



DAIKIN U.S. CORPORATION
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July 1, 2022

VIA ELECTRONIC MAIL ONLY

Doreen Harris, Co-Chair & President and CEO of NYSERDA
Basil Seggos, Co-Chair & Commissions of NYS DEC
New York State Climate Action Council
625 Broadway
Albany, New York 12233-0001

Re: Comments on New York State Climate Action Council's Draft Scoping Plan

Dear Co-Chairs Harris and Seggos:

Daikin U.S. Corporation welcomes the opportunity to provide comments on the Draft Scoping Plan presented by the New York State Climate Action Council.

About Daikin

Daikin Industries, Ltd. (DIL) is the world's number one air conditioning company and is a worldwide provider of advanced, high-quality heat pump solutions for residential, commercial, and industrial applications. Daikin has been in business for more than 95 years and has sold millions of systems throughout 150 countries. Daikin's products are technologically advanced and have high levels of efficiency. Daikin is best known for pioneering inverter-driven, electric air source heat pumps which will be pivotal in facilitating New York State's transition from fossil-fuel combusting heating systems to heat pumps that use electricity as their primary energy source.

In the U.S., Daikin group companies manufacture and sell residential HVAC equipment under the Daikin, Goodman, and Amana brands. Those same companies also work with a network of more than 500 installing contractors throughout New York, operate a more than 15,000 square foot showroom and training center in Lynbrook, NY, and support more than 15 distribution locations throughout New York. In addition, Daikin's chemical division, Daikin America, Inc., which manufactures fluoropolymers used in many commercial and consumer products is headquartered in Orangeburg, NY. Finally, our air-filtration division, American Air Filter Company, Inc., employs 120 associates at their manufacturing plant in Hudson, NY where they produce high-efficiency filters frequently found in hospitals and other specialized applications.

Detailed Comments on Draft Scoping Plan

Signed in 2019, The Climate Leadership and Community Protection Act has set the State of New York on a course toward a carbon neutral economy by 2050. To achieve this goal, New York will need to electrify many of the end-uses that combust fossil fuels while transitions to carbon-free electric generation and finding no- or low-carbon alternatives for hard-to-electrify applications – all while ensuring an equitable transition. More recently, Governor Kathy Hochul established a plan for the state to achieve 2 million climate-friendly, electrified or electrification-ready homes by 2030. Daikin supports and applauds these

efforts and is ready to work with all stakeholders to ensure the necessary market transformation occurs to meet these ambitious and challenging targets.

The necessary and important actions to support this market transformation are appropriately outlined in the Draft Scoping Plan. These include the scaling-up of direct incentives for electrification technologies, a focus on preparing and expanding the workforce that will be necessary to meet the scale of this challenge and codifying efficient electric technologies in new and existing buildings.

Daikin supports the timeline for all-electric new buildings in 2024 for residential and low-rise multifamily buildings and 2027 for other buildings as outlined in the Draft Scoping Plan and believes it is important for the State to align with New York City and other states on this action. It will also be important to ensure ample time is provided to enable this transition and with 2024 so near - it is imperative that legislators take action immediately to achieve this goal or consider delaying its timeline to allow the construction industry sufficient time to adjust and meet this requirement. Daikin is confident that all electric new buildings can affordably and sufficiently meet the space heating and water heating needs in every corner of New York State.

Doubters of the technology may question a heat pump's ability to meet New York's heating needs on the coldest days of the year; however, Daikin and other manufacturers make systems today that, when correctly sized, are capable of providing effective and efficient indoor heat even when outdoor temperatures reach -13°F for homes and to -22°F for commercial buildings. Daikin is confident air source heat pumps can be relied upon for providing sufficient comfort for every hour of the year in downstate New York, where winter low temperatures are more moderate. For colder areas of New York, including areas like Buffalo or Binghamton, it is Daikin's expectation that for new construction, heat pumps should still be able to provide all the heating needs with little to no need for back-up electric resistance heating. In the most extreme climates in New York, like the Adirondack region, back-up electric resistance heat may still be needed for residential new construction for approximately 50 to 75 hours a year.

For New York State to achieve its goals, building decarbonization solutions will need to be cost-effective and ultimately provide operational cost savings to residents and building owners. Daikin welcomes the scaling up of direct incentives for electrification technologies, which will help overcome first cost challenges that exist today. However, in general, the utility rate mix throughout the state is unfavorable for electrification technologies. Given today's electric rates, the installation of air source heat pumps generally provides marginal energy cost savings for buildings utilizing delivered fuels. Unfortunately, even with high-levels of efficiency, air-source heat pumps generally fail to provide energy cost savings when natural gas is utilized as the primary fuel-source of heating.

