PGANE
PROPANE GAS ASSOCIATION
OF NEW ENGLAND

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TESTIMONY OF LESLIE ANDERSON
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COMMENTS IN SUPPORT OF SEA 3 PROVIDENCE, LLC'S PETITION FOR DECLARIATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT

On behalf of the Propane Gas Association of New England (PGANE), which represents propane marketers and suppliers across Rhode Island, we appreciate the opportunity to provide comments in support of Sea3's Petition. Our members provide clean-burning EPA recognized alternative energy to over 50,000 residential homes, as well as to commercial and agricultural customers across the Ocean State. Propane is a clean alternative energy that is affordable and can be used in place of more carbon intensive energies in environmental justice zones. As an alternative energy association, **we SUPPORT SEA 3'S PETITION because we believe it has the potential increase the state's resiliency, increase environmental justice equity, lower carbon emissions, and protect the health and safety of Rhode Islander's as well as other New England residents.**

Rail will fight climate change and further the path to zero by allowing Sea 3 to transition to renewable propane. **Blocking this petition will be bad for the environment as it will likely prohibit innovation in clean technologies.** Renewable propane is a by-product of renewable diesel production, and can be derived from biomass, animal fats and vegetable oils.[1] It has the same molecular structure as traditional propane and can safely be used in vehicle engines, including those certified to CARB's ultra-low NOx standard.[2] CARB also recognizes that, when propane is derived from renewable sources, its carbon intensity score decreases even further.[3] **Renewable propane is also an approved pathway for compliance under the federal Renewable Fuel Standard (RFS)**, which was created to reduce GHG emissions.[4]

Energy diversity is critical to ensure that Rhode Island can meet its energy service needs in a manner that is adequate, reliable, secure, and sustainable. Propane is the perfect partner for resiliency needs. Resiliency and energy security are of fundamental importance in protecting the critical infrastructure within the state, ranging from commercial and municipal needs such as backup power generation for hospitals to residential needs such as boiling water and cooking food. To ensure the safety of our citizens, when there are electrical disruptions from winter storms, climate disasters, or cyber terrorism, it is essential that the state promote an energy like propane, which is sustainable, green, and resilient. For these reasons, propane needs to be an integral part of the Rhode Island's energy structure. This winter we have witnessed a complete failure of energy infrastructure in the middle of our country and parts of the south that

[1] https://afdc.energy.gov/fuels/propane_production.html

[2] https://www.roushcleantech.com/roush-cleantech-launches-first-available-near-zero-emissions-engines-fueled-by-renewable-propane/

[3] https://ww2.arb.ca.gov/sites/default/files/classic//fuels/lcfs/fuelpathways/comments/tier2/rpane_temp.pdf?_ga=2.217831764.355390530.1610306946-1390821278.1600954367

[4] https://www.epa.gov/renewable-fuel-standard-program/approved-pathways-renewable-fuel

were devastating for the citizens living in these areas. The need for resilient energy diversity should be at the forefront of all policymakers, if we are to learn any lessons from these destructive events, and propane is a clean energy.

Propane is the unsung energy hero of extreme weather events, and if climate change is going to increase the likelihood of these events as many predict, then we need to make sure that Rhode Island has a healthy vibrant propane industry to step in and provide energy security during these emergencies. Just look at the number of citizens in Texas lined up for propane to cook and boil water in February to attest to the necessity of reliable portable energy. Propane generators kept the lights on at hospitals and at homes with backup generators when there was no other energy source.

For the most recent reminder that propane is the portable energy needed during times of crisis, consider COVID – 19. During the pandemic, propane was the primary energy used to heat outdoor testing sites, including critical biomedical sites such as Lonza in NH, where workers were tested prior to entering the facility to conduct COVID research. Lonza is currently manufacturing the Moderna coronavirus vaccine. Propane was also used for handwashing stations and hot showers for the homeless, as well as a source of outdoor heating for businesses, restaurants, and testing sites throughout the state. Propane heated the tents set up on the highway rest areas staffed by the national guard in Rhode Island to make sure out of state residents were informed of the quarantine requirements in April and May of 2020. The pandemic is just one recent of example of how propane provides energy security and should be part of any resilient energy strategy.







