

Study Session



Milwaukie City Council



COUNCIL STUDY SESSION

AGENDA

City Hall Council Chambers, 10722 SE Main Street & Zoom Video Conference (www.milwaukieoregon.gov)

JULY 12, 2022

Council will hold this meeting in-person and through video conference. The public may attend the meeting at City Hall or by joining the Zoom webinar. The public may also watch the meeting live on the city's YouTube channel or Comcast Cable channel 30 in city limits.

To participate in this meeting by phone dial **1-253-215-8782** and enter Webinar ID **837 5111 0754** and Passcode: **107967**. To raise hand by phone dial *9.

Written comments may be submitted by email to <u>ocr@milwaukieoregon.gov</u>. Council may take limited verbal comments. **For Zoom webinar login information** visit https://www.milwaukieoregon.gov/citycouncil/city-council-study-session-131.

Note: agenda item times are estimates and are subject to change.

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1. Leadership Academy Debrief – Report and Reception (5:15 p.m.)
Staff: Dan Harris, Events & Emergency Management Coordinator

2. Natural Gas – Discussion (6:15 p.m.)
Presenter: Mark Gamba, Mayor

3. Adjourn (7:15 p.m.)

Executive Session

After the study session Council will meet in executive session pursuant to Oregon Revised Statute (ORS) 192.660 (2)(h) to consult with counsel concerning the legal rights and duties of a public body with regard to current litigation or litigation likely to be filed.

Meeting Accessibility Services and Americans with Disabilities Act (ADA) Notice

The city is committed to providing equal access to public meetings. To request listening and mobility assistance services contact the Office of the City Recorder at least 48 hours before the meeting by email at ocr@milwaukieoregon.gov or phone at 503-786-7502. To request Spanish language translation services email espanol@milwaukieoregon.gov at least 48 hours before the meeting. Staff will do their best to respond in a timely manner and to accommodate requests. Most Council meetings are broadcast live on the city's YouTube channel and Comcast Channel 30 in city limits.

Servicios de Accesibilidad para Reuniones y Aviso de la Ley de Estadounidenses con Discapacidades (ADA)

La ciudad se compromete a proporcionar igualdad de acceso para reuniones públicas. Para solicitar servicios de asistencia auditiva y de movilidad, favor de comunicarse a la Oficina del Registro de la Ciudad con un mínimo de 48 horas antes de la reunión por correo electrónico a <u>ocr@milwaukieoregon.gov</u> o llame al 503-786-7502. Para solicitar servicios de traducción al español, envíe un correo electrónico a <u>espanol@milwaukieoregon.gov</u> al menos 48 horas antes de la reunión. El personal hará todo lo posible para responder de manera oportuna y atender las solicitudes. La mayoría de las reuniones del Consejo de la Ciudad se transmiten en vivo en el <u>canal de YouTube de la ciudad</u> y el Canal 30 de Comcast dentro de los límites de la ciudad.

SS 1. 7/12/22

Date Written:

OCR USE ONLY

June 28, 2022

COUNCIL STAFF REPORT

Mayor and City Council

Ann Ober, City Manager

Reviewed: Kelly Brooks, Assistant City Manager

From: Dan Harris, Events & Emergency Management Coordinator

Subject: 2021-22 Milwaukie Leadership Academy (MLA) Debrief and Reception

ACTION REQUESTED

Council is asked to receive an update on the completion of the 2021-2022 MLA, and to provide any reflection and feedback on plans for future classes.

HISTORY OF PRIOR ACTIONS AND DISCUSSIONS

<u>June 4, 2019</u>: Kelly Brooks, assistant city manager, discussed the draft report outlining goals, strategies, and tactics in support of Council's 2019 – 2020 community engagement goal. Within the report, a near-term 2019 strategy for engagement standardization was to develop and implement a community leadership program.

<u>June 18, 2019:</u> Ann Ober, city manager and Stephan Lashbrook, community member, provided an update on the MLA planning and listened to Council feedback on program and plans for outreach. Council discussed willingness to be involved in the MLA sessions. Sharing the announcement with students and other hard-to-reach community groups to help attract a diverse and dynamic cohort was discussed.

<u>July 13, 2021</u>: Dan Harris, administrative specialist II, provided a review of the years MLA, including end-of-course survey results, and received Council feedback.

SUMMARY

The purpose of the MLA is to promote civic engagement and provide learning opportunities for individuals interested in involvement with city boards, committees, or commissions (BCs). City staff advertised the academy on the city's social media platforms, in the Milwaukie Pilot newsletter, through fliers in English and Spanish distributed with free school lunches at the Wichita Center, through the MLA alumni list, and through tabling events at the Ledding Library, the Milwaukie Farmers Market, and the Milwaukie Community Center. Fliers were also sent to the Portland Waldorf School in Milwaukie, Milwaukie High School, and Clackamas Community College to be shared with students of those institutions. Applications were accepted on a first-come basis. Participation was open to anyone with an interest in the Milwaukie community and was not limited to city residents. All applicants were accepted into the program.

Mr. Lashbrook and Mr. Harris worked together to facilitate class sessions. Classes were held on the third Wednesday of each month from October 2021-May 2022 except for the January session which was moved to avoid a scheduling conflict. Because of the ongoing COVID-19 pandemic, most classes were held on Zoom. The final class session was a hybrid of Zoom and in-person

participation. This final session went well overall, although Zoom participants reported having trouble engaging socially with their classmates.

Based on feedback from the prior year's MLA class that reading groups were not effective at getting students to socialize outside of class, students were allowed to choose whether they wanted to participate in a reading group. Two students did elect to join a reading group and met monthly with Mr. Lashbrook outside of class.

A typical class consisted of a social "hour" from 5:30-6:00 p.m. to provide an informal opportunity for students to socialize, followed by announcements, presentations from two city departments, and questions for presenters. City Manager Ann Ober and members of Council were invited to participate in "town hall "style discussions with the class.

The class topics were:

- Class Introduction and Form of Government
- A History of the City
- Finance and Equity
- Public Works and Climate Action Plan
- Planning and Community Development
- Public Safety
- Library & Parks Development

Classes were recorded and posted for public viewing on the city's YouTube page.

ANALYSIS

Students were asked to provide demographic data on their applications. In spite of an assertive outreach targeted to recruit diverse participants, the class was largely homogenous in terms of race, ethnicity, home ownership, and education level. All but one participant identified as white, and supermajorities identified as homeowners with college degrees. None of the students in this year's class reported being under the age of 18. Recruitment methods will need to be reviewed in future years.

End of Course Survey

Of the 24 students who applied to the course, 13 completed at least five classes. A majority of defections occurred before the first class. Following the conclusion of the program, the facilitators distributed a survey to all class members who completed at least one class. All six respondents completed at least five classes. All respondents reported satisfaction with the program overall, class size, the format, and the readings. All respondents also reported an improved understanding of city services and operations after the program.

Five of the six respondents reported that meeting with their neighborhood discussion groups was not useful in understanding class topics or in strengthening ties to their neighborhood. As a result, the discussion groups will be voluntary in future years while the readings and in-class discussions will be maintained.

All respondents rated the quality of staff presentations and communication from facilitators as "high" or "very high", so the presentation format and level of facilitator communication will be maintained. Most respondents indicated that they were satisfied with the information covered, but one did ask for more information about how the city government interacted with other jurisdictions.

Five respondents indicated that they would consider becoming more involved with the city after their time in this class. No students applied to serve on a board or commission during the course, but one did join the board of a neighborhood district association.

Plans for Future Years

The COVID-19 pandemic caused this year's class to take place almost entirely online. Anecdotal feedback from some participants indicated that they were only able to attend because classes were offered remotely. MLA is well-situated for a hybrid presentation, as demonstrated by the final class session, but this hybridize presentation will require some additional refinement, especially if the class returns to including field trips in the future.

MLA has historically utilized a cohort model with applications accepted at the start of the year. Other cities have offered similar classes a drop-in basis which allows students who can only attend a few classes throughout the year to do so. The 2021-22 class included an application/registration process, but also allowed those not enrolled to participate in real time on Zoom or by reviewing the videos later on YouTube.

BUDGET IMPACT

Staff anticipates no significant budgetary impact. The first year of this program was funded entirely out of the budget of the city manager's office. This year there were minimal costs other than staff time because of the remote presentation. Future years may generate costs from food and language services but should still be able to be funded from existing city manager funds.

WORKLOAD IMPACT

City departments have agreed to make staff available at a rate of two hours per department per year. Mr. Lashbrook has continued to volunteer his experience and time as a facilitator. No increase in workload is expected from this program in the coming year.

CLIMATE IMPACT

This program has no significant climate impact.

COORDINATION, CONCURRENCE, OR DISSENT

Directors have agreed to continue to make themselves or appropriate program staff members available to present. The program continues to be managed by the city manager's office.



2021-22 Milwaukie Leadership Academy Debrief

Dan Harris
He/They
Events & Emergency Management Coordinator
harrisd@milwaukieoregon.gov

OVERVIEW

- 1. Program Background
- 2. Class Structure
- 3. Recruitment & Retention
- 4. Future Years
- 5. Student Voices
- 6. Questions & Feedback

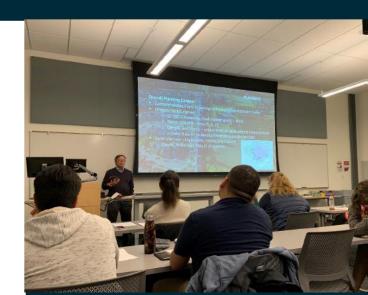


Program Background

- Founded in 2019
- Similar to Other Cities' Programs
- Monthly Sessions Featuring City Staff
- Accessible, Transparent Government



MILWAUKIE Eadership ACADEMY



Class Structure

Sample Itinerary:

- Social Time (5:30)
- Housekeeping (6:00)
- Presentation 1 (6:05)
- Break (6:50)
- Presentation 2 (7:00)
- Final Thoughts & "Aha" Moments (7:45)

Guest Panelists Also Attended



Recruitment and Retention

Recruitment Priority –

Diversify Participation in Civic Life

Recruitment Venues –

- Pilot
- Web/Social Media
- Tabling at Farmers Market, Library, & Milwaukie
 Centers
- Bilingual Fliers for Wichita Center Bags & Schools
- Prior Student Distribution List

Recruitment Outcomes

- Mostly white, college-educated, homeowners
- Some diversity of age. No youth members

Recruitment and Retention – Survey Results

Survey -

- SurveyMonkey Distributed by Email
- 6 of 17 Students Responded

Major Findings –

- Students were generally satisfied with class structure, pacing, and content.
- Students reported an increased interest in becoming involved with civic life.
 - One joined her NDA board



Future Years

Proposed Changes for Future Years

- Hybrid Classes
- Cohort + Drop-in Model
- Voluntary Discussion Groups
- Registration v. Application
- Field Trips!

Student Voices

QUESTIONS OR COMMENTS?