It is our understanding that in the long-term, New York State plans to overcome this challenge by reducing costs to generate clean electricity while also increasing the cost to utilize natural gas by associating a cost with emitting greenhouse gases. While this could be a successful strategy deployed many years in the future, Daikin feels strongly that there are simple, straightforward steps that could be taken to address the lack of operational costs savings like simply reducing electric rates for buildings using heat pumps for heating. For example, PSEG-LI offers an electric heating rate which has been successful in helping Long Island residents convert to heat pumps. PSEG-LI is able to offer a lower electric rate in the winter as the cost to deliver electricity in winter months is significantly lower – therefore this electric heating rate both encourages residents to adopt heat pumps but also more closely reflects the true cost to power that

equipment during winter months. The New York State Public Service Commission should consider ordering all utilities to offer electric heating rates to all New Yorkers.

During recent New York State Assembly hearings on Assembly Bill 8143A (All-Electric Building Code) it became apparent there is a knowledge gap of the real costs to deploy heat pumps across the state. To better inform New York's path forward and overcome concerns from stakeholders about the costs to achieve these goals, it is Daikin's recommendation that NYSERDA performs the appropriate studies to concretely define the costs to deploy heat pumps today. This data should be collected to reflect the following considerations:

- differences in system types (e.g., ductless air-source heat pump, centrally ducted air-source heat pump, geothermal heat pump, etc.),
- regional cost differences (e.g., Long Island, New York City, Hudson Valley, Southern Tier, Adirondacks, etc.),
- consideration of other work that may be required (e.g., envelop and air sealing improvements, ductwork corrections/modifications, electrical service upgrades, and electrical panel upgrades) and,
- contractor labor and profit.

Lastly, there are several important considerations which involve refrigerant transitions and management. All scenarios considered under the Integration Analysis in the Draft Scoping Plan includes a transition to what is referenced as "ultra-low GWP refrigerants". Daikin is supportive of reducing the emissions of high-GWP refrigerants and is committed to the transition to low-GWP alternatives. To prepare for this market transition, considerable effort has been placed over years in updating building codes, as well as research and design to ensure high-efficiency products, while maintain affordability.

Due to the ongoing transition to low-GWP refrigerants, the feasibility of achieving the timeline established in the Draft Scoping Plan to transition to ultra-low GWP refrigerants is unquestionably unachievable. While the Draft Scoping Plan goal of reducing greenhouse gas emissions is one Daikin shares, however in order to achieve increased heat pump market acceptance, maintaining low-GWP refrigerants is essential. Greater emissions reductions of current high-GWP refrigerants through increased recovery programs would yield significant emissions savings to help New York achieve its overall goals and would be one Daikin and many others would welcome.

Daikin hopes that the New York State Department of Environmental Conservation will consider aligning their timeline with the federal phase-down schedule and seriously engage with the trade association The Air Conditioning, Heating and Refrigeration Institute (AHRI) to consider their input.

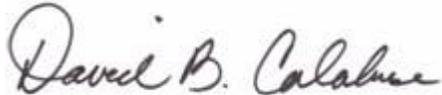
Closing Remarks & Summary

- Daikin applauds NYS' leadership and efforts to significantly reduce greenhouse gas emissions and stands ready to support these efforts and achieve the market transformation necessary to achieve these goals.
- Daikin supports the timelines outlined in the Draft Scoping Plan for an All-Electric New Building Code, however it will be important to provide industry stakeholders the appropriate notice prior to enactment.
- Daikin request the New York State Public Service Commission consider ordering all utilities to offer discounted electric-heating rates.

- NYSERDA should improve its market intelligences of current costs to deploy heat pumps.
- The timeline to transition to ultra-low GWP refrigerants is unachievable. NYS DEC should align their phase-down timelines with the federal phase-down schedule and collaborate closely AHRI. To offset those emissions, NYS DEC should consider refrigerant recovery programs.

Please reach to Jon Hacker at jon.hacker@daikin.com or 347-255-5796 with any questions or requests.

Sincerely,

A handwritten signature in cursive script that reads "David B. Calabrese".

David B. Calabrese
Senior Vice President, Government Affairs
Daikin, U.S. Corporation