



Memorandum

Date: November 21, 2022
To: Mayor Vinis and City Council
From: Sara McKinney, 541-682-8497
Subject: Testimony Submitted

Attached is testimony submitted at the Public Hearing on November 21, 2022. A copy of this material is also included with the meeting materials posted on the web at:

<https://eugene.ompnetwork.org/embed/sessions/257501/city-council-public-hearing-november-21-2022>

My name is Kathe Shaw-Bassett, and I live in the Friendly area in Ward 1. For nine years while raising my kids, we had a gas stove in our house — something I never knew had significant health consequences for my kids, and for me. Studies have shown the substantial effects of indoor pollutants for people like me who have asthma and for aging adults like my parents, who always had gas stoves while I was growing up.

All of us want what's best for our kids and their health, but decades of propaganda and disinformation from fossil fuel companies has helped keep many of us underinformed about the scientific consensus on the dangers of fossil fuels in our homes.

Like me, many of us grow up and raise families without thinking twice about the risks our household appliances have for our health. Chemicals like lead and asbestos were once thought to be safe and useful as well — but it's long past time for fossil gas to join them in the category of substances we all agree are too harmful to have in our homes.

Communities like Eugene need to provide a role model for the national transition away from fossil fuel-dependent infrastructure and homes; electric appliances like heat pumps are already efficient and, in the long run, more affordable than gas boilers.

Importantly, the residential electrification ordinance will not take fossil fuels away from people who may currently rely on them.

Although we will eventually need to eradicate fossil fuels entirely, this ordinance is a no-brainer first step to make sure we keep the problem from getting any worse by ensuring no new buildings use fossil gas.

The city council needs to be an advocate for those unaware of the dangers of fossil fuels, people like me who didn't even realize the effects on my own health and the health of my family. It's time to move into a fully electric future, where health and safety come first and we save families money in the process. Thank you for your time.



November 21, 2022

Mayor Vinis and Eugene City Council,

We, the undersigned Eugene and Oregon-based building industry professionals, urge you to adopt policies to transition homes and buildings in Eugene from polluting fossil fuels to renewable electricity as a proactive measure to address the climate crisis. We especially support programs to encourage the adoption of high efficiency heat pump systems in new construction, as well as in existing homes and buildings.

Homes and buildings represent approximately [32% of Eugene's greenhouse gas emissions](#) and are one of the fastest growing sources of emissions in the City. Since Eugene's [Climate Recovery Ordinance \(CRO\)](#), initiated in 2014, calls for an average annual emissions reduction of 7.6% across sectors and a 50% reduction in fossil fuel use of 2010 levels by 2030, the City is far from achieving its goals.

To achieve our ambitious climate targets, protect our residents, and build a viable future for coming generations, we must utilize the best building techniques and technologies that are currently fully adopted in the marketplace, readily available, affordable and environmentally preferable. That is why we support the policies currently being considered by the City of Eugene to transition our city to renewable electricity by requiring that new commercial and residential buildings be constructed with all electric heating and water heating, and to create a program to transition existing residential and commercial buildings to all-electric systems for heating and water heating by 2035. In the [Eugene Climate Action Plan 2.0 Gap](#)

[Analysis](#), policies similar to those that the City is currently considering were suggested by City staff as a means of achieving our CRO goals, goals which the city is quickly falling behind on.

These policies will strongly increase the rate of adoption of heat pumps, which is critical both to reducing emissions in the City, as well as increasing our community's resilience to climate-driven heat waves, wildfires, cold spells, and reducing strain on the local electrical grid.

In addition to being all-electric, the immediately tangible benefits of heat pump systems are multifold:

- Heat pump air conditioners provide both cooling in summer and heat in winter, offering increased resilience in climate-driven extreme weather conditions
- Heat pump air conditioners are between 300% and 500% more efficient than traditional gas furnaces
- Heat pump air conditioners and some heat pump water heaters are effective even when outdoor temperatures are as low as negative 25 F
- Heat pump water heaters are between 300% and 500% more efficient than gas water heater
- Heat pumps can be scaled to any project – from residential and educational to large scale commercial and industrial buildings

Furthermore, new electric construction has significant benefits for health and safety, and the climate, including:

- Reduced indoor and outdoor air pollution and the associated health risks caused by unhealthy air quality from gas appliances
- Reduced upfront construction costs and consumer utility expenses, thanks to the elimination of gas plumbing and necessary exhaust ductwork and to the great energy-efficiency of heat pumps and heat pump hot water heaters
- Reduced risk of consumers being stuck with stranded assets as the local, state and federal government pass policies to transition off of gas infrastructure

It is time to signal to the market that we need to move away from fossil fuels in our homes and buildings. In our professional practices we have found that building all-electric new homes and buildings is a proven, robust, efficient, and economically viable solution already adopted across the marketplace. The market for electric-only HVAC and hot water equipment is mature and poses very little risk to developers and engineers alike. In Eugene alone, a significant number of new housing developments have been successful in adopting all-electric energy strategies including St. Vincent DePaul's Iris Place, St. Vincent DePaul's Stellar Apartments, and Square One Villages' Opportunity Village.

All-electric new construction will contribute to Eugene's stated climate goals and will protect its citizens and future generations from the accelerating physical and economic impacts of climate change. Given this fact, we can no longer justify prolonging the use of gas in new construction when there are more viable, more sustainable, more profitable, and healthier alternatives readily available today. This is especially true as [Eugene's electrical grid is already one of the cleanest in the nation](#), and, with the implementation of [Oregon House Bill 2021](#), Oregon's electricity will be increasingly generated by renewable technology.

A recent analysis from the highly respected non-partisan, non-profit think-tank [RMI](#), demonstrated the significant economic and climate benefits of all-electric residential construction in Eugene. Specifically, RMI's Eugene-specific analysis shows that:

- All-electric homes constructed with an Energy Star-rated heat pump cost \$3,446 less to build than a similar mixed-fuel home.
- Because of low electricity rates and a mild climate, heat pumps in Eugene were also found to significantly lower annual utility bills, saving rate payers up to \$390 a year in utilities compared to a mixed-fuel home.
- All-electric homes in Eugene emit 70% less carbon over a 15-year period than a mixed-fuel home.

The technology to build high-performance all-electric homes and buildings already exists in the market today and innovation is driving more advanced products. Concrete policies like the ones that the City of Eugene is considering meet a triple bottom line of benefiting our climate, our economy, and our community.

Detailed research has shown that such policies are not only critical to meeting the City's carbon reduction goals but will save Eugene residents money, particularly low-income and historically marginalized populations who suffer disproportionate energy burdens and harms from the health effects of gas in the home.

The feasibility of successfully realizing such an ordinance is demonstrated by the [ever growing list of cities and states](#) implementing electrification policies, including:

- New York City, NY
- San Francisco, CA
- Seattle, WA
- Denver, CO
- Los Angeles, CA
- Washington D.C.
- Boston, MA
- Berkeley, CA
- Brookline, MA

In 2010, when Eugene created its first [Community Climate and Energy Action Plan](#), it joined a growing list of forward-thinking cities around the world that are addressing climate change and energy challenges through dedicated planning efforts. Eugene's CRO continues to include some of the strongest greenhouse gas emission reduction goals in the nation.

Thanks to these strong commitments, Eugene is already a national leader in climate policy. At this critical point in time we, the architects, designers, builders, engineers, and suppliers at work in our community, urge you to uphold the bold commitments that you made a decade ago and have reaffirmed countless times since, and to push forward in taking this important step to effectively address the climate crisis.

Let's create a better future for our community by transitioning our homes and buildings from polluting fossil-fuel to clean, renewable electricity.