2021-22 Milwaukie Leadership Academy Debrief

Dan Harris
He/They
Events & Emergency Management Coordinator
harrisd@milwaukieoregon.gov





COUNCIL STAFF REPORT

SS 2. 7/12/22 OCR USE ONLY

To: Mayor and City Council
Ann Ober, City Manager

Date Written: July 8, 2022

Subject: Natural Gas Discussion

Attached documents include an article forwarded from the Mayor and all documents pertaining to the Natural Gas Ban Resolution from the <u>January 18, 2022</u> <u>regular session</u> meeting.

Nicole Madigan

From: Scott Stauffer

Sent: Thursday, July 7, 2022 11:42 AM

To: Nicole Madigan

Subject: FW: News: New flare-up in the fight over natural gas in Oregon

SCOTT STAUFFER, CMC

City Recorder he • him • his City of Milwaukie p: 503.786.7502

From: Mark Gamba <mark@markgamba.com>

Sent: Thursday, July 7, 2022 11:37 AM

To: _City Council <CityCouncil@milwaukieoregon.gov>

Subject: Fwd: News: New flare-up in the fight over natural gas in Oregon

In preparation for our study session item.

All the best,

Mark Gamba

www.markgamba.com 971-404-5274 cell

 Forwarded	message	
1 OI Walaca	message	

From: David Van't Hof < vanthofd30@gmail.com >

Date: Thu, Jul 7, 2022 at 10:34 AM

Subject: Fwd: News: New flare-up in the fight over natural gas in Oregon

To: Mark Gamba < mark@markgamba.com>

Assume you saw this. But just in case. Pretty timely.

----- Forwarded message -----

From: Brad Reed < brad@reneworegon.org>

Date: Thu, Jul 7, 2022 at 10:25 AM

Subject: News: New flare-up in the fight over natural gas in Oregon

To: <oregon-building-decarbonization@googlegroups.com>

For instance, on the question of electrification the report said that "it could create benefits." But it added: "without careful analysis, planning, and execution, (electrification) has the potential to shift greater energy demand, peak risk, distribution costs, and reliability concerns to electric ratepayers."

As measured as that statement appears to be, it led a long list of pro-gas business interests, and some labor groups, to criticize the report for even recognizing electrification "as a viable proposition without acknowledging its full costs and implications for customers."

CUB, meanwhile, hit the report for offering "no guidance on the role of electrification in the future as a tool of decreasing emissions and CPP compliance."

For its part, NW Natural said it's not the commission's role to push or pull people away from gas.

"Recommendations to limit customer choice run counter to the evidence presented in this proceeding, to current state policy, and to this Commission's statutory duties," the company said in its response to the draft. "While electrification is a popular mantra, Oregon's gas utilities have demonstrated through preliminary modeling in this docket the existence of viable and affordable pathways for complying with the CPP."

New flare-up in the fight over natural gas in Oregon (Subscriber Access)

The stakes are high for ratepayers and investor-owned NW Natural.

By: Pete Danko, Portland Business Journal

A fact-finding report by Oregon regulators is the latest flash point in the widening fight over the future of natural gas in the region.

Ahead of a Public Utility Commission hearing next week on the matter, the ratepayer advocate Oregon CUB on Thursday put out a press release attacking a staff draft of the report for "a lack of clarity and overreliance on industry talking points."

The report is intended to inform Public Utility Commission policymaking as regulated natural gas distribution utilities face compliance with <u>the state's new Climate Protection Program</u>. The program requires fuel suppliers, including NW Natural, the region's dominant gas distribution utility, to cut their greenhouse-gas emissions in half by 2035 and 90% by 2050.

How to accomplish that and who will bear the many risks in the process are at issue in a debate that is shaping up as electrification versus cleaner gas. Embedded in that face-off is the question of whether to take steps now to stop the growth of the gas system.

The debate is unfolding in the PUC report docket, and in another commission docket where <u>NW</u> <u>Natural is asking for a rate increase</u>. The company is also fending off <u>local efforts to ban new gas hookups</u>.

The stakes are high for investor-owned NW Natural, which unlike many IOUs around the country doesn't have an electricity-service business that can cushion the blow of a move from gas.

NW Natural has a decarbonization plan

NW Natural portrays gas as an efficient and vital energy source for homes and commercial and industrial uses (the fuel meets around 70% of Oregon's space heating needs while creating about 4.5% of Oregon's emissions). The utility says it has a plan to comply with the Climate Protection Program, even as it mounts a legal challenge against the Department of Environmental Quality program.

NW Natural says its preliminary modeling shows that investment in efficiency and alternative fuels such as renewable natural gas and green hydrogen amounts to a less risky strategy than transitioning the load currently served by gas to the electricity grid.

Climate activists see risks working in the other direction — from an expanding gas system. Their efforts to stop the growth have made a wonky if commonplace piece of utility regulatory policy called the "line extension allowance" a raging issue.

The allowance provides a credit of up to \$2,875 to new customers for hooking up to gas service. That effectively shifts those costs to the ratepayer base. The idea is that the money will be

earned back, to the benefit of ratepayers, over time through monthly charges paid by those new customers.

CUB, after initially raising questions about the allowance, has in the past few months joined in calling for an end to it.

"We've come more and more to the conclusion that it doesn't make sense to increase efficiency spending by literally more than \$100 million a year in order to reduce therms on the system, but then on the other side pay tens of millions of dollars to increase the number of therms on the system," Executive Director Bob Jenks said in an interview.

CUB and activists say customers who can afford to could very well abandon gas before those investments are paid off, choosing electric heat pumps when it comes time to replace their heating and cooling systems, in the process saddling ratepayers who are left behind with ballooning bills.

In the NW Natural rate case, CUB is asking for the allowance to be reduced to \$2,200 through the end of 2023, by 50% in 2024 and eliminated in 2025.

NW Natural says even an interim adjustment to the line extension allowance, floated as a possibility in the draft report, could damage the utility.

It would be seen as a signal that the commission "has pre-decided a diminished role for gas utilities in Oregon's energy future, which in turn could impair the company's financial health and its ability to access the resources necessary to pursue all available strategies for decarbonization," the company said in a rate-case filing.

The retort highlights the delicate position regulators could find themselves in shrinking — if that what it comes down to — a business that relies on being attractive to investors.

CUB, in written comments about the report, said the draft fails by shying away from that issue.

"The focus of this investigation should not be on maintaining the natural gas business model, but on conducting a robust analysis of potential impacts of future natural gas service on customers," the group said.

PUC staff treads lightly in the natural gas fact-finding

The <u>draft report</u> does acknowledge plenty of risks, including that the gas utilities could fail to meet their emissions reduction requirements and incur stiff penalties. But beyond that, it avoids rigorous analysis of the utility strategies and mostly sticks with outlining ways the commission can analyze and understand the changing landscape, and the tools that it might use to address the situation.

"(Climate Protection Program) compliance creates rate pressure risks that could exacerbate energy burden issues — for many types of customers," the report says. "It will largely fall to the PUC, all utilities, and well-informed stakeholders to strike the proper balance of investments to achieve CPP compliance and decarbonize the Oregon gas sector."

Emphasizing how sensitive the debate is, when the report did venture further into a controversial topic, it drew fire from both sides.



COUNCIL RESOLUTION No.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MILWAUKIE, OREGON, DIRECTING THE CITY MANAGER TO BEGIN THE PROCESS TO REACH OUR GOAL OF BEING NET ZERO BUILDING ENERGY BY 2035.

WHEREAS climate change is an existential crisis, posing one of the most serious threats to the existence of humanity and all species on the planet; a threat that intersects and compounds all other crises facing humanity and our earth; and

WHEREAS the 11th United Nations Intergovernmental Panel on Climate Change ("IPCC") report from October 2018 states that we must cut greenhouse gas emissions in half by 2030 to limit devastating global warming and avoid a climate catastrophe; and

WHEREAS the United States and other leading economies recently agreed to the Global Methane Pledge to reduce Methane emissions 30 percent by 2030; and

WHEREAS the Milwaukie City Council has prioritized Climate Action as one of its two goals; and

WHEREAS the Milwaukie Climate Action Plan (CAP) requires the city to achieve Net Zero Building Energy by 2035; and

WHEREAS action regarding natural gas will be the biggest piece of that goal; and

WHEREAS other cities in the Pacific Northwest are beginning to tackle this issue and there is strength in numbers; and

WHEREAS thirteen years is a short timeline given all the work and investment required to meet this goal.

Now, Therefore, be it Resolved by the City Council of the City of Milwaukie, Oregon, that the city attorney is directed to coordinate with other cities engaged in this effort and then schedule work sessions to discuss a path forward to make changes to the city code that would require all newly constructed residential, commercial, and industrial buildings to be electric only by February 5, 2024.

And be it Further Resolved that the Milwaukie City Council will amend its CAP to provide a roadmap for how the city can achieve decarbonization of existing residential, commercial, and industrial buildings by 2035 with consideration for how low income and historically marginalized households will be impacted, including strategies for existing rental housing stock.

And be it Further Resolved that the City Council directs the city manager to ensure that all newly constructed city-owned buildings and major renovations of existing city buildings that receive \$50,000 or more of city funding are all electric becoming effective July 2022.

Page 1 of 2 – Resolution No.

Introduced and adopted by the Ci-	ty Council on January 18, 2022 .	
This resolution is effective immedi	iately.	
	Mark F. Gamba, Mayor	
ATTEST:	APPROVED AS TO FORM:	
Scott S. Stauffer, City Recorder	Justin D. Gericke, City Attorney	

Exhibit pages from: RS 7. B. 1/18/22 Correspondence

Re: Written Testimony for **Agenda 7 B, Natural Gas Ban Resolution** and Agenda 8 A, Regular Session, January 18, 2021

Hello: Mayor Gamba, Council President Hyzy, and Councilors Batey, Nicodemus, Falconer; City Manager Ober and Natural Resources Manager Rogers

Please do not pass this Natural Gas Ban resolution, taking away a critical means of heating homes.

On March 8th, 2021, Mayor Gamba wrote me an e-mail in which he says at one point:

"I'm working with NWN to move towards green hydrogen, so we are not stopping natural gas infrastructure installation in new construction like other cities are doing."

I include this e-mail written to me (on the second page here-in).

This e-mail from the Mayor is prompted by written testimony I had submitted to Council after the City of Milwaukie like much of Clackamas experiences an Ice Storm knocking out power to many Milwaukie Homes, last February 2021. I wrote that maintaining fuel diversity is of utmost importance, as without energy for space heating people can literally freeze to death and pipes freeze.

The importance of fuel diversity for energy reliability is showing up most impactful in western Europe in the last year as western Europe experiences shortages of power and now the European Commission is considering qualifying conventional natural gas fuel power generation as part of meeting climate goals (New York Times, January 22, 2022).

Natural gas "fireplace" inserts (battery back-up ignition) were very helpful for keeping several of my neighbors warm in last February's Ice and snowstorm when their power is out. Natural gas is cleaner burning than wood in a wood stove, and the latter can cause serious particulate pollution when Milwaukie has inversions and air stagnates outdoors.