PGANE commends the State for its desire to promote energy efficiency, reduce greenhouse gas (GHG) emissions, improve air quality, and foster healthier, more vibrant communities. However, we are concerned that the Attorney General has overlooked the value of our industry's contributions and mis-categorizes propane as a fossil fuel and not as a beneficial by-product and alternative energy. Rhode Island policy makers are creating an energy pyramid with electricity squarely at the top. State officials overlook how these policy-driven electrification efforts will impact consumers, businesses, and the environment, and put us at greater risk by reducing energy diversity. **The narrative that decarbonization is only possible through electrification is false.** We also reject the perceived notion that, from an environmental perspective, there is no difference between thermal fuels. Propane has many positive attributes that should be recognized. **Clean propane energy accelerates decarbonization and access to clean propane ensures environmental equity on the path to net zero.**

Centralized electricity generation is incredibly inefficient and wasteful; energy is lost during each step of the delivery process (i.e., power generation, distribution). **For context, the federal government's Energy Star Program gives propane, which is a primary energy source, a source-site ratio of 1.01, compared to 2.80 for electricity from the ISO NE grid.**[5] This means is takes 2.80 units of electricity to produce and deliver one unit of energy to a home, compared to only 1.01 for propane. Propane is much more efficient at delivering energy than drawing electricity from the grid.

Heating homes and water, which are energy-intensive applications, in the Ocean State with propane reduces demand for grid electricity. This is notable because during periods of prolonged cold weather, when demand for energy is high, ISO New England has, in the past, relied on oil-fired generation for baseload electricity production.[6] Oil-fired generation is especially inefficient;[7] it is also particularly dirty.[8]

While electrons must travel from a generation plant to an end-user by way of power lines, propane can be easily and economically transported in multiple ways, including pipeline, rail and over-the-road vehicles.[9] From an energy resilience perspective, the ability to move propane in this fashion is quite beneficial. If the ultimate goal is clean energy that is affordable and reliable, then we should be increasing energy options for consumers, not restricting them.

Using propane furthers the fundamental environmental goal to **Reduce, Reuse, and Recycle**[10] as promoted by EPA. Most people do not realize that propane is a beneficial biproduct of natural gas processing. Approximately five percent of natural gas processing produces propane. Indeed, a global surplus of propane exists and is projected to continue for the next decade.[11] If propane is not captured and beneficially used to offset another energy source, it is simply burned off. Thus, **propane should be promoted as key component of Rhode Island climate policy**, since reuse of this underutilized biproduct is essentially carbon neutral (surplus biproduct is wasted energy). Good environmental stewards would recognize this fact and reclassify propane to help further the state's emissions reductions. Since propane that is not used is simply wasted, usage of propane should be defined as carbon neutral.

Affordable propane systems promote environmental justice by providing clean energy solutions for Rhode Island families unable to afford high-cost systems. Solar and wind will require energy storage and if we limit our energy sources, we do so at the risk of causing harm. Propane is a perfect partner with renewable energy as it is the cleanest backup for solar installations and wind turbines. Unlike toxic battery storage, propane is a recognized clean alternative fuel which is one of the reasons it is also the preferred partner with solar in net zero housing.[12] In addition, propane is nontoxic and has no ozone depleting chemicals, unlike electricity transformers which contain SF6 the most potent of all greenhouse gases. Propane microgrids are also a viable solution and can partner with solar microgrid installations to

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[5] https://portfoliomanager.energystar.gov/pdf/reference/Source%20Energy.pdf

[6] https://www.iso-ne.com/static-assets/documents/2018/01/envtlupdate_20180130.pdf

[7] https://www.eia.gov/electricity/annual/html/epa_08_01.html

[8] https://www.iso-ne.com/static-assets/documents/2018/01/envtlupdate_20180130.pdf

[9] https://afdc.energy.gov/fuels/propane_production.html

[10] https://www.epa.gov/recycle

[11] https://www.wlpga.org/wp-content/uploads/2019/07/Sustainable-Development-Goals-Contributions-of-LPG.pdf

[12] Zero Net Energy Infographic – New England Edition | Propane.com

provide dependable clean energy. Rhode Island should be looking at ways to expand the usage of propane and increase local storage so that it is available to meet the demands of increased weather events.