Sincerely,



Jan Fillinger, AIA, LEED ap, Principal, **Studio.e Architecture PC**

Kaley Fought, AIA, AIA Oregon President 2022-2023, **American Institute of Architects (AIA) Oregon**

David Heslam, Executive Director, **Earth Advantage**

Alexi Miller, Acting Director of Building Innovation, **New Buildings Institute**

Joe Emerson, Founder, **The Zero Energy Project**

Jeff Bissonnette, Policy & Legislative Consultant, **NW Energy Coalition**

Josh Salinger, Founder & CEO, **Passive House Northwest**, Founder & CEO, **Birdsmouth**

Mike Steffen, Director of Innovation, **Walsh Construction**

Alex Boetzel, Director of Operations and Sustainability, **Green Hammer**

Cameo Konfrst, Communications & Development Director, **Community Energy Project**

Mark Perepelitza, Principal, **SERA Architects**

Neil Baungard, Transportation and Climate Advocacy Manager, **The Environmental Center**

Mike Ardeljan, Owner, **Dream Home Building and Design**

Peter Grube, Founder, **NorthWest AeroBarrier**

Heather DeGrella, Sustainable Design Director, **Opsis Architecture**

Angela Crowley-Koch, Executive Director, **Oregon Solar + Storage Industries Association**

Pat Schellerup, Director of Operations, **Imagine Energy**

Ashley Haight, ZERO Coalition Manager, **ZERO Coalition**

Alain Rebeyrol, Architect, **Composite Architecture LLC**

Carl Christianson, Owner, **G. Christianson Construction**

James Mconald, Green Home Builder, **Ecobuilding Collaborative of Oregon**

Anita Van Asperdt, Landscape Architect, **LandCurrent landscape architects**

Nir Pearlson, Architect, **Aligned Architecture**

Teri Reifer, Manager, **Covision LLC**

Quince A Sterry, Architect, **Q Sterry - Inspired Architecture, LLC**

Dylan Lamar, Architect, Passive House Consultant, **Cultivate, Inc.**

Jeremiah Chavez, Solar Installation Contractor-Project Manager, **Energy Design Co.**

Rick Robertson, Builder-Owner, **Six Degrees Construction**

Rob Cellini, Owner, **Home Rehab PDX**

Win Swafford, Owner/Member, **domestic Tranquility**

Eric Corey Freed, Architect, Director of Sustainability

Mia Kalatzes, Architectural Design Associate

Dean Lamoureux, Residential Design + Build construction

Colin Dean, AIA, Architect

Cameron Murray Ewing, Designer

Gene Johnson, Professional Engineering / Principal

Jocelyn Reynolds, Architecture/Associate Designer

Justen Stiels, Architectural Designer, CPHC

Nancy Yen-wen Chen, Associate Professor of Architecture

Eli Nafziger, Architect

Matthew Bokar, Architect

Anne DeLaney, Architect

Mark Young, Architect

Alison Kwok, PhD., FAIA

Gene Mowery, Owner's Representative/Project Manager

November 21, 2022

Dear Eugene Mayor and All City Council Members,

Approximately 2.5 years ago I heard/felt a vibration that seemed to come from underground near my house. I determined that it must be EWEB cleaning out the storm drains or drilling something. But the sound increased. After hearing it on numerous occasions, I walked toward the sound, then drove and it was clearly from the vicinity of 99 and Roosevelt. After a while I was consistently wakened by it, my windows were humming! And these are two-paned, new replacement windows. The house seemed like there was a massive tuning fork held against it. I also liken it to the sound of a buzzing fluorescent light fixture ballast that needs to be replaced. Extremely disruptive! This started occurring around 3:50 in the mornings on weekdays.

Others started commenting on it on a Facebook page for our neighborhood (which is about 2 miles north of the source). Once we found out it was from Zip-o-Laminator's new planer (used for mass timber beams), many of us filed complaints with the city nuisance department, called Zip-o-Laminators to find out if they could enclose the facility or mitigate somehow. I also personally left messages with our county commissioner. Needless to say, it has been a very frustrating 2.5 years. Losing sleep is a health issue and I feel the city isn't protecting us from this hazard. During the day the sound is awful as well, if you are working in your yard or taking a walk.

I urge you to adopt this new ordinance which align the city standards with the state DEQ standards on noise pollution. And I am very grateful for former council member Claire Syrett for all her work and attention to this. Our neighborhood Association chairs Jon Belcher and Clare Strawn also gave us a voice and held a meeting in which there were over 120 participants when this issue was on the agenda.

What I don't understand is why the city ordinances don't automatically change when the state laws do.

Clearly, the ~~state~~ intent of the state DEQ commission, when ceding their enforcement to the cities and counties, was that those bodies enforce the state standards and may be more strict, but not less.

Particularly, ORS 467.100 2) (a) and (b) instruct the city and counties to adopt the noise standards and enforce them. Please see the attached.

Please work with the state DEQ to come up with a good solution. We all need clarification about this issue. When you have zoned heavy industry in the center of a city it is extremely important that the interface of residential and industrial has a buffer. Hopefully that would

require full enclosure of the facilities, insulation and other acoustic modifications appropriate for their equipment, and ongoing measurements that verify the levels stay low.

Protecting ^{our} the health and livability is critical.

Thank you for reading this.

Grace Parsons

1274 Sunny Dr

Eugene, OR 97404

ORS 467.100 Local regulation of noise sources; exemption from state enforcement; rules.

(1) Pursuant to this chapter, in order to protect the health, safety and welfare of its citizens, a city or county may adopt and enforce noise ordinances or noise standards otherwise permitted by law. A city or county may also adopt such standards for a class of activity exempted by the commission or noise emission sources not regulated by the commission.

(2) The commission may by rule withdraw from enforcement any or all of its rules or standards adopted pursuant to this chapter within the boundaries of any city or county, if the commission finds such city or county:

(a) Has adopted noise standards that are at least as stringent as and no less protective than those standards adopted by the state; and

(b) Has a program of active enforcement of such standards which, in the commission's view, is at least as protective of the public health, safety and welfare as would be the enforcement provided by the department.

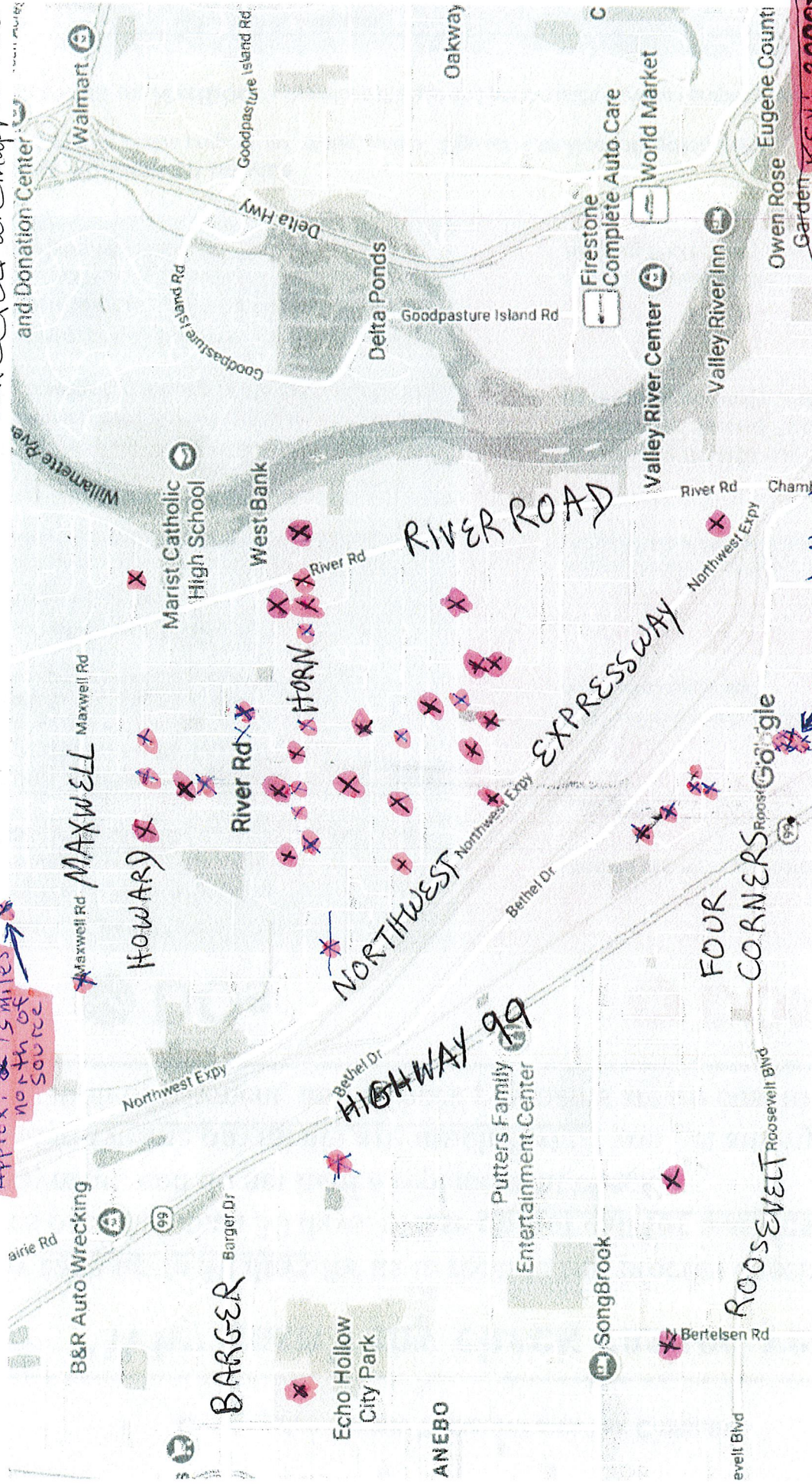
(3) The commission may modify or repeal such a rule as is made in accordance with subsection (2) of this section with regard to any particular city or county if it finds material change in any of the circumstances relied upon by the commission in making such rule. Such rulemaking shall be in conformance with the provisions of ORS chapter 183.

