SIERRA CLUB
NEW JERSEY CHAPTER

September 17, 2020

Via Electronic Mail to NJairrulesstationary@dep.nj.gov

Commissioner Catherine R. McCabe
New Jersey Department of Environmental Protection
401 E. State Street, 7th Floor, East Wing
Trenton, NJ 08625-0402

Re: Request for Comments – NJ PACT: Boilers, NJ PACT: EGUs

Dear Commissioner McCabe,

On behalf of the Sierra Club and its over 20,000 New Jersey members, we submit the following in response to New Jersey Department of Environmental Protection's solicitation of public comments on its September 3, 2020 presentations "Boiler Electrification – NJ PACT: Stationary Source," and "NJ GHG Stationary Source PACT Rule – Phase Out of Heavy Oils."

The state of New Jersey—as well as the rest of the world—is in a climate emergency. The U.N. Climate Report warns of a global tipping point by 2030, so it is absolutely imperative that we reduce greenhouse gas emissions as quickly as we can. As such, the Sierra Club strongly supports rapid replacement of fossil-fired boilers in New Jersey's buildings with zero-emitting electric boilers and likewise strongly supports phasing out greenhouse gas-emitting fuels as approaches to meeting the goals in the Energy Master Plan and addressing the even more pressing need to transition to an entirely carbon-neutral economy. Decarbonizing these sectors will not only help protect the climate, but will also reduce emissions of sulfur oxides, particulate matter, and nitrogen oxides—pollutants that threaten the respiratory health of New Jerseyans.

A. New Jersey Should Pursue a Program of Boiler Electrification

Fossil-fired boilers represent a significant source of climate-threatening carbon pollution, and are likewise emitters of dangerous conventional air pollutants; New Jersey should, consistent with the goals expressed in the Energy Master Plan, accordingly take steps to phase them out.

As DEP notes and as the Energy Master Plan discusses, heating, hot water, appliances, and industrial uses of fossil fuels account for well over a quarter of New Jersey's total greenhouse gas emissions,[1] with fossil-fired boilers for heating water and generating steam

[1] NJDEP, "Boiler Electrification – NJ PACT: Stationary Source," at 4; Energy Master Plan at 157.

account for a significant fraction of these emissions. These boilers are almost universally far, far smaller than the boilers in electric generating units, meaning that they are less efficient, more polluting, worse controlled, and generally subject to less stringent pollution permitting and reporting requirements. As such, they represent a source category that, if replaced with zero-emitting electric boilers, would confer enormous environmental benefits. As the Energy Master Plan notes:

> Heating oil emits 161.3 pounds of CO2 per million BTUs of energy, propane emits 139 pounds of CO2 and natural gas emits 117 pounds of CO2, while each technology also contributes varying amounts of criteria pollutants including nitrogen oxides, sulfur oxides, and particulate emissions, including black carbon. Each of these fuels also carries different pollution profiles in how they are extracted, processed, and distributed.[2]

Conversely, electric boilers are zero-emission. As DEP recognizes, electric boilers not only do not generate pollution locally, but are simpler to operate and maintain than fossil-fired boilers, and are extremely efficient.[3] Moreover, as with electric vehicles, the aggregate pollution picture gets better over time as New Jersey's electric generating fleet itself decarbonizes and reduces its pollution footprint. Electric boilers are also simpler from a regulatory perspective, as they do not require the permitting that fossil-fired boilers do.[4]

Accordingly, New Jersey should take immediate steps to phase out fossil-fired boilers by replacing them with electric boilers. First and foremost, DEP should prohibit installation of new fossil-fired boilers, ensuring that the statewide problem does not get worse that it already is. While some transition time may be needed to address currently-ongoing construction, permitting, and installation, such time should be minimized to send the strongest possible market signal and to reduce the likelihood of there being a rush to install polluting boilers.