The operating cost of natural gas space heating is as much as 50% lower than the cost of electric resistance furnace space heating. The installation cost of natural gas furnaces is more than that of electric furnaces, but the payback for the lower operating cost natural gas furnaces is 5 years or less.

This resolution does not provide clarity as to whether natural gas stove top cooking and natural gas fireplace inserts are to be banned in new construction and dissuaded in existing homes after the year 2035.

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I believe this Resolution is potentially very costly to Milwaukie Residents, and reflective not of free choice but socialistic planning. Even now, the oil and natural gas industries are researching ways to separate hydrogen from oil in oilfields, leaving in ground CO 2 and other greenhouse gases while drawing out hydrogen fuel. Prescribing one method only for obtaining perceived environmental benefits – like this Resolution intends – squashes innovative ways to achieve the intended environmental benefits while unnecessarily increasing the costs of operating a home and compromising peoples' ability to survive electric power blackouts. Additionally, it will leave Milwaukie families dependent on one utility (PGE) instead of two competing utilities (PGE & Northwest Natural) for home energy services.

p.s I have no financial interest in natural gas utilities, but just am wanting to have continued availability to the low cost of natural gas for heating my home.

Sincerely, Elvis Clark Ardenwald neighborhood Milwaukie 97222

E-Mail full text from Mayor Gamba to me:

On Monday, March 8, 2021, 10:18:54 AM PST, Mark Gamba <gambam@milwaukieoregon.gov> wrote:

"Hi Elvis, you keep talking about walking and biking infrastructure as something we should focus on instead of other climate work. You must not be familiar with the SAFE program. Milwaukie is in the third year of major bike ped infrastructure investments that will take place over 9 years or so. When we are done with that project list, we will have the most bikeable and walkable city in Oregon. So - for all intents and purposes - what you are asking for is done at the council level.

I'm working with NWN to move towards green hydrogen, so we are not stopping natural gas infrastructure installation in new construction like other cities are doing. Taking the cities funds out of fossil fuel stocks has nothing to do with whether homes in Milwaukie will have another energy source. By the way, lots of people with NG furnaces were cold during the power outage because the fans that push that heat out are electric. We need to harden the electric system for the coming storms, not move everything to NG which only works a little with no electricity.

I would think you would be more interested in the municipal bank concept that would save the city millions in interest rates on our infrastructure bonds and loans. "

Sincerely, Mark Gamba Mayor of Milwaukie 971-

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I now move onto Agenda 8 A

Agenda 8 A, Tree Code. I Oppose the 6 inch threshold as too narrow.

I continue to believe the 6 inch diameter (DBH) threshold should be raised to 12 inches, in the case of private property not planned for development. Enforcement of such a narrow threshold will be much more half-hazard, highly dependent on uncordial neighbors turning on each other ("ratting out your neighbor").

6 inch threshold like so much of our governance these days seems based on idealism rather than realism/practicality.

Scott Stauffer

From: Elvis Clark <eclarkmilwor@yahoo.com>
Sent: Tuesday, January 18, 2022 12:15 PM

To: Scott Stauffer

Subject: Re: written testimony submission for this Tuesday's (1/18/21) Regular Session of Milwaukie City

Council

This Message originated outside your organization.

Hi, Scott.

I would like to add the following to my written testimony with this e-mail and as follows:

"Even if you believe in the most extreme climate outcome of the IPCC, based on hard wired assumption driven Climate Models I would add, as the Mayor is fixated on; It still makes little sense to ban natural gas in new construction.

Using Natural gas for home space heating is one of its most energy efficient uses, with new gas furnaces sporting energy efficiency ratings of 95%.

Oregon's electricity production per the Energy Information Administration is about one-third from natural gas burned in natural gas power plants with efficiencies between 33% and 50%.

This means that the electricity that would displace natural gas has an embedded efficiency of 1 minus the product of (1-0.33) *0.33; or a net electric efficiency of 78%. Or at the higher gas power plant efficiency the net electric efficiency is1 minus the product of (1-0.50) * 0.33; or 85% efficiency.

What I am saying is that the Mayor's natural gas ban is likely to result in more natural gas related greenhouse emissions, not less.

It will be difficult for the electric grid to get much below 20% sourced natural gas, as electric reliability requires natural gas power plant backup. The more efficient natural gas power plants are for around the clock type generation. Less efficient natural gas power plants are for just backing up the system, when the wind don't blow and when the sunlight is dimmed to night."

Sincerely,

Elvis Clark Ardenwald neighborhood retired Senior Economist for the Oregon Public Utility Commission and retired Energy Economist for the Bonneville Power Administration

Sent from Yahoo Mail. Get the app

On Tuesday, January 18, 2022, 08:12:18 AM PST, Scott Stauffer <stauffers@milwaukieoregon.gov> wrote:

Good Morning Mr. Clark,

We have received your correspondence and have shared it with all of Council and staff; it will be included in the record of the January 18, 2022, City Council regular session meeting under both items you referenced.
If we may be of further assistance please let us know.
SCOTT STAUFFER, CMC
City Recorder
he • him • his
City of Milwaukie
p: 503.786.7502
From: Elvis Clark <eclarkmilwor@yahoo.com> Sent: Sunday, January 16, 2022 11:07 AM To: OCR <ocr@milwaukieoregon.gov> Cc: Lisa Batey <bateyl@milwaukieoregon.gov>; Kathy Hyzy <hyzyk@milwaukieoregon.gov>; Desi Nicodemus <nicodemusd@milwaukieoregon.gov>; Angel Falconer <falconera@milwaukieoregon.gov> Subject: written testimony submission for this Tuesday's (1/18/21) Regular Session of Milwaukie City Council</falconera@milwaukieoregon.gov></nicodemusd@milwaukieoregon.gov></hyzyk@milwaukieoregon.gov></bateyl@milwaukieoregon.gov></ocr@milwaukieoregon.gov></eclarkmilwor@yahoo.com>
Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.
This Message originated outside your organization.
Hello, Scott.
I submit for the record my written testimony, especially for Agenda item 7, natural gas ban resolution; for Council consideration.
Seeing how tomorrow is Martin Luther King holiday, I cc the Councilors here in hopes they read before the Tuesday Evening sessions.
Thank you,
2

Elvis Clark

Ardnewald Neighborhood

Sent from Yahoo Mail. Get the app

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Scott Stauffer

From: Elvis Clark <eclarkmilwor@yahoo.com>
Sent: Tuesday, January 18, 2022 1:29 PM

To: Scott Stauffer

Subject: Re: written testimony submission for this Tuesday's (1/18/21) Regular Session of Milwaukie City

Council

This Message originated outside your organization.

Sorry, Scott.

But I have one more correction to my last e-mail.

"The Green House emissions embedded in the electricity displacing natural gas space heating is not too much different in total than that of natural gas used in home space heating.

Emissions are not really improved very much by banning natural gas space heating in new construction, as the electric grid is likely to retain a significant portion of natural gas generation, just for reliability purposes.

But energy efficiency in home space heating (per the calculations in the previous e-mail) is reduced by the proposed natural gas ban - most likely."

Elvis Ardenwald

Sent from Yahoo Mail. Get the app

On Tuesday, January 18, 2022, 01:06:10 PM PST, Scott Stauffer <stauffers@milwaukieoregon.gov> wrote:

Hello Mr. Clark,

We've received your additional correspondence and will add it to you previously submitted comments with the January 18, 2022, City Council regular session meeting.

If we may be of further assistance please let us know.

SCOTT STAUFFER, CMC

City Recorder

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City of Milwaukie

p: 503.786.7502

From: Elvis Clark <eclarkmilwor@yahoo.com> Sent: Tuesday, January 18, 2022 12:15 PM

To: Scott Stauffer <StaufferS@milwaukieoregon.gov>

Subject: Re: written testimony submission for this Tuesday's (1/18/21) Regular Session of Milwaukie City Council

This Message originated outside your organization.

Hi, Scott.

I would like to add the following to my written testimony with this e-mail and as follows:

"Even if you believe in the most extreme climate outcome of the IPCC, based on hard wired assumption driven Climate Models I would add, as the Mayor is fixated on; It still makes little sense to ban natural gas in new construction.

Using Natural gas for home space heating is one of its most energy efficient uses, with new gas furnaces sporting energy efficiency ratings of 95%.

Oregon's electricity production per the Energy Information Administration is about one-third from natural gas burned in natural gas power plants with efficiencies between 33% and 50%.

This means that the electricity that would displace natural gas has an embedded efficiency of 1 minus the product of (1-0.33) *0.33; or a net electric efficiency of 78%. Or at the higher gas power plant efficiency the net electric efficiency is1 minus the product of (1-0.50) * 0.33; or 85% efficiency.

What I am saying is that the Mayor's natural gas ban is likely to result in more natural gas related greenhouse emissions, not less.

It will be difficult for the electric grid to get much below 20% sourced natural gas, as electric reliability requires natural gas power plant backup. The more efficient natural gas power plants are for around the clock type generation. Less efficient natural gas power plants are for just backing up the system, when the wind don't blow and when the sunlight is dimmed to night."

Sincerely,
Elvis Clark
Ardenwald neighborhood
retired Senior Economist for the Oregon Public Utility Commission
and retired Energy Economist for the Bonneville Power Administration
Sent from Yahoo Mail. <u>Get the app</u>
On Tuesday, January 18, 2022, 08:12:18 AM PST, Scott Stauffer < stauffers@milwaukieoregon.gov > wrote:
Good Morning Mr. Clark,
We have received your correspondence and have shared it with all of Council and staff; it will be included in the record of the January 18, 2022, City Council regular session meeting under both items you referenced.
If we may be of further assistance please let us know.
SCOTT STAUFFER, CMC
City Recorder
he • him • his
City of Milwaukie
3

From: Elvis Clark < eclarkmilwor@yahoo.com> **Sent:** Sunday, January 16, 2022 11:07 AM To: OCR < OCR@milwaukieoregon.gov > Cc: Lisa Batey < Batey L@milwaukieoregon.gov >; Kathy Hyzy < HyzyK@milwaukieoregon.gov >; Desi Nicodemus < Nicodemus D@milwaukieoregon.gov >; Angel Falconer < Falconer A@milwaukieoregon.gov > Subject: written testimony submission for this Tuesday's (1/18/21) Regular Session of Milwaukie City Council Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files. This Message originated outside your organization. Hello, Scott. I submit for the record my written testimony, especially for Agenda item 7, natural gas ban resolution; for Council consideration. Seeing how tomorrow is Martin Luther King holiday, I cc the Councilors here in hopes they read before the Tuesday Evening sessions. Thank you, Elvis Clark Ardnewald Neighborhood Sent from Yahoo Mail. Get the app Disclaimer

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Scott Stauffer

From: Mark Gamba

Sent: Monday, January 17, 2022 10:02 AM

To: Nathan Stokes
Cc: _City Council

Subject: Re: Concerned Operating Engineers

Great note Nate, I'd love to sit down with you soon and talk about a lot of what you have communicated. I've cc'd the whole council so that this becomes part of testimony on Tuesday. At this point I've decided against trying to move this resolution at this meeting, and am instead, introducing it to begin the very conversations you reference. I agree with many of your points and look for trustworthy partners like you to help, as we consider future energy needs for our community and society at large.