(4) Nothing in this section is intended to preclude contractual arrangements between a city or county and a state agency for services provided for the enforcement of state or local noise emission control standards. [1977 c.511 §4]

Map of some people regularly woken up by Zip-O-Laminators planer, by nearest cross-streets (less than 1/2 of known residents affected are mapped below)

Approx. 2 1/3 miles north of source

Google Maps



Compressed Aberdeen in Nov, 2020 - 7 of 12 households were woken up by the planer in the early morning hours.

KEY: 2020 post

SOURCE
ZIP-O-LAMINATORS
PLANER

(This is not an exhaustive list - it's just folks affected by this noise who happened to find the two groups online discussing it. This is just some of the locations of over 100 known people.)

- Compiled by
Dharmika Henshel



Some Zip-O-Laminator complaints from 2021:

Please rectify this problem as it has been very disrupting.

I've been dealing with this noise waking me up since May 2020. It's literally exhausting.

Seemed quieter in the early morning today. I woke up briefly several times. Now it is 6:15 and the vibration is much more pervasive.

Choosing a preferred time was required, but for me there simply is no acceptable time. I work from home and the noise/vibration makes me nauseous so I can't work or enjoy my time at home. It usually doesn't wake me up so I chose overnight, but I know this is terrible for others.

Our quality of life is severely impacted by their noise. I no longer can hear the birds singing and my ears are ringing most of the day from the noise impact

This isn't the first time Someone in our home has been woke up by it, just the first time I've filled out the form.

This has been a problem for a very long time.

I would not chose any of the above times for this noise to happen within city limits. This is the type of industry that needs to be outside of town.

They need to minimize the noise pollution.

I think it's been about a year for me now...

You ask for a date. It's every weekday, unbearably loud. Please later in the morning. Live on Park Ave.

This has been a major aggravation for over the last two years for many citizens in this area. I will continue to try to change this situation. Either more insulation or move.

I would suggest running the planers between 7am-10pm.

This is a health issue. It's harming people. The vibration is very difficult to block out.

Still a problem.

Tired of it all. It's been waking me up for a year now.

Exhausting.

OMG. Again!

I've heard this sound for almost a year now always starting around 4:15 am. I've lived near the tracks for over 30 years but this is the first time I've had to wear earplugs. Trains make screeching noises but they're short in duration. This vibration goes on for hours and even gets through my earplugs sometimes. It's torture.

This is within the city limits and it just seems like there would be a better place for this kind of factory to be set up. It has changed our quality of life, waking up our entire family most nights.

I've heard the sound *every* morning in the same time frame for the past +3 months. It's disturbing, causes loss of sleep, and is unhealthy for our community.

I wish noise restrictions could be put in place

Hot night, had to open windows, and then I could not sleep, even with the windows closed, once it woke me up.

Hot night, open window, woke and closed window, still couldn't sleep.

Hot night, same story.

I eventually fell asleep when it shut up, and then I was so exhausted from 4 days of it that I missed a very important doctor's appointment.

Earplugs, pillows, white noise machine, ridiculous way to sleep.

Earplugs, pillows, white noise machine...

It was loud. Was able to get back to restless, interrupted sleep, with earplugs, pillows, and a white noise machine, after being woken up three days this week that I reported, as well as one day the previous week of an unknown date.

Please when it's this hot and the coolest air of the day is early morning please start later in the morning.

ZipO mill needs to make a public statement concerning this issue. Many people are affected and want to know exactly what is being done to solve this issue that's been going on for at least a year and a half. There are many people who are losing sleep, can't have their windows open and are fed up about it. I have noticed it particularly on Wednesday and Thursday mornings. Maybe a visit from the Register-Guard or OSHA would bring the reality home for them. They chose to start using equipment that wasn't contained inside a building, and they are located near quiet neighborhoods. Where is their concern for their neighbors?

Just that this is an ongoing annoyance...more than an annoyance actually. It really is a wrongdoing that one enterprise should make an entire segment of a community be held hostage to this noise pollution. I get that this mill used to be "at

the edge" of town but town has caught up and it is now too close to residential housing. Move your mill or enclose it entirely. This is a message to you from many people and we won't stop until you comply.

Scorching hot, window open, quite unpleasant. Closed the window and it was still keeping me up, and it was still hot, so sleep was elusive. Fun stuff.

I'm wearing noise cancelling headphones and it is still keeping me awake

Cutting right through noise cancelling headphones again

I work with medically fragile children. I have to be at the top of my game and need to be able to get a healthy amount of sleep in order to keep these children safe.

Again, hard to deal with that sound.

Can't wait till their done

This affects my sleep almost daily.

It started at 3:30 am this morning. Come on, way to early.

I have been awoken and disturbed by this noise for several evenings in the past week. I have taken several steps to mitigate the noise as best as possible-- wearing ear plugs while also having a white noise machine running AND putting a pillow over my head. The noise still cuts through it all. I know that many in our neighborhood experienced these issues earlier in the year and that mitigation efforts were made, but the noise has been VERY loud again in the past week. I also was awoken at the same times Monday 10/25 and Tuesday 10/26 and heard the loud noise from 3:45-7:30. I will be contacting our city councilor but would also like to know how I can plug into group/organizational efforts to enforce a change.

It was sooo loud this morning!!!!!! And 3:45 am tooooooo early

It is just as bad as before lately.

I understand that the Zippo Log doors are open. Please at least close them or find another way to eliminate the noise being carried down River Road.

They have lied about everything as far as I see it now. They made it better and now it's like a slap in the face that they obviously don't get a crap. Secondly, they said over a year ago they would be done in 6 months, yet a year later.....

To dang early

It was unbearably loud this morning

This should be covered by a city noise ordinance for residential zoning.