It is also important to note that there are no zero emission energy sources. There are carbon impacts from all energy sources. The materials needed to create solar panels, wind turbines, and electric batteries creates massive amounts of carbon during their production, which often comes from coal powered power plants in other countries. All energy sources also have environmental impacts beyond air emissions. The International Renewable Energy Agency calculates that by 2050, the disposal of worn-out solar panels will constitute over double the tonnage of all of today's global plastic waste. Worn-out wind turbines and batteries will add millions of tons more waste, creating a whole new environmental challenge.[13]

Today, more than ever before, **we must be cautious as we draft a plan to improve the health of Rhode Island families, not only to ensure environmental equity in areas of disparity within Rhode Island, but also to prevent environmental detriment to the health of families in other parts of the globe.** The atmosphere knows no boundaries, so the reduction of emissions in Rhode Island should not increase emissions in other parts of our planet. Promoting battery technology through **the promotion of electricity is currently inflicting environmental harm to a much more egregious extent amongst the poorest and most disadvantaged communities**. Locations such as the Democratic Republic of the Congo have plaintiffs who have filed lawsuits against Tesla and other companies that are buying cobalt from these locations to make their electric batteries. [14] Non-renewable heavy metals like cobalt and lithium are harmful to the environment both when extracted and at end of life.[15]

Our industry is concerned about the environment and is actively working to reduce carbon emissions. **The propane industry is reducing millions of tons of carbon emissions each year.** Across the globe, propane is being used to solve the world's greatest health threat, indoor air pollution caused primarily by burning wood for cooking and heating. Over 3.5 million people die annually from cooking with solid fuels. This leads to deforestation at an alarming rate in many developing countries and causes enormous carbon dioxide emissions. Moving one family from wood to propane saves over one ton of CO2 per year. In India, the propane industry has partnered with the Indian government to move 3 million people annually from solid fuels to propane, saving over 3 million tons of CO2 emissions per year for the last three years. In addition, moving 50 families to propane from wood saves an acre of rainforest land. **Across the globe propane is being used improve human health, reduce carbon emissions, and reduce deforestation.** Propane is also literally improving the lives of women around the globe. Once women and girls switch from gathering wood, an activity that takes up to six hours per day and is fraught with danger including snake bite and rape, women are freed to become educated, and spend more quality time with their children.[16] Rhode Island needs to join in this effort recognized by many countries around the globe, and partner with propane as a solution for reducing carbon dioxide emissions.

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[13] Solar Panels Are Starting to Die. What Will We Do With the Megatons of Toxic Trash? – Mother Jones

[14] https://www.business-humanrights.org/en/latest-news/lawsuit-against-apple-google-tesla-and-others-re-child-labour-drc/

[15] https://www.atsdr.cdc.gov/phs/phs.asp?id=371&tid=64

https://www.theguardian.com/global-development/2019/dec/18/how-the-race-for-cobalt-risks-turning-it-from-miracle-metal-to-deadly-chemical

[16] https://www.wlpga.org/key-focus-areas/cooking-for-life/

The use of rail at the Sea 3 terminal will benefit Rhode Islanders by reducing the number of tractor trailer trucks on local roads and highways and providing a more efficient lower carbon method of transportation. Rail will also enhance supply security for Rhode Islanders who use propane for critical heating during the winter, and for back up energy. Propane is a clean alternative energy that is affordable and can be used in place of more carbon intensive energies in environmental justice zones.

Rhode Island policymakers should embrace a more pragmatic approach to attain their clean energy and climate goals. A narrow approach heavily skewed towards electricity is shortsighted and will have real ramifications for energy consumers and industry, as was demonstrated this month in Texas. Ultimately, if these electrification policies are implemented at the extent of energy diversity, they will result in reduced business investment, fewer jobs, a retrenchment of clean, low-carbon energy options for consumers, an increase in environmental justice inequities, and a decrease in energy security.

Thank you again for the opportunity to provide comments in support of Sea 3's petition.

REACHING ZERO NET ENERGY GOALS WITH PROPANE

NEW ENGLAND EDITION

PROPANE CLEAN AMERICAN ENERGY®

Using propane appliances, you can significantly lower a home's energy consumption, making it easier to achieve Zero Net Energy (ZNE) goals and deliver premium performance to homeowners. It's why propane should be a part of every builder's ZNE strategy.

THE ZNE HOME

Produces as much energy as it uses. Builders achieve this by increasing a home's energy efficiency, then adding renewable energy sources such as solar.

THE ZNE READY HOME

Is incredibly energy efficient, and can reach Zero Net Energy status by using propane appliances and adding renewable energy.