Please let me know some times when you would be available for a conversation.

Thank you.

Sincerely, Mark Gamba Mayor of Milwaukie 971-404-5274

Working to make Milwaukie entirely equitable, delightfully livable, and completely sustainable.

From: Nathan Stokes <nathan@IUOE701.com> Sent: Monday, January 17, 2022 8:57 AM

To: Mark Gamba < Gamba M@milwaukieoregon.gov>

Subject: Concerned Operating Engineers

Mayor Gamba,

My name is Nate Stokes and I'm the Assistant Business Manager for the Operating Engineers Local 701. I don't know if you recall, but we worked together on the Metro Transportation Funding Task Force back in 2019 to ensure that the proposed transportation bond properly addressed and met local needs, especially regarding the climate. I was proud of the work that we accomplished in that group, and was frequently surprised at how well we were able to bring different perspectives and groups together to solve a common problem. I hope that we can work together again on the climate and jobs issues facing our community now, and that you carefully read and consider my comments below, as you did on the taskforce. I'm not sure if I will have the opportunity to speak on Tuesday, so I wanted to send my thoughts as soon as possible.

We understand you will be considering a resolution tonight that has some concerning language and ideas in it—and on behalf of our members, I'm encouraging you to pause to do more work before adopting the resolution entitled: "A

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MILWAUKIE, OREGON, DIRECTING THE CITY MANAGER TO BEGIN THE PROCESS TO REACH OUR GOAL OF BEING NET ZERO BUILDING ENERGY BY 2035."

As a reminder, an Operating Engineer is a person who helps build, dig, burry, hoist, and move just about anything on wind farms to solar farms—and, we are working on some of the biggest pumped water projects in the region. While we help develop renewables on the electric side, we also dig the trenches and help place the pipe in the ground for anything that moves through it, including new renewables in the gas system-like RNG and in the coming years, renewable hydrogen.

• It's exciting to think that as of this year in Oregon—renewables are flowing both in the electric system and the gas system. We are a leader in the nation.

So, when you think about renewables, I encourage you not to think about them in the abstract but instead, consider the hands and minds of the people who are actually delivering on that renewable future in their daily work.

We have been hearing misinformation throughout our region encouraging elected officials to stifle innovation in renewables across all energy systems. The language in this resolution that assumes that going "electric only" is the best (or even a viable) way to decarbonize our buildings is yet another example. Electrification does not equal decarbonization.

- From our perspective, Oregon can be a hotbed of innovation because of a willingness to collaborate and *test* new ideas—not suppress them.
- We are all at the forefront of the carbon transition Each day, our Members are preparing for unprecedented
 innovation in the renewables sector—in fact, new technology and evolution of existing technology is the rule,
 not the exception.
- Our Members believe in resiliency-based carbon reduction—where all forms of renewable energy are needed
 for a balanced, low-carbon future. Because like my grandpa told me "too much of one thing isn't good, Nate" or
 "don't put all your eggs in one basket, Nate". That's why we appreciate when elected officials and others take
 on acknowledging and examining the complexity of the energy transition we collectively need to do alongside
 us:
 - First, we recommend that the Council take more time for community and stakeholder input as there has been no public process around a major policy decision like forcing future homes and businesses in Milwaukie to rely on a singular energy system.
 - We recommend that that the City and the Council underscore for future work on carbon reductions that reliability, resiliency, and cost are examined as key factor in thinking through the carbon transition with regard to buildings.
 - We recommend that language around "electric only" and "all electric" be removed from this resolution or any future resolution and instead language around "net-zero", "fossil-free" and "renewables" be explored.
- In addition to rigorous analysis, as you continue to deliberate on the City's climate action plan work ahead, we
 encourage you to put technological and human innovation at the forefront of the next steps in your decision
 making too.

Finally, we encourage partnership. Our Union and our members are part of an all-hands-on-deck approach to the carbon transition—Thank you for considering our perspective.

Thank You in Solidarity,

Nate Stokes Assistant Business Manager



"Have a Safe Day"

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From: Mark Gamba

Sent: Monday, January 17, 2022 10:07 AM

To: Scott Stauffer

Subject: Fw: Banning Natural Gas

add to testimony

Sincerely, Mark Gamba Mayor of Milwaukie 971-404-5274

Working to make Milwaukie entirely equitable, delightfully livable, and completely sustainable.

From: Charles Olsen <gammeldanske55@icloud.com>

Sent: Sunday, January 16, 2022 8:45 PM

To: Mark Gamba < Gamba M@milwaukieoregon.gov>

Subject: Banning Natural Gas

Your honor,

I heard you are proposing an initiative to ban natural gas in new homes in Milwaukie.

Have you considered the subsequent need to upgrade the power grid to accommodate electric-only homes? Yes, heat pumps are more efficient than they used to be, but they still require energy that gas might provide.

Have you also factored in the increased demand from electric cars as more people switch to them?

Who will pay for the upgrade to the power grid? I would advocate for people buying gas-free houses to pick up the tab. I'm not terribly interested in doing it.

I've lived in Milwaukie for only a couple of months, but I'm an old geezer so I feel qualified to spout off. The power has failed twice in those two months, which leads me to believe the grid here is already somewhat fragile. I lived in Portland for almost 40 years and can count the number of power failures there on one hand. I'll leave it to you to to the math.

Best regards,

Charles Olsen 13013 SE Sprout Lane

503-233-5901

From: Tawnya Dettmer <tldettmer@gmail.com> Monday, January 17, 2022 10:39 AM Sent:

OCR To:

Subject: No vote for Proposed Ban on Natural Gas use for new construction

This Message originated outside your organization.

Please don't ban the ability for homes to be built or remodeled with natural gas. Growing up in an area that had many power outages - especially during the winter if not for natural gas - we wouldn't have had heat - let alone a way to cook or have hot water. As we experience more super storms, summer time fire dangers, etc. Homes will need a way to have these basic services that won't be available get that through our electric power grid or sometimes even solar (ice storms). Thank you,

Resident of Milwaukie,

Tawnya Dettmer

From: Jodi Guetzloe Parker <jparker@local737.org>

Sent: Monday, January 17, 2022 3:28 PM

To: Mark Gamba; Kathy Hyzy; Angel Falconer; Lisa Batey; Desi Nicodemus; OCR

Cc: Zack Culver 1/18/22 RS 7.B Subject:

This Message originated outside your organization.

Good afternoon Mayor Gamba, Council President Hyzy, and Councilmembers,

Thank you for your attention to climate changes and the varied approaches to solutions. As Laborers International Union of North America (LiUNA), we represent over 3000 working men and women in the state of Oregon. Among the important work our members do, we are heavily invested in the renewable energy fields. We help build wind towers, solar projects and battery storage sites to name just a few in the energy sector.

We are writing today to request that you delay voting on the aforementioned resolution, and do a thorough look at the impact this resolution would have on all members of the community of Milwaukie, as well as business. Please look at the bigger picture of a true response to helping create an effective approach to climate change. We all want to be a part of the continuing solution, and not leave anyone out of the process.

Thank you for your consideration,

Sincerely,

Jodi Guetzloe Parker Representative 17230 NE Sacramento St Portland OR 97230 she/her/hers

cell: 971-269-4180



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From: kelly@naioporegon.org

Sent: Monday, January 17, 2022 3:43 PM

To: Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark Gamba

Cc: Ann Ober; Scott Stauffer; Hannah Wells

Subject: Letter Opposing Resolution Banning Natural Gas

Attachments: We sent you safe versions of your files; 1-17-22 NAIOP Letter to Milwaukie City Council re Natural

Gas Ban.pdf

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This Message originated outside your organization.

Mayor Gamba and Councilors,

Please find attached a letter from our organization expressing grave concerns about the resolution on your agenda for tomorrow's meeting that would ban the use of natural gas in all new construction by 2024 and decarbonization of all existing buildings by 2035.

While we wholeheartedly agree with the goal of reducing carbon emissions, switching from natural gas to electricity is a very complex matter and will have huge—indeed, potentially crippling—cost impacts. It should not be done in a casual manner without careful consideration and research, especially when an estimated 40% of all electricity currently generated is through the use of natural gas.

We urge you to refrain from adopting this resolution and to work with our industry and others in construction and related industries to develop a more well-reasoned approach.

Thank you for your consideration,

Kelly Ross



Kelly Ross, Executive Director 700 N. Hayden Island Drive, Suite 160 Portland OR 97217 (503) 223-1766 (503) 380-1316 Mobile



January 17, 2022

The Hon. Mark Gamba Milwaukie City Council 10722 SE Main Street Milwaukie, OR

RE: Natural Gas Ban Resolution

Dear Mayor Gamba and Councilors:

NAIOP, the Commercial Real Estate Development Association, is one of the leading organizations for developers, investors, owners & operators, brokers, and related professionals in office, industrial and mixed-use real estate throughout the United States, Canada, and Mexico. The Oregon Chapter's members represent a broad and diverse range of companies involved with commercial real estate activities in the Portland metropolitan area, including developers, owners, brokers, and managers, along with other professionals providing legal, finance, title, engineering, architectural, construction, and other services.

We write today to express our strong concern about the resolution on tomorrow's meeting agenda that would ban the use of natural gas in all new construction beginning in 2024 and decarbonization of all existing buildings by 2035.

While we wholeheartedly agree with the goal of reducing carbon emissions, switching from natural gas to electricity is a very complex matter and will have huge—indeed, potentially crippling—cost impacts. It should not be done in a casual manner without careful consideration and research, especially when an estimated 40% of all electricity generated is through the use of natural gas.

The City of Milwaukie should be able to address some key issues before making any decisions, such as:

- What will be used to generate this electricity?
- Can the electric system handle all this energy?
- How much will this cost compared to other ways to meet our climate goals?
- Will this action actually cause a reduction in greenhouse gasses?
- Diversification of our energy system is important for a host of reasons. No energy system is perfect – neither the gas side nor the electric side – which is why we need to leverage the strengths of each and build solutions collaboratively where there are challenges.

Officers

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Pres.-Elect, Lauren Jones Capstone Partners

Treasurer, Paul Delsman
Howard S. Wright Construction

Secretary, Travis Drilling Urban Renaissance Group

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Jason Green CBRE

Emily Matza Harsch Investment Properties

Dr. Gerard Mildner
Portland State University

Brad Miller Brix Law

Allison Reynolds Stoel Rives

Sam Rodriguez
Mill Creek Residential

Paddy Ryan Gantry

Michelle Schulz GBD Architects

Stuart Skaug

Brad Stern
Pacific NW Properties

Executive Director

Kelly Ross

700 N. Hayden Island Drive, Suite 160

Portland, OR 97217

Tel: (503) 223-1766

Fax: (503) 597-3668

- Do we really want to put all our eggs in one basket with electrification? We'll reach our climate goals faster and more affordably by working together on a diversified, resilient energy system that drives down costs through innovation.
- We appreciate the work that the city, NW Natural and others have done for climate action, particularly in the realm of renewable energy. We encourage you to envision more investment in renewables across our entire energy system both the gas and electric grid. We need more possibilities for how we create energy systems that are reliable, affordable and reduce emissions at the same time.