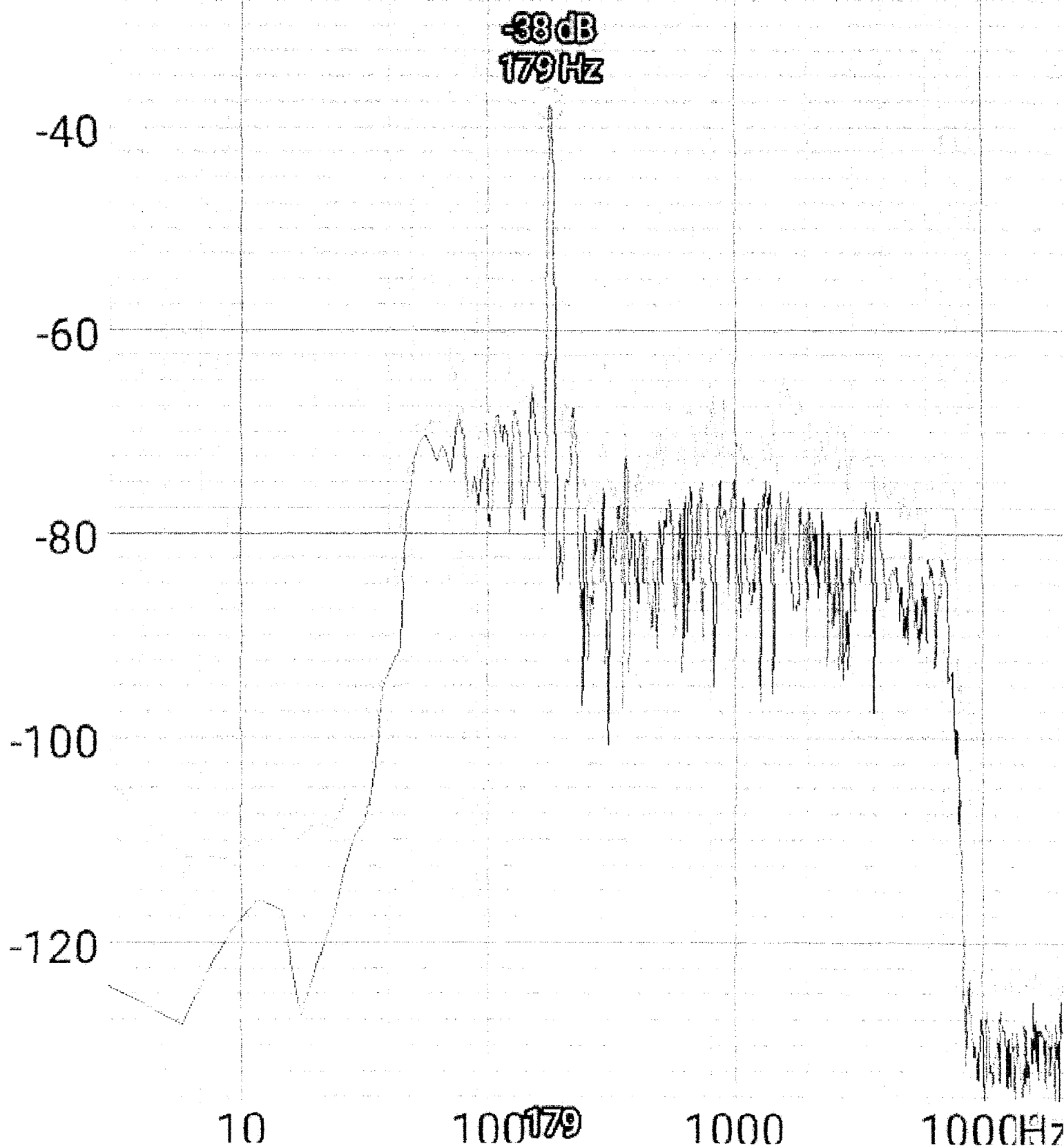
This is more than just an annoyance. For two years now several of us have been impacted by this noise in the 4:30am to 5:00am area and have complained endlessly to no avail or anyone's concern.

The lack of sleep is impacting my mental and physical health.

- compiled by
Rebecca Welton;
mostly from about
25 people, mid-2021;
Printed from
google forms
by Dharmika
Henshel

Low
freq.

peak of about 179Hz put out by Zip-O-Laminators' industrial planer; it is way above the background levels



- Taken on an app,
by Dharmika Hendani

403
1977

ACOUSTICAL ENGINEER

Arthur M. Noxon, PE

ACOUSTIC, NOISE AND VIBRATION CONTROL
engineering survey and analysis, project design and management

Dharmike Henshel
438 Foch St
Eugene OR 97402

Feb 11, 2022

RE: Zipo Laminators Community Noise Survey

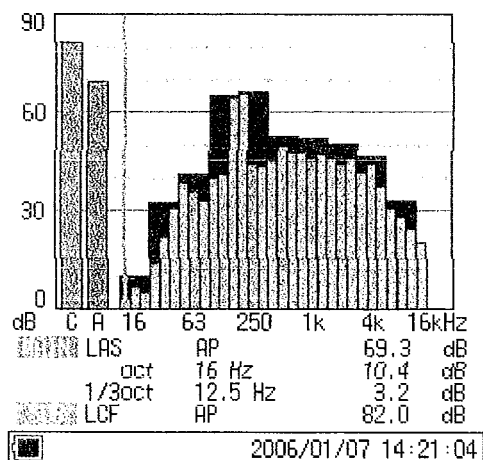
This is an informal report based on field notes and test data as the planer noise emitted from the planer located on the north side of Zipo Laminators. Man 071 is the memory location in the Rion NA-28 Sound Analyzer used for these measurements. All data used here is directly taken off the third octave sound spectrums of the planer noise measured at the specified locations, between 4 and 6 am on Thursday Feb 10, 2022.

7-11 truck fuel south fence line, 1050' north

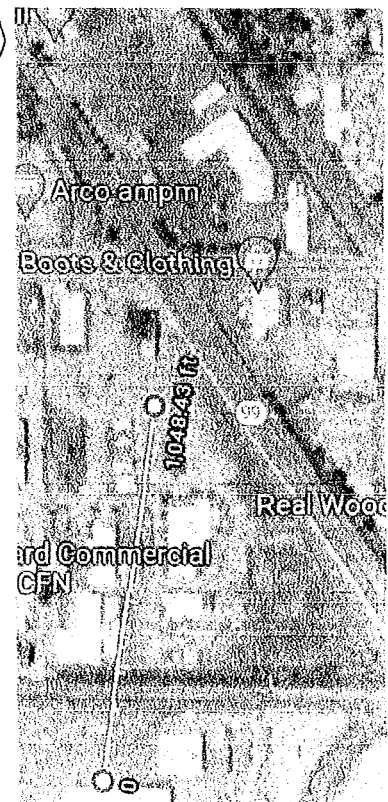
0137 69.3 82.0 41.4 64.5 66.0 44.1 41.4/66.0/44.1 +23.3

RECALL	WS OFF	945.9MB
5s	00:00:00	Manual 0137

Store File: MAN_0071



decibels



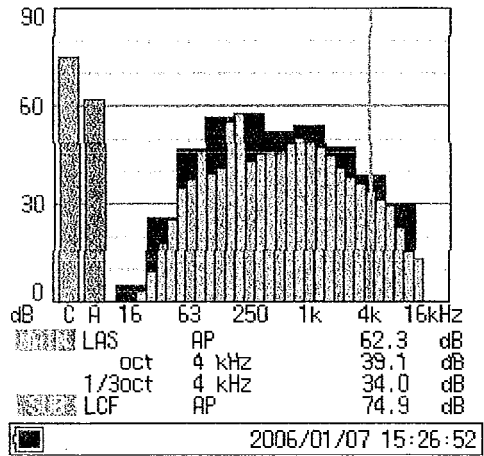
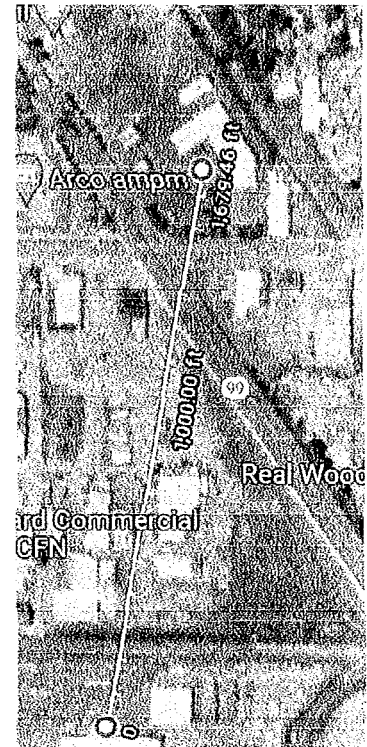
LC Parole Board lot 1681' north