MEASURING ENERGY USES: SITE VS. SOURCE

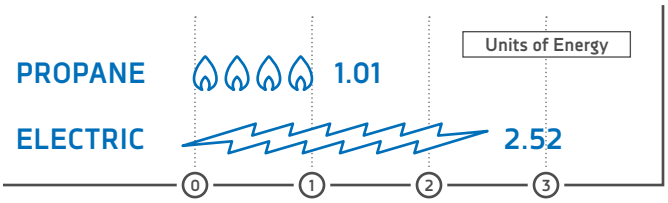
Site: LESS ACCURATE

Measures only energy used at the house. Doesn't account for upstream losses or energy production.

Source: MORE ACCURATE

Measures energy use starting at the source, including the energy required to extract and process fuel.

SOURCE ENERGY RATIOS

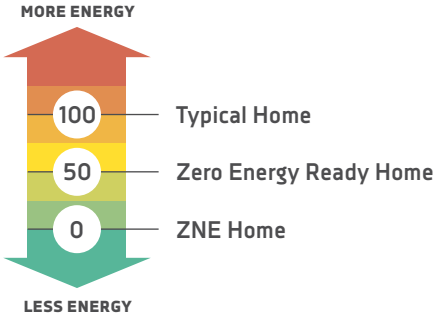


It takes 2.52 units of electricity to produce and deliver one unit of energy to a home, versus just 1.01 for propane. Propane wins hands down.

**This data is based on New England averages, it may be different in your area.*

MEASURING ZNE PROGRESS

The Home Energy Rating System (HERS®) Index is used to measure efficiency. The lower the score, the better.



3 WAYS TO LOWER YOUR HERS SCORE

Focus on the building's envelope:

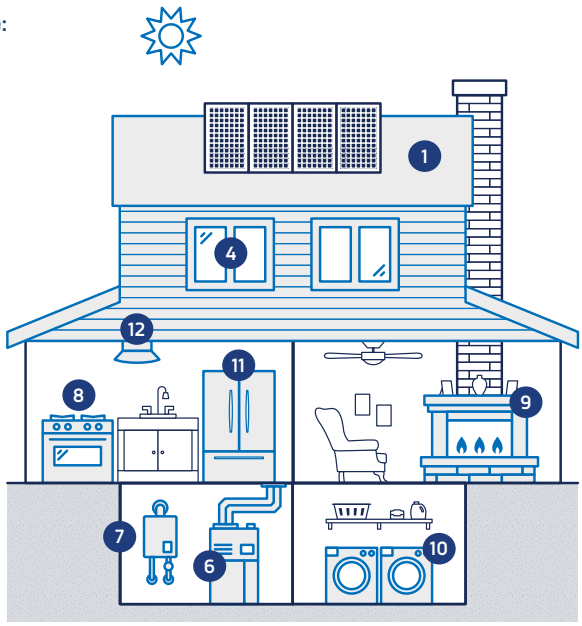
1. Insulation quality
2. Insulation quantity
3. Air sealing
4. Window performance
5. House orientation

Include high-efficiency propane appliances:

6. Propane furnace
7. Propane water heating
8. Propane cooking
9. Propane fireplace
10. Propane clothes dryer

Trim other energy use:

11. Energy Star appliances
12. LED lighting
13. Energy monitoring devices



PROVEN RESULTS

Using propane and other strategies including solar cells, this home earns $343 annually selling excess energy.

- 1,912 square feet
- Super insulated
- R-5 triple-pane windows
- 96% efficient propane tankless water heater
- HERS without solar: 34
- HERS with solar: -21

OTHER PROPANE BENEFITS

Propane is not only energy efficient, it lowers first costs and emissions. It is also highly effective in any area of the country for a variety of temperatures.

FIRST COSTS

Of high-performance systems:

- Propane Furnace & AC: $11k
- Ground Source Heat Pump (GSHP) Closed Loop: ~$34k

67% FEWER EMISSIONS

With a propane tankless water heater compared with electric storage tank models.

LEARN MORE ABOUT ZNE BUILDING AND PROPANE

Find out how to achieve your Zero Net Energy goals, and how to lower a home's HERS score with propane appliances at **Propane.com.**

PROPANE EDUCATION & RESEARCH COUNCIL

PROPANE EMPOWERS

In the developing world, propane provides impoverished families with universal access to sustainable energy for heating and cooking, saving the lives of millions of women and children while **fueling the fight for gender equality**.