DEP during its presentation talked about the potential for offsets for new fossil-fired boilers, like adding electric buses. However, New Jersey should not be creating such offsets—particularly as colleges and other entities employing multiple boilers should already be transitioning to EVs anyway. By authorizing the offsetting of new fossil fuel boilers, New Jersey would be undercutting clean electric boilers and prolonging the problem the existing fleet of fossil-fired boilers poses.

Second, New Jersey should deny renewal of existing fossil-fired boiler permits as those permits expire. This will ensure that the existing stock of fossil-fired boilers is retired in a measured way, with a clear date by which New Jersey will have entirely electrified boilers for steam and hot water production. Although DEP does not have precise data on how many fossil-fired boilers there are in New Jersey, we do know that they are present in environmental justice communities. Granting repermitting—or new permits—for such dirty boilers would accordingly go directly against both Governor Murphy's EO 23 on environmental justice communities and the Governor's EO 28 on reducing greenhouse gases and climate impacts.

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[2] Energy Master Plan at 159.
[3] NJDEP, "Boiler Electrification – NJ PACT: Stationary Source," at 7.
[4] *Id.*

Third, New Jersey should avoid approaching boiler electrification from a fleet perspective. Boiler electrification should be additive to other decarbonization processes in the state. Adopting a fleetwide approach in which fossil-fired boilers that would otherwise be replaced are allowed to continue operating if fleet owners engage in energy efficiency or other approaches forces different decarbonization processes to trade against each other, limiting the overall speed by which New Jersey meets its Energy Master Plan goals. Similarly, approaches incorporating a fleetwide standard raise significant equity concerns. As DEP recognizes, fossil-fired boilers emit significant amounts of conventional pollutants that threaten respiratory health, and it is important that the public health benefits of replacing these boilers with clean electric boilers inure to *all* New Jerseyans, and not just those fortunate to live and work in buildings whose retrofits are offset by aging fossil-fired boilers maintained elsewhere.

B. GHG-Emitting Fuels Should Be Phased Out in New Jersey

As noted above, the ongoing Climate Crisis as well as New Jersey's decarbonization goals in the Energy Master Plan require swift action to transition off of fossil fuels. As such, New Jersey will need to phase out *all* greenhouse gas-emitting fuels, and will need to do so very quickly. Accordingly, the Sierra Club supports DEP's consideration of a rulemaking process to phase out the sale or use of fuels for stationary sources based on carbon intensity.

As DEP observes, combustion of some fuels results in greater greenhouse gas emissions than others; additional factors that should be considered are other pollutants such as sulfur oxides, particulate matter, and nitrogen oxides that threaten public health. Solid fuels and No. 6 and No. 4 fuel oil are particularly egregious on both fronts, and thus phasing out their use in New Jersey would both help achieve Energy Master Plan goals and provide enormous public health benefits. In particular, coal has no place in New Jersey's energy mix. The Sierra Club supports phasing out such fuels on a highly accelerated basis.

However, the Club cautions against looking too narrowly at carbon emissions from *combustion* alone, as the lifecycle emissions from a fuel are also critically important. Methane gas may result in less carbon dioxide emitted per MMbtu than liquid or solid fossil fuels when combusted, but methane leaks from pipelines and from fracking wells are nonetheless enormously significant sources of greenhouse gas pollution; similarly, fuels like biogas and biodiesel are fraught with other serious environmental and social issues. New Jersey should not be burning biogas. Indeed, DEP has admitted that biogas as an alternative fuel can lead to serious environmental and environmental justice problems. Combusting biogas generates dangerous particulate matter and other co-pollutants. An approach of phasing out dirty fossil fuels based on carbon emissions should not turn a blind eye to those harms. Similarly, DEP should not fall into the trap of considering methane gas or similar fossil fuels as any sort of bridge to the carbon neutral economy that New Jersey desperately needs.

If you have any questions, or if there is any additional information I can provide, please feel free to reach out to me.

Sincerely,

/s/

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