0154 62.3 74.9 41.3 55.7 57.6 43.0 41.3/62.7/43.0 +20.6

decibels

RECALL [WS]OFF 946.2MB
5s 00:00:00 Manual 0154

Store File: MAN_0071



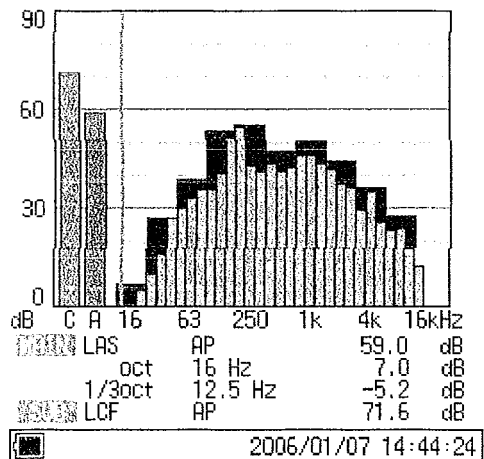
South edge of Mobil Gas Station 2000' North

0141 59.0 71.6 40.9 51.9 55.0 43.4 40.9/59.6/43.4 +17.6

decibels

RECALL [WS]OFF 945.9MB
5s 00:00:00 Manual 0141

Store File: MAN_0071

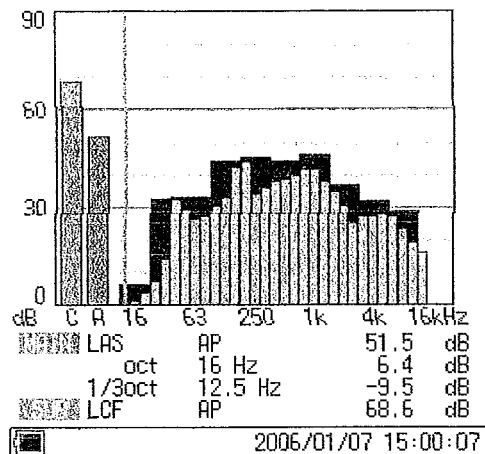
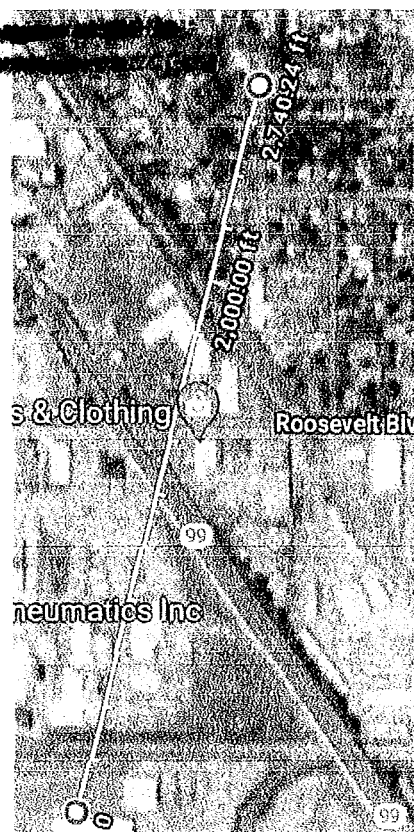


Bethel Community Church Goodyear at Wood St 2,740' N

0144 51.5 68.6 33.1 42.6 44.5 34.7 33.1/49.6/34.7 + 21.2

RECALL [WS] OFF 945.9MB
5s 00:00:00 Manual 0144

Store File: MAN_0071

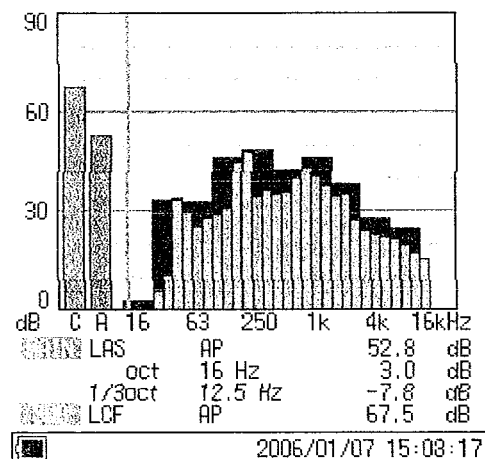
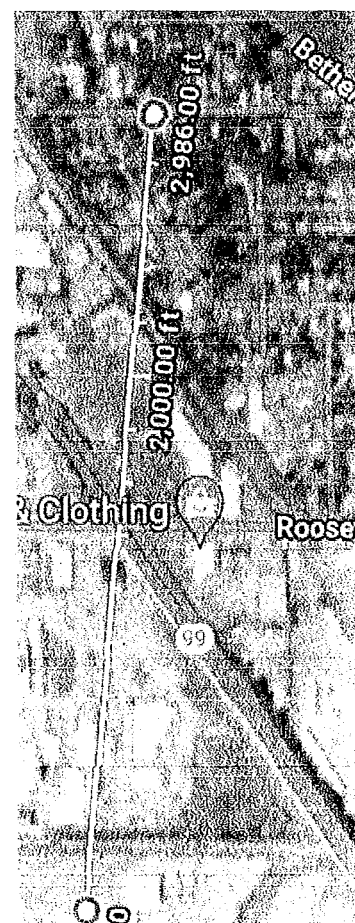


Edison, west of Bethel at Side St. 2986' north

0149 52.8 67.5 31.2 44.9 48.2 34.4 31.2/52.7/34.4 +20.0

RECALL [WS] OFF 945.9MB
5s 00:00:00 Manual 0149

Store File: MAN_0071



The Planar tone peak is split between the between at 160 and 200 Hz third octaves. I estimate the peak to be near 175 Hz tone. It is created by the number of times per second the cutter blade hits the gluelam beam. Here is shown the location and distance of some of the test positions. The sound off the planer acts like a narrow, 20 degree wide beam of sound directed due north. Data below is left to right, memory location, dBA and dBC versions of the noise.

The next 4 data points show the ambient noise level below the planer tone 125 Hz and above 250 Hz with the two third octaves 1600 Hz and 2000 Hz that are stimulated by the planer whose 175 Hz tone is centered between them.

↑
typo-160Hz!

Next are 3/data points, a center noise level, the sum of the 160 and 200 Hz third octaves, is bracketed by the ambient third octave levels. Finally, the average of the two bracketing ambient noise levels is subtracted by the calculated actual noise level of the planer to give the planer tone to background noise level ratio, which is about 20 dB.

Below is a rough chart showing the variation of certain sound levels with distance ranging between 1000' and 3000' in the northerly direction.

1050'	1681'	2000'	2740'	2986'
66.0 dBA	62.7dBA	59.6 dBA	49.6 dBA	52.7 dBA
+23.3 dB S/N	+20.6 dB S/N	+17.6 dB S/N	+21.2 dB S/N	+20.0 dB S/N
0.0 ref actual	-3.3dB	-6.4	-8.3	-13.3
0.0 ref distance	-4.1	-5.6	-8.3	-9.1

Notice that although the sound level drops according to distance, the sound level of the planer tone remains almost the same, +20 dB above the background noise level. How loud something seems to be will depend on the background noise level. The planer tone level drops with distance away from the mill but the background noise levels also drop with distance in nearly the same rate.

This accounts as to why people far from the planer seem to react as strongly as people closer to it, the signal to noise is the same. In general, daytime noise codes limit new noise to not exceed by more than +10 dB S/N the preexisting ambience. In this case the time of the night, being the dead of night, 4 to 6 am, is a further exacerbating factor.

The present community noise issue clearly illustrates how Noise code based only on absolute noise limits do not protect, are incompatible with the livability interests of the neighboring noise impacted community. It must be noted that the windows are closed tight at this time of the year, which is quite unlike the open windows in the summertime and the subsequent extra intrusion of noise into the bedrooms will be about 10 dB greater than this time of year.

Respectfully,

Arthur Noxon, PE
Acoustical Engineer

Oregon Department of Energy (/energy/Pages/index.aspx) / Energy in Oregon (/energy/energy-oregon/Pages/default.aspx) / Electricity Mix in Oregon

Electricity Mix in Oregon

In Oregon, our electricity comes from a variety of resources, from hydroelectricity and coal to wind and nuclear energy.