SUSTAINABLE DEVELOPMENT GOALS

PROPANE FURTHERS U.N. SUSTAINABLE DEVELOPMENT GOALS

In 2015, United Nations Member States approved the 2030 Agenda for Sustainable Development providing a global "blueprint for action" on an urgent range of initiatives. Within this agenda, are 17 Sustainable Development Goals, including affordable and clean energy, quality education, gender equality, and climate action among others. Leaders and citizens of the developing world recognize propane as an invaluable alternative to deforestation and dirty heating/cooking. Propane can help nations achieve many, if not all, of the UN goals.

SUSTAINABLE ENERGY FOR ALL

"Three billion people need clean cooking solutions and their economic success is a hugely exciting investment opportunity. Propane is an exceptional part of that opportunity ... Imagine if we can create vibrant markets for clean fuels for the 20 countries where 84% of those three billion people live. We would be advancing progress on the Sustainable Development Goals on health, poverty, women, children, environment, deforestation, energy and climate."

RACHEL KYTE
Special Representative of UN Secretary-General | CEO, Sustainable Energy for All

ACCESS TO CLEAN, AFFORDABLE ENERGY

Approximately 3 billion people around the world live without access to non-solid fuel sources and instead rely on dangerous, carbon-heavy firewood, charcoal or animal dung for heating and cooking. This causes them to inhale carcinogenic smoke, which results in over 4 million premature deaths worldwide, mostly women and children.

IMPROVING HEALTH & SAVING LIVES

"When you cook with firewood, smoke enters your eyes. My children cough because of the smoke. When you cook with gas, you feel nothing."

CAMEROON WOMAN WHO ADOPTED PROPANE COOKING THROUGH THE "BOTTLED GAS FOR BETTER LIFE" PROGRAM

HEALTH, EDUCATION & SAFETY

In areas like developing Asia and Sub-Saharan Africa, the chore of drudging home heavy firewood falls on women and girls. This can take them up to six hours a day and exposes them to any number of dangers ranging from snakebite to sexual assault. The workload also prevents girls from getting an education.

CHANGING GENDER ROLES

"I spent 3-4 hours cooking before. Now, in one hour I can do everything. I recommend propane to my friends. I tell them it has been a benefit and they should go and get it. With propane, my husband is now willing to help me."

FATIMA SULIMAN AHMED | Darfur, Sudan

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Green Sustainable Energy

888-445-1075 | PGANE.ORG

PROPANE EMPOWERS

The movement to switch families in developing countries from coal and wood to propane cooking is actively preventing global deforestation, saving millions of trees per year while significantly reducing harmful greenhouse gas emissions.

SAVING TREES

Propane can help stop global deforestation and save the trees.

The world loses an area of forest equal to the size of Connecticut, New Hampshire and Maine each year. The vast majority of this deforestation occurs in Latin America, Southeast Asia and parts of Africa, where wood is used for heating and cooking.

In Ghana, the switch to clean and portable propane stoves is projected to save up to 221 million trees over 10 years. For every 50 families that switch from wood to propane cooking, one acre of global forestland is preserved.

FIGHTING CLIMATE CHANGE

By saving trees, propane eliminates greenhouse gas emissions.

Forests and tree cover are necessary for preventing harmful greenhouse gas emissions such as carbon dioxide from reaching the atmosphere. In Guinea and Sierra Leone, deforestation has caused CO_2 emissions to increase by more than 470% from 2014-2018.

Ghana's switch to propane cooking is projected to eliminate up to 9.3 million metric tons of CO_2 emissions and up to 16.6 million metric tons of black carbon emissions. Next to CO_2, black carbon is recognized as the 2nd leading global warming agent.

A QUICK, SUSTAINABLE SOLUTION

Propane is an easy, affordable solution for the world's climate and energy crisis.

Globally, up to 25% of black carbon emissions come from burning coal and wood for heating, cooking and electricity. In 2018, the U.S. used carbon-heavy coal to power 28% of our electricity.

The International Energy Agency projects that *1.4 Billion people* in the developing world can transition to propane cooking over the next 10 years. Countries like India, Indonesia and El Salvador demonstrate how quickly and sustainably propane adoption may be scaled up across national territories.

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