We urge you to refrain from adopting this resolution and to work with our industry and others in the construction and energy industries to develop a more well-reasoned approach.

Sincerely,

Kelly Ross

Executive Director

From: Carla Pletka <carla@glorygal912.com>
Sent: Monday, January 17, 2022 6:16 PM

To: OCR

Subject: Banning Gas

This Message originated outside your organization.

To The Milwaukie City Council,

Regarding banning natural gas in Milwaukie I am extremely opposed to this idea.

This is a far over reaching resolution taking choice away from the citizens and consumers of Milwaukie. People like to cook with gas heat. It is incredibly different and nuanced in comparison to electric. Gas heat also feels different than electric heat. Electric is much more expensive than gas. This will only hurt our low income people even more,

People have the choice to either use gas or electric and that choice should be left to them.

Also note that California is already asking people to reduce using their electric car use as there is too much demand on the supply.

Also encouraging the use of electricity puts demand on solar which uses precious metals and wind turbines that kill birds, affect the views and cannot be recycled. They're buried. It takes more energy to make these maintain and build these types of technology than they produce.

This is an idea that cannot be sustained.

Also note that we are blessed with huge forests in Oregon to offset CO2. Only 4% of the land in Oregon is populated and that includes all buildings and roads. Oregon is not suffering and we offset ourselves.

There are many areas that need this attention like dealing with crime and homelessness in Milwaukie. Improving the business atmosphere for business owners and customers.

Please vote no on this resolution.

Thank You, Carla Pletka

From: SCOTT ONGLEY <SHO12GA@msn.com>
Sent: Monday, January 17, 2022 7:36 PM

To: OCR

Cc: Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark Gamba

Subject: ***Thoughts on Milwaukie Electrification - Things to Consider for Your Constituents *****

Attachments: Scott H Ongley.vcf

This Message originated outside your organization.

Dear Mayor Gamba and City Council Members,

Our Milwaukie Family business opened in 1922 and the Lisac family has been serving the Milwaukie community, for 100 years this year! We are now third generation running the business and working with the great people of Milwaukie. Lisacs served them Groceries from 1922 to 1978. In the energy crisis of 1978 the Lisac family chose to serve the people of Milwaukie and Portland area by selling alternative heat sources such as wood, gas and pellet stoves, for when the (Electric) power goes out or utility costs get so high they cannot afford to heat their homes!! This is and has not been a common occurrence though the years nor will it in future years.

Last year alone just look at the power outages that struck the Milwaukie community. We were swamped with service and sales calls for weeks to either get their gas stoves and inserts up and running or for those with ALL Electric homes to have an alternative heat source put in so they do not freeze to death!!

You would be amazed at the volume of calls we receive every year from home owners who do not have a heat source other than a Natural Gas stove or insert or fireplace. When there gas or electric furnace broke down they found they could heat their house effectively and cheaper with a alternative heat source that Lisac's was able to supply them.

Lisac's has employed 17-20 people for years now, serving the Milwaukie public keeping them warm when Electricity is unavailable!!!

We are truly surprised and disappointed to see Agenda #7 coming before you on Tuesday, January 18th. The language in the resolution specifying "electric only "construction for all homes and businesses at some future date is either a mistake or is deeply misinformed. Your constituents need and request the reliability and resiliency of a diversified energy system for their community and especially for their homes. Gas fireplaces and stoves and inserts literally save hundreds and thousands of lives each year. This has been proven year after year! Customers called by the hundreds last year after February's storm that left them heatless had it not been for their Natural Gas Life Saving appliance! Many fixed income home owners, elderly single person homes all express their gratitude for having a backup heat source.

We are also concerned that there has been no public discussion of this resolution and that the expertise and knowledge that we have as a local business serving the community was not even considered. The resolution may be intended to be forward looking and inspirational but there still needs to be good public process. Please take the time to engage your constituents and your businesses, learn from them, and make informed, well-crafted decisions.

We respectfully request immediate language change in the resolution and a delay on the vote until it is corrected.

Thank You, Scott Ongley Owner – Lisac's Fireplaces and Stoves Inc. Paul Lisac Owner – Lisac's Fireplaces and Stoves Inc.

1

Scott H. Ongley
Lisacs Fireplaces and Stoves
Owner
(503) 261-1000 Work
(360) 606-6731 Mobile
sho12ga@msn.com
12518 NE Airportway Ste 155
Portland, Or. 97230
Lisacsfireplacesandstoves.com

From: SCOTT ONGLEY <SHO12GA@msn.com>
Sent: Tuesday, January 18, 2022 10:46 AM

To: OCR

Cc: Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy

Subject: Correction to Last sentence of first paragraph of Previous Email - From Scott Ongley

Attachments: Scott H Ongley.vcf

This Message originated outside your organization.

The last sentence should read as follows:

"This is and has been a common occurrence through the years and will continue into future years. "

Scott H. Ongley

Lisacs Fireplaces and Stoves Owner (503) 261-1000 Work (360) 606-6731 Mobile sho12ga@msn.com

12518 NE Airportway Ste 155 Portland, Or. 97230 Lisacsfireplacesandstoves.com

From: info@lisacsfireplaces.com

Sent: Tuesday, January 18, 2022 11:18 AM

To: OCR; Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark Gamba

Subject: FW: Corrected Sentence Version ***Thoughts on Milwaukie Electrification - Things to Consider for

Your Constituents *****

Attachments: Scott H Ongley.vcf

This Message originated outside your organization.

The email sent last night had a sentence that was stated incorrectly. Please see revision below in RED. My apologies and thank you for your consideration in this matter.

I am sending this letter through our Business email in case my previous personal emails went to spam.

From: SCOTT ONGLEY

Sent: Monday, January 17, 2022 7:36 PM

To: ocr@milwaukieoregon.gov

Cc: falconera@milwaukieoregon.gov; bateyl@milwaukieoregon.gov; nicodemusd@milwaukieoregon.gov;

hyzyk@milwaukieoregon.gov; gambam@milwaukieoregon.gov

Subject: ***Thoughts on Milwaukie Electrification - Things to Consider for Your Constituents *****

Dear Mayor Gamba and City Council Members,

Our Milwaukie Family business opened in 1922 and the Lisac family has been serving the Milwaukie community, for 100 years this year! We are now third generation running the business and working with the great people of Milwaukie. Lisacs served them Groceries from 1922 to 1978. In the energy crisis of 1978 the Lisac family chose to serve the people of Milwaukie and Portland area by selling alternative heat sources such as wood, gas and pellet stoves, for when the (Electric) power goes out or utility costs get so high they cannot afford to heat their homes!! This is and has been a common occurrence through the years and will continue into future years.

Last year alone just look at the power outages that struck the Milwaukie community. We were swamped with service and sales calls for weeks to either get their gas stoves and inserts up and running or for those with ALL Electric homes to have an alternative heat source put in so they do not freeze to death!!

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We are also concerned that there has been no public discussion of this resolution and that the expertise and knowledge that we have as a local business serving the community was not even considered. The resolution may be intended to be forward looking and inspirational but there still needs to be good public process. Please take the time to engage your constituents and your businesses, learn from them, and make informed, well-crafted decisions.

We respectfully request immediate language change in the resolution and a delay on the vote until it is corrected.

Thank You, Scott Ongley Owner – Lisac's Fireplaces and Stoves Inc. Paul Lisac Owner – Lisac's Fireplaces and Stoves Inc.

Scott H. Ongley
Lisacs Fireplaces and Stoves
Owner
(503) 261-1000 Work
(360) 606-6731 Mobile
sho12ga@msn.com
12518 NE Airportway Ste 155
Portland, Or. 97230
Lisacsfireplacesandstoves.com

From: steve erickson <s.erickson.1@hotmail.com>

Sent: Monday, January 17, 2022 8:50 PM

To: OCR; Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark Gamba

Subject: Milwaukie City Council Gas Ban Resolution

This Message originated outside your organization.

To whom it may concern,

I am writing you today in regards to your resolution considering banning natural gas. My name is Steve Erickson and I am a native Oregonian. I have been in the HVAC industry in Portland for 25 years and I would like to explain why it's important to leave an option open in your mandate for existing residential dwellings to be able to convert from oil, wood, or straight electric resistant heat to natural gas.

Homeowners that are still heating with oil, wood or electric are often times elderly and or on a fixed income. They have no means to pay for the heat pump conversion that your mandate would require. Requiring the homeowner to purchase a heat pump, electric air handler, and often times an electrical panel or even a complete electrical service upgrade, as opposed to just buying a high efficiency gas furnace. Mandating away the affordable gas option will simply stop this group of home owners from converting from their current inefficient system and make your ultimate goal even harder to achieve.

I'm sure you are aware that straight electric resistant heat is not a viable option for older home heating. Mandating all-electric heating means installing a heat pump on virtually every residential conversion moving forward. This would put an unnecessary burden on the electrical grid in the summer, as most of this demographic would not install an AC with their high efficiency gas furnace, if given an option.

I would ask the Mayor and City Council to consider the most venerable of home owners, as well as tenants, when adopting new mandates. If no affordable options are given, then nothing will change. An affordable, reliable, low polluting, high efficiency gas furnace is certainly a better option than a home owner staying with oil, wood, or straight electric.

I also think it is important to consider a healthy mix of electricity and high efficiency gas where it makes sense. Having every home and building relying on one heat source can be problematic during weather extremes. A perfect example is the huge increase in 20KW natural gas generators that are going into homes with all electric systems. Homeowners are realizing they can't cook, heat, or have hot water during a power outage, black out, or brown out, all of which natural gas provides, negating the need for a generator, which in the long run could actually help you achieve your ultimate goal.

Thank you for taking the time to read and consider my thoughts. Please don't hesitate to contact me if you have any questions or would like to discuss this further.

Respectfully, Steve Erickson (503)572-1653

From: Lou Christian <louc@ua290.org>
Sent: Tuesday, January 18, 2022 8:23 AM

To: Mark Gamba; Kathy Hyzy; Lisa Batey; Angel Falconer; OCR **Subject:** Electrification Resolution Agenda Item 7 Tuesday 18th 2022

This Message originated outside your organization.

Mayor Gamba and Milwaukie City Council,

My name is Lou Christian. I am the Business Manager for Plumbers and Steamfitters Local 290. I represent the members of two thirds of Western Oregon Metro Vancouver area and a couple of counties in Northern California, and some of our members reside in the Milwaukie area.