Oregon has diverse electricity resources, including increasing amounts of **renewable power** (/energy/energy-oregon/Pages/Renewable-Energy.aspx) from water, wind, and the sun. The power in your home could be coming from many of these resources.

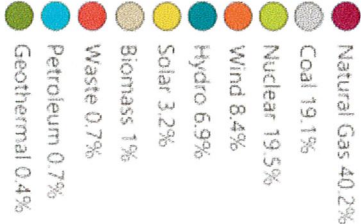
Dashboard last updated: July 2022

Click through the tabs above to view state- and utility-level resource mix information. Hover over the various chart bubbles and bars to show resource-level data, and use the map tools to zoom in and move around specific area. For further instructions and Electricity Resource Mix highlights, please view the **Tableau Data Dashboard: Oregon's Electricity Mix tutorial video** (<https://youtu.be/wWs4cUXniso>).

Frequently-Asked Questions (/energy/energy-oregon/Documents/2022-06-13-ERM-Visual-FAQ.pdf)

Oregon Electricity Use: Resource Mix

This illustration shows the state level resource mix for investor and consumer-owned electric utilities serving Oregon from 2012 to 2020. The mix of resources generating electricity used in Oregon included in-state and out-of-state electricity generation. Most of the mix came from hydropower, coal, and natural gas. A smaller percentage of power in the region was provided from non-hydroelectric renewable resources, such as wind, biomass, and solar. See the *Data Info* button for more information. In 2020, Oregon used 53.7 million MWh of electricity.



National Electricity Resource Mix fo..



Oregon Electricity Use: Resource Mix Over Time

Resource

- Hydro
- Coal
- Natural Gas
- Wind
- Nuclear
- Solar
- Biomass
- Other Non-Biogenic
- Geothermal
- Biogas
- Waste
- Other Biogenic
- Petroleum

Report Year

The bubble chart demonstrates how Oregon's Electricity Mix changes over time. Click ..

2020

Show history



DIVE BRIEF

North American electric grid faces ‘unprecedented’ widespread risk this winter: NERC

Published Nov. 18, 2022



Robert Walton
Senior Reporter

Dive Brief:

- A large portion of the North American electric grid could face energy shortfalls in extreme weather conditions this winter, according to a Thursday assessment from the North American Electric Reliability Corp.
- The situation is “unprecedented,” John Moura, NERC’s director of reliability assessment and system performance analysis, said in a call with media to discuss the report. “The system hasn’t been stressed in this manner in the past,

and probably more importantly, it hasn't been as widespread.”

- The grid has a sufficient supply of capacity resources under normal winter conditions, said NERC officials. But portions of Texas, the Southeast, Midwest, Northeast and other areas risk blackouts under challenging conditions, which could include unexpected generator outages as a result of extreme temperatures.

Dive Insight:

NERC has witnessed a “progression of risk” over the past several years, said Moura, but this year is different.

There is “not so much indication of a successful outcome,” he said. “There isn’t a lot of dispatchable generation on the horizon, there aren’t miles of new interstate pipelines being developed to support our natural gas infrastructure. We don’t see robust, dual-fuel, resilient fuel systems. So there are factors that are pushing you further into that risky territory.”

NERC said its report finds Texas, North Carolina and South Carolina, and the southern parts of the Midcontinent Independent System Operator territory are at risk of a “significant number of generator forced outages in extreme and prolonged cold temperatures.”

The power and fuel infrastructure in those regions was not designed for extreme cold weather and is vulnerable, according to the report.

Texas regulators have enacted several rules to improve generator reliability in cold weather, and NERC noted these efforts. Those new requirements “should reduce the impacts of a severe weather event,” said Mark Olson, NERC’s manager of reliability assessment, both by keeping infrastructure operating in frigid temperatures and through market changes to “improve the fuel availability for natural gas-fired generators.”

MISO has seen its reserve margins fall more than 5% since last year, as 4.2 GW of nuclear and coal-fired generation have been retired, NERC warned.

“We need to pause coal plant closures until NERC assures us that the electricity grid is as reliable as it needs to be to withstand extreme weather during both winter and summer,” said Michelle Bloodworth, president and CEO of America’s Power, which represents the coal industry.

NERC’s report also points to limited gas transportation capacity in New England, where the fuel is used for residential heating. The limited capacity could leave generators short, it said.

“Potential constraints on the fuel delivery systems, coupled with the limited inventory of liquid fuels, may exacerbate the risks for fuel-based generator outages and output reductions that result in energy emergencies during extreme weather,” said NERC.

Utilities say they are working to ensure reliable service this winter, but operating conditions are challenging.

“The war in Ukraine, supply chain constraints, and limited natural gas pipeline capacity in some regions made for a summer of challenges, and many of these issues remain,” Edison Electric Institute Senior Vice President for Security and Preparedness Scott Aaronson said in an email. The group represents investor-owned utilities.

“Strong industry-government coordination is crucial as we continue to work together to ensure we have sufficient energy resources to meet the needs of our customers,” Aaronson said.

National Rural Electric Cooperative Association CEO Jim Matheson called NERC's report a "clear and constant warning about the nationwide consequences of continuing a haphazard energy transition."

"This assessment paints a stark and disheartening picture of the reliability challenges facing much of the United States this winter," Matheson said. "It doesn't have to be this way. But absent a shift in state and federal energy policy, this is a reality we will face for years to come."

**Support for: AN ORDINANCE PROHIBITING FOSSIL FUEL
INFRASTRUCTURE IN NEW LOW- RISE RESIDENTIAL
BUILDINGS; AND ADDING SECTIONS 6.695 AND 6.696 TO
THE EUGENE CODE, 1971.**

Dear City of Eugene Councillors and Mayor Vinis,

We own and operate a small family farm just southwest of Eugene, where we have several hundred laying hens for an egg CSA and also raise sheep, dairy goats, turkeys, and a small number of cows and pigs. We don't live inside the Eugene city limits, but most of our customers do, and they support our efforts to transition from producing food with fossil fuel power to running our farm on electric power.

Ten years ago we purchased a small plug-in electric utility cart to carry feed to animals. In 2013 we leased our first electric car, an early Nissan Leaf with about 80 miles of range. Next we added solar panels to a barn giving us a few kilowatts of electric power from the sun.

When our Toyota RAV4 had traveled over 200,000 miles, we bought a 259-mile range electric car- a Chevy Bolt. We added more solar panels to a pole building, and this year to a barn. This solar electric power allows us to charge our two electric cars, the electric cart, and now a new electric tractor.

During the years in between, we began to replace other gas or deisel-powered equipment with electric models: 3 electric heat pump water heaters for the barns; an electric chain saw, mower, weed eater, and hedge trimmer.

Reliable, efficient electric-powered appliances, equipment, and vehicles are now available; new models are being introduced every year.

We will never buy another gasoline or deisel powered car, truck, or tractor. We will never again buy a gas powered water heater, stove, chain saw, or mower.

It's late 2022. Carbon and methane emissions from fossil fuels are wreaking havoc with our local weather patterns. Drought and heat waves endanger the lives of the plants, animals and people on our farm and the other local farms that produce food for Eugene residents. Those residents have to breathe the toxic air from wild fires in late summer as well as suffer threats to their local food supply. It makes no sense to add gas infrastructure that will prolong these devastating effects of climate change.

We strongly support the ordinance prohibiting fossil fuel infrastructure in new low-rise residential buildings. The City of Eugene is poised to lead this needed transition to clean and safe electric power for all of Lane County, the state of Oregon, and beyond. It's possible and necessary. Our lives and the lives of our children and grandchildren are at stake.

Testimony respectfully submitted by Sid Baum and Paul Atkinson
83601 Territorial Hwy
Eugene, OR 97405
541 345-21866

11/21/22

To the City of Eugene Elected Officials:

September 2, 2022

Please see the attached letter regarding homes built with "electric service only." I submitted it to the Eugene Register-Guard "Letters to the Editor" and confirmed receipt thereof in December but they chose not to publish it. The number who died in Texas directly as a result of the week long freeze (the first to occur in ten years) has now been officially confirmed at 246 but actually believed to be more than 700 when those with preexisting conditions are added.

