Comment: *Consideration should be given to lowering the thresholds accepted by Con Edison for methane, natural gas leakage from their systems. Leaks are ubiquitous; however Con Edison will not cure leakage that is not hazardous.*

Achieving deep Decarbonization is feasible by mid-century. Achieving the emission limits requires action in all sectors, requiring critical investments in New York’s economy.

Consumer and community decision-making is key, and especially important for the purchase of new passenger vehicles and heating systems for homes and businesses through the next decade. In all modeled scenarios, zero-emission vehicles and heat pumps will need to become the majority of new purchases by the late 2020s, and fossil fuel-emitting cars and appliances will no longer be sold after 2035.

Comment: *Strong consideration should be given to an emphasis on all possible energy conservation technologies. Reducing the demand in buildings requires better window insulation, modern boiler reset controls, coded boiler maintenance specifications, improved air filtration technologies, solar cladding on building outside surfaces, proper codes for refrigeration maintenance, to maximize the implementation of all Decarbonization methods.*

A transition to low-GWP refrigerants and enhanced refrigerant management will be required to electrify while reducing and ultimately eliminating GHG emissions from HFC-based refrigerants used in today’s heat pumps.

> Research, development, and demonstration (RD&D) is key. Additional innovation will be required in areas such as carbon sequestration solutions, long-duration storage, flexible electric loads, low-GWP refrigerants, and animal feeding, in concert with federal action (such as Earthshots).

Comment: *A continuing research arm must be established to welcome new technologies and to encourage the creation of new technologies by innovators. The focus on renovation to heat pumps alone is a narrow and limited view that completely ignores the potential for reducing carbon emissions from buildings that will not show immediate convertibility to heat pumps. There are many technologies available and many creative mechanics in the field that would be invigorated by a request for their experience and ideas. Having a more open outlook on the contributions that can be made by those outside the bureaucracy would be refreshing. In management this is called “bottoms up information”.*

3. Health benefits associated with energy efficiency interventions in low- and moderate-income homes • This analysis applies the average values from published literature on the health and safety benefits of energy efficiency and weatherization programs to estimate the benefits of such programs in NYS

> To identify areas where additional clarity is needed in the scoping plan.

*Comment: There is no mention of the need for caution for lead and asbestos monitoring and abatement during the heat pump renovation process.*

> To further understand relevant needs and priorities of members of the public and how they connect to existing (or additional) climate strategies >

Highlight where New York residents and businesses can participate in achieving the State’s climate goals

> Written comment (now through April 2022): Written comments and questions to be shared by members of the public with the CAC via written format

Working closely with key partners to identify opportunities to engage stakeholders and leverage existing networks of support

The Integration Analysis indicates that by 2050, the large majority of buildings statewide will need to use electric heat pumps for heating and cooling to meet the Climate Act requirements.

Comment*: This is a view that needs the combined emphasis with energy conservation efforts. The two concepts need balanced and equal emphasis, financing, education and research. The current law is far to constraining, and closed to the dynamics of a changing process. Much will be learned in the journey forward, and flexibility toward maximum effectiveness with flexibility, requires a multi channeled approach*.

This approach depends upon 100% zero-emissions electricity by 2040 and making energy efficiency improvements in all buildings, with the emphasis on improvements to building envelopes (air sealing, insulation, and replacing poorly performing windows) to reduce energy demand by 30% to 50%. The Integration Analysis finds that widespread building electrification is needed even with the strategic utilization of low- Chapter 12. Buildings 121 carbon fuels that are projected to be available, notably the use of RNG to meet back-up heating demands in a small proportion (less than 10%) of electrified buildings and the utilization of green hydrogen to power a smaller Con Ed district system by 2050.

In existing buildings, the best opportunity for energy improvements is during routine home and capital improvements and when HVAC equipment retires out of service. Since HVAC service lives range from 15 to 30 years, seizing the opportunities to electrify New York’s over 6 million buildings by 2050 requires near-term action.

Comment*: This process will be slow and painful. There are buildings where the needed renovations will not be affordable. This is more reason for encouraging money saving technologies (30%) now. Buildings should account for their energy use at all levels. Not as punishment but, as good management.*

These regulations and complementary market support must be thoughtfully designed to drive adoption of highly efficient heat pump systems that are coupled with measures that reduce thermal energy demand, rather than uptake of inefficient alternatives such as electric furnaces or boilers.

Comments: *This attitude towards boilers is ignorant of the research being done at the manufacturers. A need for more open dialogue between government and reality is acutely demonstrated by this type of closed view. For instance advanced control strategies can demonstrate much information to help fine tune the sizing, installation and proper scheduled maintenance for fossil fuel systems needed until the complete electrification process is completed.*

*At this juncture it is not the image that government is open to new knowledge or discussion. This has an ignoring effect on the part of tradesmen, and repels their acceptance of government principles. Government is a punishing experience to be avoided at all cost.*