We are excited to partner with the City of Milwaukie on renewables and the energy transition <u>but</u> what we are seeing in Agenda Item #7 for Tuesday, January 18 is concerning. The opportunity to use renewable natural gas and renewable hydrogen to complement wind and solar electrical energy is critical to decarbonize the energy supply and keep a prosperous and safe community. As currently proposed, the City seems only to be considering relying on the electricity system for all new construction after 2024—this is misguided and is not in line with the best opportunities for innovation and resiliency. Electrification does not equate to Decarbonization.

The need for redundant energy systems is undeniable when the electrical power is interrupted by natural disasters. This can happen with wind fire, weather, cold or extreme heat. A gas system can mean the difference between life and death. Please remember last year's Ice Storm. These events can be greatly mitigated with a strong, redundant system. You don't need to search far for stories from some of our most vulnerable community members on how they survived power outages by cooking, getting hot water, and having a fireplace because of the gas system. Decarbonization needs to be done with redundancy that will save lives.

Please study this issue to thoroughly understand the cost to property businesses and human lives in the event of disasters as you consider how we collectively transition to a decarbonized society. Please consider editing the language in this resolution to accommodate these recommendations before adopting.

Thank you for your time.

Lou A Christian UA Local 290 Business Manager FS/T Office 503-691-9557 Cell 971-777-2550 Email Louc@ua290.org

From: Robert DeGraw <robert.degraw@290tech.edu>

Sent: Tuesday, January 18, 2022 8:28 AM

To: OCR; Angel Falconer; Lisa Batey; Desi Nicodemus; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark

Gamba

Subject: Electrification Resolution

This Message originated outside your organization.

To Milwaukie Elected Officials, it has been brought to my attention that the City of Milwaukie is considering an all electrical resolution, discontinuing the use of Natural Gas. As a 22 year resident of Oak Grove who had to endure 10 days without electricity during last Februarys ice storm I think that this is a bad decision for multiple reasons. Relying on one exclusive energy source is literally putting all your eggs, or trust in this instance, in one basket. I was able to still have hot water and heat thanks to Natural Gas. As a 28 year member of Local 290 as a Steamfitter and past owner of a Catering Business I understand the different BTU's of different fuels and their respective efficiencies. Forcing a Restaurant, Bakery, or small business to convert their equipment to all electric would force them to relocate outside of Milwaukie city limits denying our citizens of multiple services and opportunities.

As a long time environmentalist I'm fully aware or Global warming and its consequences but until we collectively address this as a whole and upgrade and diversify our infrastructure I believe this is a bad idea.

Respectfully,

Bob DeGraw

Steamfitter Coordinator

UA Local 290 Re

290 Tech

Matt Walters Training Center

Cell 503-444-0731





January 18, 2022

Dear Mayor Gamba and Milwaukie City Council,

I am writing to you in support of retaining balanced and alternative forms of renewable energy for the residents of Milwaukie, including my own household. A balanced approach would include natural gas and other renewable options that could support the reduction of emissions by the 2035 and 2055.

Simply depending on electric alone could compromise our systems during peak times, especially during winter months when so many of your resident count on natural gas as their primary fuel source to heat their homes and prepare their meals.

Families and businesses should have an affordable and reliable choice of resilient and dependable energy options to meet their needs. They should not be limited to a single source of energy that has the potential of being unaffordable and potentially can't even support the grid that our community would become fully dependent on.

Consumers prefer natural gas for its reliability and affordability and new construction continues to become more energy efficient as new technologies enter the market. Any future consideration requiring any conversation of systems in established homes and businesses will create financial hardships that many may not be able to absorb. Further acerbating unsustainable hardships and the risk of losing homes and businesses.

We implore you to keep with a sensible and balanced approach of offering alternative fuel sources so long as those providers continue to make reasonable attempts to reduce their carbon footprint and keep with the same timelines as the 2035 and 2055 goals have stated.

Thank you for your time and consideration.

Laura Edmonds

Laura Edmonds, CEO North Clackamas Chamber of Commerce

> North Clackamas Chamber of Commerce 8305 SE Monterey Avenue, Suite 104 Happy Valley, OR 97086 Phone: (503) 654-7777

From: Harvey Gail Harvey Gail harvey@prsalem.com
Sent: Tuesday, January 18, 2022 9:35 AM

To: OCR; Mark Gamba

Cc: Angel Falconer; Desi Nicodemus; Kathy Hyzy; Lisa Batey
Subject: Electrification proposal city of Milwaukie, comments

This Message originated outside your organization.

January 18, 2022

To: Mayor Gamba and Milwaukie City Council

From: Harvey Gail, Oregon Hearth, Patio, Barbecue Association

RE: Climate Action Plan, resolution on banning gas in new construction

Our association represents retailers, service companies and distributors of home heating appliances. One of our longest standing members is Lisac's Fireplaces and Stoves in Milwaukie. The owners and employees at Lisac's understand that people who own homes want to ensure they stay warm in the winter, even when the power goes out. Lisac's was on the front lines helping people when their power went out last year. They also help people keep energy costs affordable for homeowners.

That's why the resolution to ban gas (Agenda Item #7) that specifies "electric only" construction for all homes and businesses is an ill-informed decision that will be very bad for the citizens in Milwaukie.

Why?

People want energy choice. They like having options. They know those options keep energy costs lower.

Does council have enough information to make this decision? Forced electrification has consequences. Know what they are. Listen to local businesses like Lisac's Fireplaces. Take the time for public discussion, ask the citizens of Milwaukie what they want and listen to the experts.

If the power goes out and homes don't have an alternative for heat and cooking, there could be dire consequences. Gas fireplaces literally saved lives and kept people safe during last February's power outage. Many homes had no power for days. Without gas, there was no heat, and many have electric stoves. Many relied on propane barbecues for cooking.

Oregon does not have a solution to supply enough electric power if cities like Milwaukie ban gas. The Oregon Department of Energy reported this recently at a hearing I attended. To meet aggressive climate action goals, the only solution ODOE could come up with for "resource availability" was to generate electricity in natural gas power plants or by purchasing power generated in other states from coal and gas. There's not enough coming from renewable sources or hydro power. Sure, maybe there will be at some point in the future, but does Milwaukie want to gamble on that?

Also, all electric homes are very expensive to operate. The cost of housing will go up, possibly driving people away to other cities where the cost of housing is less, and energy choice is not restricted.

We understand this resolution may be aspirational, but don't make the decision to ban gas in haste. Get more information. We respectfully request a delay on the vote of this resolution.

G. Harvey Gail, MBA

Executive Director | Oregon Hearth, Patio

Barbecue Association

p: 503-585-8254 x308 **e:** harvey@prsalem.com

3340 Commercial St SE, Suite 220 Salem, OR 97302

www.ohpba.org

To: The City Council of the City of Milwaukie, Oregon

Re: The health rationale for electrifying new housing and decarbonizing existing structures January 18, 2022

Good Day, Mayor Gamba and City Councilors:

I am Dr. Theodora Tsongas, an environmental health scientist and epidemiologist. I am a member of Oregon Physicians for Social Responsibility and the Climate Change and Health Committee of the American Public Health Association. I am writing today to support the proposed Council resolution to require all newly constructed residential, commercial and industrial buildings to be electric only and amend the climate action plan to provide a roadmap for how the city can achieve decarbonization of existing residential, commercial and industrial buildings. As you may be aware, climate disruption is a public health emergency, and decarbonizing your community is a matter of public health, as you address the harms to health from gas appliances.

Gas (fossil gas, fracked gas, methane) appliances emit air pollutants--nitrogen oxides, carbon monoxide, particulate matter (PM 2.5) and formaldehyde, a volatile organic compound. Stoves and ovens pollute indoor air while furnaces, water heaters and clothes dryers, vented outside, pollute outdoor air.

There are no standards in the U.S. for indoor air pollutants. (1) On average in the U.S., people spend at least 90% of their time indoors. For children, the elderly and those living in low income and poor neighborhoods, this may be higher. (1)

Gas stoves and ovens emit an air pollutant, nitrogen dioxide, into indoor air at levels that would be illegal outdoors by EPA air quality standards. Studies have found that children in homes with gas stoves have a 42 percent increased risk of experiencing asthma symptoms (current asthma), a 24 percent increased risk of ever being diagnosed with asthma by a doctor (lifetime asthma), and an overall 32 percent increased risk of both current and lifetime asthma. (1) Asthma is currently the most prevalent pediatric chronic disease in the United States. "Around 3.2 million children had at least one asthma attack in 2016, resulting in more than 80 thousand hospitalizations." (2)

Carbon monoxide (CO), also emitted by gas stoves and ovens, is an insidious pollutant because it is tasteless and odorless. There are no safe levels of CO exposure. One hundred seventy people die every year in the US from CO poisoning caused by non-automotive products. (1) People with coronary artery disease are vulnerable to low levels of CO. Chronic exposure to CO increases the risk of dementia and congestive heart failure. (1) CO exposure can exacerbate asthma. Children are especially vulnerable to CO exposure due to their developing nervous systems and high metabolic rates. Exposure during pregnancy increases the risk of low birth weight. (3)

Research has shown that these two gas appliances, stoves and ovens, produce twice as much particulate matter, including PM2.5, as electric cooking. (1,4) Fine particulate matter (PM 2.5) has been shown to increase blood pressure, increase the risk of stroke, and is associated with premature mortality, bronchitis, asthma onset and exacerbation, low birth weight and preterm birth. (1)

It has also been found that moving residents of two public housing apartment buildings in Boston to "green" housing, resulted in significant decreases in multiple indoor exposures and improved health outcomes among residents. Nitrogen dioxide concentrations decreased by 65 percent and PM2.5 concentrations decreased by 57 percent with no change in time spent cooking. (1)

Gas furnaces, water heaters, and clothes dryers emit the same pollutants as gas stoves and ovens but are vented outside, contributing to outdoor air pollution. Air pollutants produced in the combustion of gas include nitrogen oxides (NOx), carbon monoxide, particulate matter and formaldehyde, a VOC (volatile organic compound). Ozone is a secondary pollutant produced from a complex chemical reaction between NOx, VOCs and sunlight. Ozone causes an increase in all-cause, cardiovascular, and respiratory mortality resulting in 0.5-1.2 million deaths per year worldwide. (3)

More than 8 million people died in 2018 from fossil fuel pollution, significantly higher than previous research suggested. Exposure to particulate matter from fossil fuel emissions accounted for 18 percent of total global deaths in 2018 — a little less than 1 out of 5. (5, 6)

So, there are many health risks associated with the use of gas appliances as well as the exacerbation of climate disruption caused by our use of fossil fuels. Please do all you can to support this resolution and help your community and all of us respond to this local and global health crisis.

Thank you for your work and for the opportunity to provide comments.

References

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- KarnVohra et al. 2021. Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem. Environmental Research Volume 195, 110754. https://doi.org/10.1016/j.envres.2021.110754
- 6. https://www.seas.harvard.edu/news/2021/02/deaths-fossil-fuel-emissions-higher-previously-thought

From: Lisa Batey

Sent: Tuesday, January 18, 2022 10:52 AM

To: Scott Stauffer; _City Council; Peter Passarelli; Natalie Rogers

Subject: FW: NW Natural decarbonization plan and additional information for 1/18 council meeting

Attachments: DestinationZero2022_ExecutiveSummary.pdf

Scott: Thanks for compiling the comments into compendium documents. I don't think I saw this one there, so please do add it, if not already in the record. Copying everyone, but I imagine other Councilors received it as well.