I have a degree in Business Management from Linfield College and years of experience as a Building Industry Consultant, Loop Electronics Administrator, Engineering and Planning Manager for a large Telecommunications Company. I want to reduce emissions as much as possible but I want so much more not to let anyone freeze to death. Please see to it that a backup source of heat is available before limiting access to gas in new homes.

I would be happy to help in any way possible and can be reached at (541)517-7800 or on email at themrwings@gmail.com.

Thank you for your consideration on this.

Michael J. Hennessey

Letter to the editors December 13,2021

Cart before the Horse

There is a lot more information than memory these days. Someone last month wrote an opinion that gas should not be an option when building a new house in 2023 and houses should all be clean electric energy. Sounds good unless you talk to someone from Texas where they did that and last winter had the coldest winter week since 1989. People froze to death when the electric grid failed! They had failed to install the natural gas heaters to prevent the wind turbines from freezing solid. The snow covered the solar panels and overcast covered the sky (common in Oregon). Without Heat the many that could rushed out and bought propane heaters others used their cars as a heat source, ok with a big car or small family and a gas or diesel vehicle, except for the two who died from carbon monoxide. When the grid failed they also lost their source of water (the average person only lasts 3 days without water). Losing water couldn't happen here you say well talk to those people in Portland about that crisis in January 2017 when a cold snap hit and 53 water mains broke.

We like to think in Oregon electricity is cheap and plentiful from dams on rivers, could be true except in drought years with little water flow. Check again, much of that hydroelectricity we sell to California and it amounts to less than half of what we use, we still import 23.7% from Coal power plants (used to be 40%) and a large portion of the rest from gas power plants. Oh, and by the way the nation has knocked down 90 dams so far and another 4 are being removed from the Lower Klamath River. Many people don't realize that heat pumps are no longer efficient when temperatures drop below 40 degrees. Maybe having a backup source of power isn't such a bad idea? Of course those houses without gas could be required to have fireplaces so they could burn fences or furniture in a bad winter?

Fail to plan, plan to fail they say!

Michael Hennessey

Meeting Date: 11/21/22Ward # or Neighborhood (if known) 7

TOPIC YOU WILL BE SPEAKING ON:

☐

Public Forum

☒

Public Hearing

prohibiting fossil fuel infrastructure in new low-rise residential buildings

FIRST AND LAST NAME

Gates Kathy Gates

(Please print name and spell phonetically)

OPTIONAL Email:

gates595@aol.com

Are you an authorized speaker on behalf of a

☐

Board or Commission

☐

Neighborhood Association

Name of group:

Please submit form to staff at the "Information" table.

please read the back side, thanksgk

My concerns about prohibiting fossil fuel infrastructure in new low rise residential areas:

- ① Is the state/city ready to supply ~~electr~~ electricity as a sole source of energy? Is there an adequate supply of solar panels, hydro power, windmills...? Rivers are running low—is there enough water running through the dams?
- ② Electrical homes are the future but is the grid ready?
- ③ Are there enough raw materials to make the batteries for electricity?
- ④ Are we prepared for electrical outages
 - ↳ Why did TX lose power in the 2021 freeze? Because storms displayed the weakness in our nations electrical grid. Data showed that failure to winterize power sources like wind turbines & natural gas infrastructure had caused grid failure.
 - ↳ In September 2022 fires damaging the power line to Jasper, Canada so we had to cancel ~~that~~ our reservations there. It took 10 days for the power to return. Jasper was relying on generators.
- ⑤ Anticipate there will be outpour ~~to~~ from environmentalists due to unsightly windmills & dams.
- ⑥ The wind mill construction emits tons of carbon to build the wind mill itself.

Sue Craig
5229 Glenn Ellen Dr.
Eugene, Oregon
97402

To Honorable Mayor Vinis and Honorable Council Members

In the interest of your time, I will just list my talking points.

First, Many thanks for ALL you are doing of our world.

Second, I am in Interfaith Earthkeepers Eugene/Springfield plus working hard for Many Rivers Sierra Club. Also tangentially allied with 5 other local and statewide groups working on efforts to save our earth...and maybe us in the process.

Third, thank you for the ordinances to go with electricity in the future, for housing and businesses. This is vital for our safety in Eugene.

It would be so wonderful if NW gas company could understand that we no longer can burn fossil fuels, let alone bring it from other states in pipelines.

If they would spend the money that they are spending on PR on future plans, for instance, finding a new way to use solar, such as sustainable solar shingles, it would help them, and it would help our carbon sequestration efforts.

Since you can work with them, and we don't get to talk to them, please introduce this idea to them.

Finally, the folks at this hearing are, and have been, working hard to help the city with it's future plans to curb carbon use. They are a good bunch. And....we would love to help you ANY way we can. So do call on us if you need some help in some way. We want to be so supportive with these efforts.

Thank you Sue Craig 541-607-0204 sueacraig@gmail.com

My name is Aidan Bassett. I am 24 years old, and I live in the Friendly area neighborhood. My family recently welcomed a new baby; she is 15 days old today. And the house she lives in has always had a gas stove. I think about her health every day and about the lifelong effects on all children caused by the air they breathe early in their lives.

A recent report from the Multnomah County Health Department described how gas stoves release dangerous pollutants like methane, carbon monoxide, volatile organic chemicals like formaldehyde, and nitric oxides like nitrogen dioxide. The report noted that “the risk to children is heightened due to their increased breathing rate, higher lung-to-body ratios, and smaller bodies.”

I don't think anyone could look a young parent in the eye and say that exposing their newborn to carbon monoxide would be acceptable. It isn't. But fossil fuel infrastructure can be expensive to replace, and for many families, it's not an easy process. We need to solve that problem before families confront it: We need to electrify all our infrastructure and our homes, so that no parent has to struggle with a house that threatens the health of their children.

But the wisdom of electrification is not just in its powerful health benefits: It also saves money. The cost of renewably generated electricity has plummeted in recent decades and continues to drop precipitously. We also have considerable evidence of the unpredictable and exorbitant cost of fossil fuels this year. Choosing the sometimes greater upfront cost of electrifying our community will ultimately save substantial sums and ensure we have more resilient, more predictable, and more affordable infrastructure that can leave fossil fuels behind.

I think of myself as a young voter — and I am. I will live my whole life with the consequences of the decisions like the ones now facing the city council. But I am not just advocating for the healthy and equitable community I want for myself; I am worried about the legacy we are all leaving for the children being born every single day. Please keep those children and their health in mind as you make your decisions. Thank you for your time.

Thomas Hannah, Ward 4.

Don't believe everything you think.

That was a favorite bumper sticker in this town about 40 years ago. Don't believe everything you think.

It reminded us of the importance of humility in our political advocacy.

People tend toward groupthink, because we trust each other's understandings. But most of us don't think deeply enough about the consequences of our ideas.

In the 1960s we banished DDT, and our good intentions led to the deaths of 40 million people from insect-borne diseases.

In the 1970s we buried the nuclear power industry, and that enriched petroleum economies like Russia and the Middle Eastern nations – and caused the burning of billions of tons of fossil fuels in place of nuclear over the next 40 years.

In California (and soon, probably in Oregon) leaders think they should dictate what cars people may or may not purchase, never mind that it isn't possible to power tens of millions of electric cars without burning massive amounts of fossil fuels.

And in Eugene, restricting residential energy choices and forcing electrification is expected to help solve climate change, even though it may actually do more harm than good. Councilors will hear many solid arguments against their proposal. The question is whether Councilors will listen, or will allow their good intentions and self-confidence to brush away all the arguments that might interfere with their proposal.

So I am respectfully asking the members of the City Council for that humility that I began with: Don't believe everything you think.

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

My name is Tom Wishard I'm
A union rep for Local 701 operating
Engineers. I Am for, for a person
or person to make the own decision
on choosing gas or electric. Thank
you for your time. I hope you
make the right decisions

Name: Tom Wishard

Ward / Neighborhood: _____

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

I think that the changing from choice of gas to houses within Eugene should be a choice of the people, not this board.

