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The Role of Ground-Source Heat Pumps in Achieving New Jersey’s 80% by 2050 Goal: Addressing Emissions from the Buildings Sector

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Emissions reduction and renewable energy sources are vital to health of New Jersey. Governor Murphy’s executive orders and recent legislation target actions to improve our environment and create a sustainable future. The buildings sector is recognized as the second largest source of greenhouse gas emissions in New Jersey behind transportation, with the majority of emissions due to fossil fuel-based heating and cooling. To reach state’s goal of 80% emissions reduction by 2050, reduction strategies for the built environment must implement technologies that displace fossil fuels and maximize clean and low-carbon electricity. Heat pumps are a key technology because of their high efficiency and capability to integrate with the increasing electrification of systems and end uses. Ground-source heat pumps notably deliver the highest efficiencies and therefore the deepest emissions reductions, even in extreme weather conditions. This presentation will discuss the current market conditions, challenges to adoption, and the NJDEP efforts to support the deployment of ground-source heat pumps.