From: Carlson, Nina < Nina. Carlson@nwnatural.com>

Sent: Sunday, January 16, 2022 2:00 PM **To:** Lisa Batey <BateyL@milwaukieoregon.gov>

Subject: NW Natural decarbonization plan and additional information for 1/18 council meeting

Councilor Batey,

I wanted to take a moment to check in with you prior to the upcoming council meeting on January 18th, specifically to discuss the gas ban proposal being brought forth by Mayor Gamba. Before I go any further I want you to know that NW Natural respects and supports the focus of the City of Milwaukie on climate change as reflected in their climate action plan. We at NW Natural also believe there is a climate imperative, and that we must face it using a triple bottom line approach valuing the environment, our customers and the economy. To that end, NW Natural has been tirelessly pursuing strategies that will enable us to transform into the nation's first carbon neutral gas utility, our strategy to achieve this is outlined in the attached document which outlines three pathways that make that possible. Right now NW Natural has contracts to purchase or develop 3% Renewable Natural Gas (RNG- which is capturing methane from decomposing material, such as waste water treatment plants, landfills, dairies, etc., cleaning and injecting on our pipeline) to our customers territory wide, to reduce the carbon intensity of our product. This is just the beginning, and what we have been able to achieve in 2 years, and we intend to increase that percentage year after year. To put that in context, it has taken decades for the solar and wind sector to achieve 11% renewable generation nationwide. We are also working with our industrial customers to incorporate dedicated or blended hydrogen into the energy we deliver to them to decarbonize the energy used by the industrial sector. Additionally, NW Natural was an early member of One Future, a consortium of gas industry stakeholders that are working to reduce fugitive methane emissions to less that 1% across the entire value chain from well site to burn tip. This link will enable you to learn more about their work and how they continually are exceeding their annual goals. This year they are working with Veritas to get even more specific and verified data, and in fact, current members of One Future have a fugitive emission rate of approximately .6% across the value chain. ONE Future - Working to Reduce Methane Emissions Lastly, we have newly approved (by legislature and PUC) ability to work with jurisdictions that want to pursue more aggressive decarbonization goals locally. Ideally NW Natural would rather work with our cities side-by-side to achieve their climate goals in partnership.

This climate work is complex and multifaceted, as is our energy system. We understand that the city of Milwaukie wants to achieve aggressive goals with its climate action plan, and achieve meaningful greenhouse gas emissions reductions, and we as one of the state's largest energy producers want to work in partnership with the city to do that in a manner that protects reliability and affordability that your citizens count on. To that end, we were very disappointed that instead of discussion and a willingness to work together, our company was alerted through an agenda monitoring service that this was being brought to council, without so much as a phone call, and that the potential gas ban discussion could potentially be headed to a vote after 10 minutes of discussion. This policy will have long term and serious implications for the city and its citizens, and deserves more thoughtful discussion and stakeholder engagement

than 10 minutes. I ask that you review these document and link I provided in advance of the city council meeting, as the 10 minute time limit will not allow for the robust and through discussion this topic warrants, nor does it seem detailed and rigorous modeling will be provided to the council demonstrating that a gas ban would actually produce greenhouse gas emissions reductions in the short or long term. If given the opportunity, we feel we can offer a whole host of solutions to the climate problem that are significantly more cost efficient and effective in reaching the stated goals of carbon reduction. We also feel these solutions would be far more popular with Milwaukie residents. There are few, if any, gas utilities in America as committed to partnering on this issue as we are, and we hope we can be a part of the discussion to determine the best path forward for decarbonizing Milwaukie. I am happy to discuss in more detail, and have a wealth of very accomplished subject matter experts in my company available to answer questions or go into further detail. I appreciate your time and dedication to this matter, and look forward to working with you to create policy that will achieve the city of Milwaukie's climate goals and approaches climate change with the seriousness and rigor it deserves.

Kind regards,

Nina Carlson NW Natural- Government Affairs w: 503.721-2474 m: 503.312-0683 nina.carlson@nwnatural.com

EXECUTIVE SUMMARY

NW Natural is committed to a low-carbon energy future and our role in reducing greenhouse gas emissions. This document illustrates the potential for us to achieve carbon neutrality by 2050 for the energy services we provide to the roughly 2.5 million Northwest residents we serve every day.



So how do we ramp up our existing decarbonization efforts with a goal to achieve carbon neutrality by mid-century?

We start by re-assessing how we will transition our current energy deliveries to a target of carbon neutrality while serving future growth projected for the region. That begins with more aggressive energy efficiency actions, coupled with new equipment technologies that reduce energy consumption while maintaining safety, reliability, and customer satisfaction.

From there we look for lower-carbon energy sources to displace our conventional natural gas supplies. These include renewable natural gas captured and converted from organic waste, as well as clean hydrogen that can be distributed in a dedicated pipe network, blended at certain amounts directly into our system or combined with waste carbon dioxide and converted to synthetic natural gas—all providing climate benefits similar to wind and solar energy. Finally, we look to emerging models for deep carbon reductions that align with our skills and services, such as carbon capture, utilization and sequestration (CCUS).

Over the past several years, we've taken several actions that have made this vision of a carbon neutral future possible. In 2016 we established a Low Carbon Pathway as a cornerstone of the company's strategic plan, setting a voluntary goal of 30% carbon savings by 2035 (using a 2015 customer and company operations baseline). Most recently, this includes investments to develop and procure renewable natural gas, made possible by Oregon's landmark SB 98 (2019) legislation—a first-of-its kind bill.

We've formed partnerships with like-minded utilities to facilitate the adoption of clean hydrogen into our system and supplies. And we're working across the value chain on market transformation of advanced heating equipment such as natural gas-fired heat pumps that can achieve better than 100% efficiency at any temperature, or hybrid heating systems that combine electric heat pumps with a gas furnace for optimal performance.

This report evaluates scenarios using a range of options by which we can realize our vision for a carbon neutral gas utility.

Key Decarbonization Principles

- Helping customers use less is the fastest and cheapest way to reduce emissions. We are dedicated to continuing to help customers conserve energy, save money, and reduce emissions through more efficient buildings and equipment.
- All forms of renewable energy are needed in a balanced, low-carbon future. We are committed to displacing conventional natural gas over time with renewable natural gas—gases produced from organic waste streams—and clean hydrogen.
- Communities served by the gas system have greater energy reliability. We need a dual energy system—gas and electric—to handle peak energy loads and to prepare for a future with potentially more extreme weather events. Homes and businesses with gas service can have energy even when the power is out, providing a resiliency benefit for our communities.
- Leveraging our existing modern system in new ways is our priority. We are seeking paths that ensure a renewable energy future without undermining long-term affordability and dependability.
- Families and businesses should have a choice of energy options to meet their needs. Energy system diversification and competition provides the best opportunity for accelerated innovation.
- We must drive toward carbon neutrality in a way that leaves no one behind. We are committed to pursuing policies and approaches that provide fair and equitable support for our most vulnerable customers.

Not to be used for investment purposes—see NW Natural and NW Natural Holdings most recent Form 10-Ks as updated by the most recent 10-Q for information relevant to investment decisions.

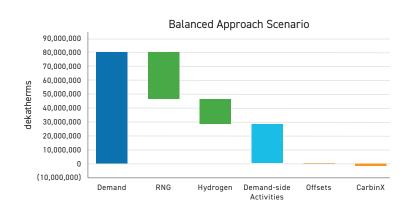
Working with internal teams of subject matter experts and resource planners, we have developed three scenarios that demonstrate it's possible to achieve the goal using different views of the future. All three draw on proven approaches to emissions reductions that are already technically viable. In some instances, such as energy efficiency programs or renewable natural gas procurement, these efforts are in progress at NW Natural now. For some others, such as clean hydrogen or carbon capture, we incorporate lessons from early adopters in Europe and Canada, where favorable policies and market conditions have enabled progress on those innovations sooner.

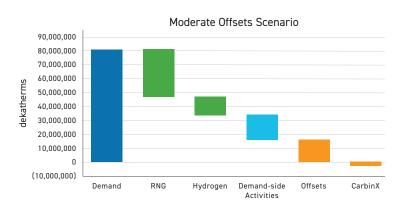
- Scenario 1 Balanced Approach: Includes a balanced mix of renewable supply and demand-side measures and does not employ offsets in 2050
- Scenario 2 Moderate
 Offsets: Utilizes offsets in
 conjunction with a mix of
 renewable supply and demand side activities
- Scenario 3 RNG
 Constrained: Utilizes far
 less RNG and no offsets in 2050
 while emphasizing demand-side
 activities and clean hydrogen

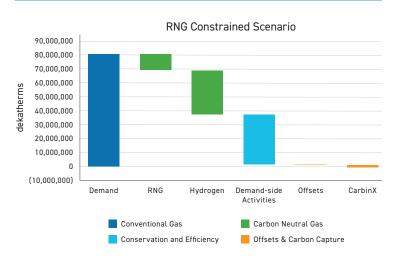
Our 2020 sales deliveries total nearly 80,000,000 dekatherms of conventional natural gas. To decarbonize, those supplies and the associated GHG emissions must be replaced with carbon neutral alternatives.

Each scenario incorporates the following components: energy efficiency and conservation through building shell improvements, deep retrofits, and advanced heating equipment; lower-carbon fuels such as renewable natural gas and clean hydrogen; technology that extracts carbon alongside natural gas combustion; and verified, quality carbon offsets.

These charts show how we expect these various measures, applied across three distinct scenarios, could achieve carbon neutrality by 2050.







For a discussion of potential cost implications of decarbonizing the gas system relative to electrification of building heat, see the E3 report Pacific Northwest Pathways to 2050; https://www.ethree.com/wp-content/uploads/2018/11/E3_Pacific_Northwest_Pathways_to_2050.pdf.