Although I understand the conservation of fossil fuels our members at local 701 and in this community work under strict guideline to not only do it safely but also efficiently. The people of Eugene need and want gas to their homes as well as new homes being built. The question shouldn't be rather to limit gas to new homes,

The answer is to build homes which can use low cost fuels like gas in order to heat and serve the city better.

Name: Chris Montgomery Local 701

Ward / Neighborhood: _____

"Mayor Vinis, City Council, and City Manager Medary... Thank you for providing this opportunity for testimony. My name is Noelle Studer-Spovak, a parent volunteer with Families for Climate. We're a Portland-based health advocacy group with members from across the state. *We own a small residential construction company and switched to all-electric homes 10 yrs ago. We've built 50 all-electric homes in the past decade - it's cheaper, healthier,*

Our organization has been working hard to educate parents, local and state leaders about the harms of indoor fuels combustion to pediatric health. Just last week, Multnomah County was the first public agency to recommend, quote "the use of non-combustion appliances to benefit occupants' respiratory health and reduce asthma morbidity in children." This is because of the multiple pollutants released directly into homes with unburned and burned natural gas. The County's report does not, however, mention another harmful pollutant: benzene.

An October NY Times article summarized three 2022 studies, which, together, demonstrated that, even when they are turned off, gas stoves leak benzene, a highly flammable chemical that can be colorless and odorless, which increases the risk of blood disorders and certain cancers like leukemia. Dr. Philip Land-rigan, a pediatrician and public health professor at Boston College who was not involved in the study, said "There is really no safe threshold" for benzene exposure.

I'm sharing all this information because I believe that the City of Eugene has an opportunity to lead by example and make a real difference for kids across our state. This evening, parents are doing their best to put dinner on the table, help their kids with homework, and get them to bed on time. And probably most of them have no idea that, along with a dinner of mac & cheese and broccoli, they also served up a side of nitrogen dioxide, benzene and other not-easily-vented pollutants if they cooked on a gas stove.

Home owners of means can choose to stop burning gas indoors and eliminate this pollution, but renters and households working hard to make ends meet do not have a choice. Our health and our climate are not separate; they go hand in hand. It is time to protect both our children's health at home -and their future on this planet by ending the expansion of methane gas infrastructure in low-rise residential housing.

Thank you.

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

- Economic Impacts to local businesses
- Increased cost to citizens
- Gas is the cleanest carbon based energy source
- There is not enough sun or wind to power the grid
- There can never be a total ban as essential services will require more reliable energy sources
- Current alternative energy sources have equal if not greater negative impacts to the environment
- Behavior modification is best accomplished by allowing educated choice
- This process that led us to this proposal was done in secret closed door meetings with no diversity in opinions

Name: RANDALL J. LOUIS

Ward / Neighborhood: 4 Crescent Village

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

Doug Skotdal dlskotdal@gmail.com

Linda Skotdal dlskotdal@live.com

Linda - 541-514-7672

Doug 541-514-6419

Main concerns: No sustainable or economical alternative to natural gas. America is about choice - Natural Gas has been proven to be a good choice. This is a tax payer's choice, not a city council's decision.

Name: Doug & Linda Skotdal

Ward / Neighborhood: 7

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

Listen, please listen - Our city needs your help. A small group of people seem to control the actions that are voted on in the council - We must protect our jobs & discourage actions that cannot produce them. The Natural Gas ban will only further alienate future business to come to our community and chase existing businesses away with more regulation. Listen - Listen

Name: Ralph Parrshall

Ward / Neighborhood: 4

Dear Eugene City Council,

I am a citizen of our city and wanted to speak tonight in support of maintaining a diversified energy system as the best choice for Eugene and its residents.

Unfortunately, there was not enough time, so here are my main concerns:

- I came here to testify against the Natural Gas Ban. I will follow up w/ an email
 - We need reliable and affordable energy options
 - We need reliable energy options in case of an emergency (earthquakes); The grid goes down and such
 - This Ban will have Minimal impact on climate change.
 - Over 70% of residents want a choice!
- Thank you

Name: Allan Benavides

Ward / Neighborhood: 8 / Churchill

Mayor Vinis and Members of the Council,

My name is Dennis Reynolds, I live in Ward 3.

I am proud to serve as a member of the Eugene Sustainability Commission. I agree with the Commissions statement in support of this ordinance. I am here tonight though as a member of Eugene Springfield Interfaith EarthKeepers, a clergy and lay advocacy group that has connections to a dozen local congregations and has continuously advocated for wise and loving care for all creation.

EarthKeepers has consistently supported increased electrification and decreased reliance on fossil fuels, including so called natural, gas. We support this ordinance as part of that effort and because of the well documented adverse health impacts of gas use in heating and cooking.

Some would describe this is a matter of choice, for renters, who make up over one half of Eugene's residents, this is not a choice.

UN Secretary General, Antonio Guterres, recently stated to the world at the Cop 27 gathering, "We are on a highway to climate hell with our foot still on the accelerator."

This ordinance offers a local opportunity to take our foot of the accelerator with no more expansion of residential gas use. By doing so, Eugene can be a climate leader and encourage other communities to follow our lead.

Thank you,

A handwritten signature in black ink, appearing to read "Dennis Reynolds", with a long, sweeping horizontal stroke extending to the right.

Reverend Dennis Reynolds
Affiliated Community Minister
Unitarian Universalist Church In Eugene

Public Testimony on Zip O Noise

** Play noise for 3 minutes.*

I'm Joshua Kielas from Ward 7 in the River Road neighborhood. I'm going to play this noise as recorded near the Zip O Mill so everyone can get a feel for what folks north of the factory deal with for hours, starting at 4am.

After about a minute of noise begin talking over it and say:

I get a deep sense of frustration when awakened at 4am by this relentless noise. It usually starts after about 15 minutes of trying to ignore it, with my eyes closed, when I finally realize I'm not going to be able to get the sleep I need to properly face the day, and wonder how this could STILL be happening.

After more than two years there is also a feeling of futility knowing that Zip-O-Laminators knows, and doesn't care enough to properly enclose their machine, or at LEAST adjust their schedule by a few hours for neighbors' sake.

People are moving away, and feeling the need to declare the noise when selling their homes for fear of getting sued.

Please, please, please, enact the recommended standards ~~that mirror the already existing State standards~~. And please also, in PLAIN language, specifically prohibit the operation of an industrial planer unless it is completely enclosed in a sound proofed building so there will be no ambiguity, or need for audio engineers, to immediately end this inhumanity.

Thank you.

Good evening, mayor and city councilors, my name is Linda Kelley and I reside in Ward 1.

I am here to support an ordinance to electrify all new residential construction. There is no denying we have inadvertently dug ourselves into a hole with our use of fossil fuels for energy and must engineer a quick and major shift if we are to avert the worst scenarios of climate change. We didn't know, now we do.

Changes are daunting, where do we start? Electrifying new buildings, starting with residential homes is a clear and easy step we can take.

The co benefits of healthier indoor air quality, and safety are important. Current research shows the negative health effects of gas stoves. They have lost their Energy Star status.

Older people often forget to turn off a burner, this is not important with an electric stove but can be catastrophic with a gas stove. I personally know of 2 incidents where this has been true.

With the necessity of moving away from gaslines, pipefitters are worried about their incomes. This is a valid concern. SF, a strong union city, solved this issue by requiring greywater systems to be part of large new construction projects that requirement is now expanding to include smaller construction sites. Pipefitters are now also needed in the growing geothermal industry. There are solutions to these challenges.

We the citizens of Eugene need our council to be strong; resist the inaccurate and fear based propaganda that is being circulated by our gas company. They say people need an energy choice, but what choice do the 480,000 refugees in Chad have due climate-change driven water wars; what choice do our grandchildren have? Yes we each have a choice, lets choose wisely.

AS the saying goes, if you're in a hole the first thing you do is stop digging.

PLEASE MAKE SURE WE STOP DIGGING AND PIVOT TOWARDS WORKABLE SOLUTIONS. THANK YOU FOR LISTENING TO MY TESTIMONY.

