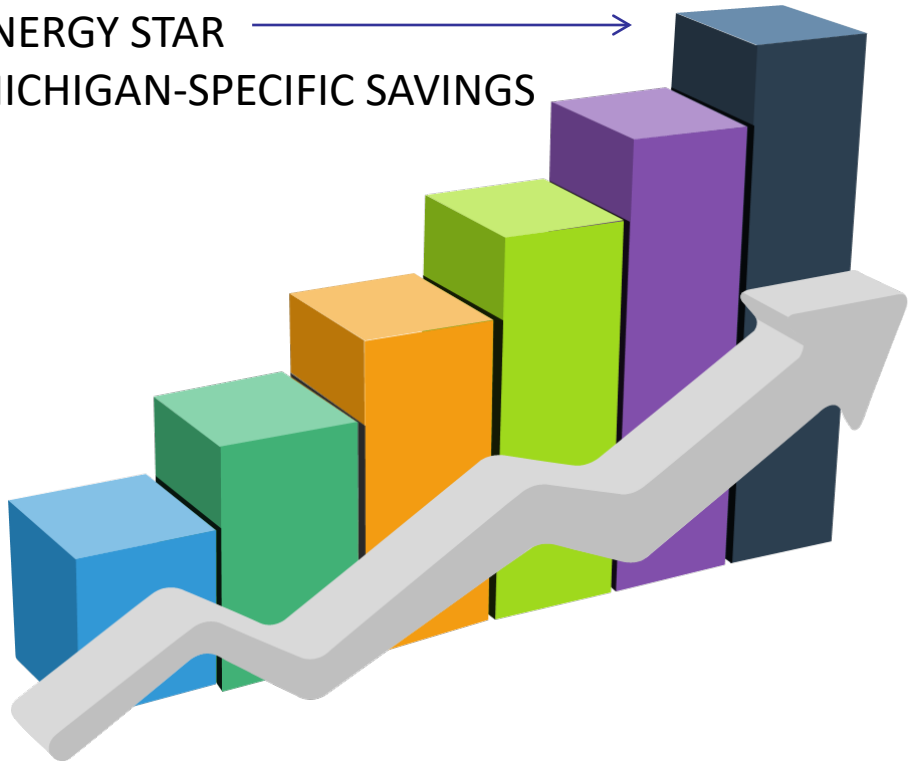
- While ENERGY STAR sets a national floor that certified products must meet a minimum of 10% cooling savings to qualify, Michigan-specific data has shown that certified products meet this threshold by **150%+**

- This more than accounts for setback behavior making the national ENERGY STAR values a conservative estimate of energy savings

ENERGY STAR
MICHIGAN-SPECIFIC SAVINGS

ENERGY STAR COOLING
SAVINGS FLOOR



States Are Using ENERGY STAR Values for Smart Thermostats in TRMs

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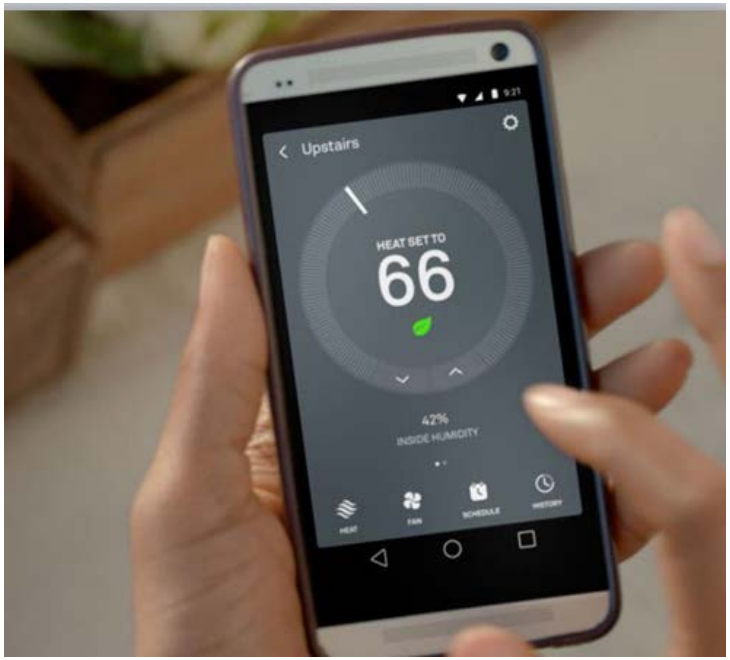
- Northeast Energy Efficiency Partnerships has issued a guidance document for claiming savings from smart thermostats which advises using the ENERGY STAR metric because it is a **more accurate** and realistic way to claim savings on a control device than a deemed savings approach

- The following TRMs are using the ENERGY STAR values for smart thermostats:
    - New York
    - Mid-Atlantic
    - Colorado



The Demand Response Capability of Smart Thermostats Needs To Be Valued

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- The demand response ability inherent in smart thermostats allows for the optimization of energy usage and at a mass scale could lead to system-wide grid and ratepayer benefits and even prevent unnecessary investments in peaker plants

- Recent studies have shown that smart thermostat savings are generally during system peak periods

- TRMs needs to account for the energy and capacity value provided by smart thermostats
    - The Missouri TRM accounts for both the cooling reduction value as well as the summer coincident peak demand savings attributable to smart thermostats

Questions?

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Appendix: The Illinois Stipulation Includes A Hybrid Approach As A Compromise

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- The study methodology outlined in the Illinois Settlement Agreement includes two parallel paths:
    - **Runtime Analysis:** use the Illinois-specific ENERGY STAR value and adjust for setback behavior based on an AMI data analysis of pre-smart thermostat usage to determine actual setback behavior
        - The results of the setback analysis could be benchmarked by a survey and field study
    - **Econometric Analysis:** use AMI data in an econometric analysis framework