

Subject: Google Nest comments on Delaware DOE WAP BIL State Plan
Date: Monday, September 19, 2022 at 4:54:50 PM Eastern Daylight Time
From: Chad Ihrig
To: HearingComments, DNREC (MailBox Resources)

Thank you for the opportunity to provide comments regarding Delaware's State Plan of the Weatherization Bipartisan Infrastructure Law.

At Google Nest, our mission is to connect the helpful home to the future of the electric grid. Google understands that the electric industry is at an inflection point and the choices that are made now will resonate for decades to come. It is critical to note that smart thermostats enable participation in demand response programs, which their 'dumb' and standard 'programmable' thermostats are not capable of doing. As the industry pushes towards electrification of homes and transportation, coupled with more extreme weather events brought by climate change, we must also optimize the electric grid for resiliency and to ensure that we all have access to electricity without disruption.

We realize that selecting the most appropriate and cost-effective measures for inclusion in energy efficiency programs is of particular importance for weatherization administrators, who must balance maximizing energy savings in customer homes with the need to efficiently invest in state, federal, and ratepayer dollars. Google Nest strongly encourages the Delaware Department of Natural Resources and Environmental Control to make smart thermostats a priority measure within the Delaware Weatherization Assistance Program.

Weatherization programs have historically relied on core techniques like air sealing, insulation, and furnace replacements. Across the country, a growing number of programs are beginning to include smart thermostats amongst those traditional measures. Their goals: fight energy insecurity using this cost-effective measure, use technology to amplify the effectiveness of weatherization programs, and generally expand access to smart thermostats in their territories. [EnergyStar](#) has noted "Weatherization programs benefit utilities and consumers in tandem, reducing unnecessary grid strain and lowering energy bills—mirroring the benefits of smart thermostats in any home." A recent

report by [S&P Global Market Intelligence](#) that evaluated smart thermostat growth through 2026 noted that “if smart thermostats were installed in every home with an HVAC system by the end of the forecast...they could cut annual space heating and cooling energy consumption by 9%, or 45.4 TWh a year.”

Further, as part of the Nest Power Project which was launched in 2018, Google Nest has committed to combat energy insecurity by steeply subsidizing one million Nest Thermostats by 2023. Power Project partners - including utilities, weatherization providers and affordable housing agencies receive special pricing on the [Nest Thermostat](#). That means energy and demand-saving smart thermostats can be installed at low cost, increasing the savings-to-investment ratio and payback period for the program.

Several states have incorporated Nest thermostats into their weatherization programs with tremendous success. For example:

- The Colorado Energy Office Weatherization Assistance Program launched a pilot in 2016, installing Nest Thermostats in half of the homes they weatherized for a year and a half. They found that homes that installed a Nest Thermostat used an average of 10% less heat than participants who only received weatherization measures such as insulation, weather stripping and efficient lighting. Further, the National Energy Audit Tool (NEAT) showed Nest thermostats to be very cost-effective, with Savings to Investment ratios ranging from 4.3 - 8.6.
- In Indiana, an evaluation of a programmable and smart thermostat program run by Indiana utility Vectren Corporation, found that participants with the Nest Thermostat reduced their heating gas consumption by approximately 12.5%, compared to only 5.0% for those who used a standard programmable thermostat. The evaluators noted that the Nest Thermostat group also reduced cooling electric consumption, by approximately 13.9%.

- A 2015 Energy Trust of Oregon evaluation found 12% electric heating savings tied to smart thermostats both in the initial study and in the follow-up evaluation a year later. An additional evaluation comparing two smart thermostat brands involving gas furnaces reported 6% heating load savings, on average, in gas-heated homes with Nest Thermostats compared to a 5% increase in energy use with another Non-Nest Thermostat brand.

In August 2022, [Bloomberg](#) reported that “some 20 million (households) across the country - about 1 in 6 American homes - have fallen behind on their utility bills” and “Underpinning those numbers is a blistering surge in electricity prices.” Nest Thermostats should be considered an immediate solution for customers and also provide a point of engagement that enables customers to participate in and engage with weatherization programs in a more tangible and persistent fashion.

A Nest Thermostat saves energy even when it cannot be connected to the internet. In houses or apartments without Wifi, Nest thermostats can deliver savings to customers and program measurement teams. In fact, weatherization programs that include a Nest thermostat increase savings by 64% on average.

Smart thermostats are also beneficial even to residents, particularly those that are elderly, that may not know how to operate a smart thermostat and would rather change the temperature manually by simply turning the thermostat up or down. The Nest Thermostat not only allows a customer to change the temperature manually at any time, customers with mobility challenges can also change the thermostat with their voice or through the app. The website [AgingInPlace.org](#) recently noted “We love the Nest thermostat, and we think technology like this can improve lives for lots of independent seniors. Beyond saving you money, the goal of smart devices is to make your life easier and more streamlined. We believe the Nest can help with these goals.”

Google Nest will be adding new functionality in the Fall of 2022 known as Nest Renew. Renew’s energy optimization makes it easy for customers to realize savings, automation, and carbon

reduction. Whether it's time of use optimization, demand response participation, or carbon emission reductions, Renew provides even more value to the Nest Thermostat.

By adding a Nest Thermostat to a weatherization program - energy providers can maximize energy and demand reduction capabilities in the near-term and strategically set the stage for future grid benefits long term.

Thank you for your attention. Please feel free to contact me with any questions that you may have.

Sincerely,

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Google Nest

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Energy Services & National Energy Accounts, Industry Partnerships

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and all those who search for it



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