Vision 2050 Technologies & Measures

SUPPLY SIDE MEASURES							
	YEAR	BALANCED APPROACH Scenario	MODERATE OFFSETS Scenario	RNG-CONSTRAINED SCENARIO			
Decarbonized gas supplies (dekatherms)	2050	52.2M	47.4M	35.2M			
Renewable Natural Gas		34.2M	34.2M	14M			
Clean Hydrogen or Clean Hydrogen Derived Synthetic Gas		18M	13.2M	21.2M			
DEN	AND SIDE N	MEASURES					
Natural gas heat pumps as a	2025	3%	4%	3%			
percentage of natural gas space	2030	17%	12%	17%			
heating equipment installed in year	2050	72%	55%	60%			
Hybrid heating systems as a	2025	9%	8%	18%			
percentage of natural gas space	2030	16%	8%	33%			
heating equipment installed in year	2050	0%	0%	40%			
Natural gas heat pumps for water heating	2025	7%	4%	7%			
as a percentage of new gas-fired	2030	36%	15%	36%			
water heating equipment installed in year	2050	91%	65%	91%			
Industrial energy efficiency increase (percentage) beyond current Energy Trust of Oregon expectations	2050	23%	13%	30%			
Percentage reduction in building heating requirements, due to building shell improvements	2050	21%	13%	30%			
CARBON OF	FSETS AND	CARBON CAPTURE					
	2025	4.2%	7.1%	2.7%			
Certified carbon offsets used to account for conventional gas supply not yet decarbonized	2030	7.5%	11%	8%			
is. sementariat gas supply not yet accur bonized	2050	0%	25%	0%			
Natural gas supplies decarbonized	2025	38k	37k	38k			
with CARBiN-X carbon capture	2030	0.8M	0.8M	0.8M			
equipment (dekatherms)	2050	2.3M	2.8M	1.7M			

This document illustrates a breadth of options for reducing emissions. It also makes projections nearly 30 years into the future and as such, is limited by future uncertainties around economics, policies, and innovations. And while we've relied on the same types of models and expertise that our resource planning team uses to develop our integrated resource plan, scenarios presented here have not been cost-optimized. So, while we presume that elements such as renewable natural gas supplies or energy efficiency savings acquired here will be done in the most cost-effective manner, we do not present any single pathway as a least-cost option.\footnote{1}

6

We do believe, however, that our Vision 2050 provides an optimized approach to our shared energy future. Two energy systems, carrying renewable electrons along wires and renewable and clean molecules in pipes, provides greater resilience, reduces risks, and limits cost impacts for energy users. A concerted effort to decarbonize the gas system alongside the electric system offers synergies in meeting peak demands, redundancy, and long-term storage needs.

Through this document our intent is to show that it's possible and that we are committed to pursuing that future.

¹ For a discussion of potential cost implications of decarbonizing the gas system relative to electrification of building heat, see the E3 report Pacific Northwest Pathways to 2050: https://www.ethree.com/wp-content/uploads/2018/11/E3_Pacific_Northwest_Pathways_to_2050.pdf.

Not to be used for investment purposes—see MW Natural and NW Natural Holdings most recent Form 10-Ks as updated by the most recent 10-Q for information relevant to investment decisions.

From: Irais Gandarilla <irais.gandarilla@290tech.edu>

Sent: Tuesday, January 18, 2022 10:52 AM

To: OCR; Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy; Mark Gamba

Subject: Electrification Resolution Agenda Item 7 Tuesday 18th 2022

This Message originated outside your organization.

To Milwaukie Elected Officials, it has been brought to my attention that the City of Milwaukie is considering an all-electrical resolution, discontinuing the use of Natural Gas. As a 20-year resident of Ardenwald. Last February's ice storm was scary but thankfully natural gas is affordable and helped keep the heat on in my home. Relying on one exclusive energy source is literally putting all your eggs, or trust in this instance, in one basket. I was able to still have hot water and heat thanks to Natural Gas. As a 20+ years and a member of Local 290 as a Steamfitter established 2013. I understand the different BTUs of different fuels and their respective efficiencies. Forcing small business to convert their equipment to all electric would force them to relocate outside of Milwaukie city limits denying our citizens of multiple services and opportunities.

As a long time, environmentalist, I'm fully aware or Global warming and its consequences but until we collectively address this as a whole and upgrade and diversify our infrastructure, I believe this to be putting the cart before the horse.

Respectfully

Irais Gandarilla

Steamfitter Curriculum Coordinator

UA Local 290 College of Mechanical Systems & Technology

20220 SW Teton Ave | Tualatin, OR 97062 | Main: 503-691-1997

C: 971-271-3465 | E: Irais.gandarilla@290tech.edu#

From: JJNeu <jjneusies2@gmail.com>
Sent: Tuesday, January 18, 2022 11:14 AM

To: OCR Cc: James Neu

Subject: Building Electrification

This Message originated outside your organization.

Mayor and City Councilors,

After another year of record temperatures, heat domes, wildfires, drought, and winter flooding due to climate related effects, it is imperative that cities look to pass policies that reduce greenhouse gas emissions.

Specifically, I urge the City of Milwaukie mayor and city council to pass concrete policies to transition all existing buildings to all electric with an emphasis on supporting low income, BIPOC, and historically marginalized communities in the transition. Also, all new building construction should be required to be all electric by a specified date.

The City of Milwaukie is not alone in this effort to Decarbonization as the city of Eugene city council made a motion last November to require all new construction after Jan.1, 2023 be electrified. They also directed staff to create a roadmap for all existing buildings in Eugene become electrified by 2040.

I thank you for your commitment to reduce the City of Milwaukie's carbon and GHG emissions through electrification.

Jim Neu 350.Eug Volunteer Eugene, Or. 97404

Sent from my iPad



To: Mayor Mark Gamba
Councilor Kathy Hyzy
Councilor Lisa Batey
Councilor Desi Nicodemus
Councilor Angela Falconer

From: Nellie deVries, Executive Director, Clackamas County Business Alliance

Date: January 18, 2022

Re: Please Oppose Natural Gas Ban Proposal

The Clackamas County Business Alliance (CCBA) is a non-profit advocacy group supporting issues of importance to Clackamas County Businesses.

CCBA respectfully asks the council to oppose the natural gas ban, and work with NW Natural to create strategies that achieve climate goals and greenhouse gas emissions by leveraging the system that is already in place, as you have so successfully done with the electric provider. Diversification of our energy system is important for a host of reasons, from reliability and resiliency to affordability. We need to leverage the strengths of each and build solutions collaboratively where there are challenges, adding renewable energy sources to both as quickly as possible. We'll reach our climate goals faster and more affordably by working together on a diversified, resilient energy system that drives down costs through innovation.

We appreciate the work that the city, energy utilities and others have done for climate action, particularly in the realm of renewable energy. We encourage you to envision more investment in renewables across our entire energy system – both the gas and electric grid. We need more possibilities for how we create energy systems that are reliable, affordable and reduce emissions at the same time. We encourage you to rigorously model what ways achieve decarbonization most affordably and efficiently.

In addition, forced electrification takes the choice away from home buyers. This is important for homebuilders who are helping meet the region's housing needs. Milwaukie could be put at a disadvantage compared to those right outside the city limits that can offer homes with amenities like gas cooking, fireplaces and BBQs. Gas bans remove choice for consumers, and would put Milwaukie at a disadvantage for small business recruitment and expansion, and would not necessarily provide greenhouse gas emissions reductions

Further, this natural gas ban was formulated without community input. We would very much appreciate the ability to participate in the policy process as good policy is developed when we listen to the voices of everyone in our community. We would be happy to work with council

along with other business organizations to convene business leaders in the area to provide input and develop data driven policy that has broad community support.

For the aforementioned reasons, CCBA asks you to oppose the natural gas ban. Thank you for your consideration and for the opportunity to provide testimony.

Sincerely,

Nellie deVries Executive Director Clackamas County Business Alliance January 18, 2022

The Hon. Mark Gamba Milwaukie City Council 10722 SE Main Street Milwaukie, OR

RE: Natural Gas Ban Resolution

Dear Mayor Gamba and Councilors:

The Commercial Association of Brokers (CAB) is comprised of more than 600 commercial real estate professionals who diligently provide their clients with the information needed to make the best choices about their purchases, investments, management opportunities, and long-term business environments.

We echo the concerns raised by NAIOP Oregon in their letter to you yesterday regarding the resolution on tonight's meeting agenda that would ban the use of natural gas in all new construction beginning in 2024 and decarbonization of all existing buildings by 2035.

CAB also agrees with the goal of reducing carbon emissions, but switching from natural gas to electricity is a very complex matter and will have huge—indeed, potentially crippling—cost impacts on residents and businesses if done in an overly quick manner without adequate research and planning. It should not be done in such casual manner as proposed in the resolution especially when an estimated 40% of all electricity generated is through the use of natural gas.

We urge you to refrain from adopting this resolution and to work with our industry and others to develop a more well-reasoned approach.

Sincerely,

Keegan Clay, 2022 President

From: Tom Brenneke <thomas.brenneke@gres.com>

Sent: Tuesday, January 18, 2022 2:00 PM

To: OCR

Subject: RE: Resolution to Ban Natural Gas

This Message originated outside your organization.

Dear Members of City Council,

It has come to our attention that you are planning to vote tonight on a resolution to ban natural gas in the City of Milwaukie. While we respect the City's goal to be net-zero building energy by 2035, we have serious concerns and request the opportunity for public feedback on this subject.

We are concerned about the negative impact of this resolution on the community and economy, such as the strain put on construction and development, including affordable housing. In addition, the end user is affected and forced to make a costly transition to less-efficient, all-electric appliances. By eliminating consumer choice and forcing more expensive options, low-income residents take the brunt of this burden while being least equipped to absorb it.

Natural gas is an affordable and efficient energy source. Since 1970, gas utilities have added more than 30 million residential customers. At the same time, the average household's carbon footprint from natural gas has been cut in half thanks to customer programs and operational efficiencies.

By contrast, all increases in residential carbon dioxide emissions since 1973 have been due to increased use of electricity and the carbon intensity of the fuels used for electricity generation. Currently, the U.S. electric grid cannot meet the energy demands of every American household through renewable energy. Banning natural gas would put an additional burden on the power grid by reducing resource diversity and endangering reliability during a period of transition.

There is much to consider before voting on this resolution, and we respectfully request a postponement of the vote until there is adequate time for public comment and feedback.

Sincerely,

Thomas B. Brenneke

President

Guardian Real Estate Services LLC

760 SW 9th Avenue, Suite 2200 | Portland, OR 97205 **Tel** 503.802.3600 | **Direct** 503.802.3613 | www.gres.com

Please consider the environment before printing this email.

Sources:

https://www.utilitydive.com/news/the-dangers-of-out-of-sight-out-of-mind-gas-ban-policies/600789/http://www.truebluenaturalgas.org/value-natural-gas/

From: Nick Caleb <nick@breachcollective.org>
Sent: Tuesday, January 18, 2022 2:14 PM

To: OCR Cc: Carra Sahler

Subject: Written Testimony for Council Agenda Item "Net Zero Building Energy Resolution" **Attachments:** We sent you safe versions of your files; Milwaukie City Council - BE - Jan 18, 2022.pdf

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This Message originated outside your organization.

Greetings,

Attached, please find testimony from Breach Collective and the Green Energy Institute on the "Net Zero Building Energy" resolution agenda item for tonight's city council meeting.

Best,

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Nick Caleb, J.D., LL.M. (he/him) Climate and Energy Attorney nick@breachcollective.org +1(541) 891-6761

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January 18, 2022

RE: Milwaukie Net Zero Building Resolution

Mayor Gamba and members of the Milwaukie City Council,

Increasingly, local governments across the United States are exploring restrictions on gas use and encouraging electrification for heating/cooling, water heating, and cooking in buildings. In 2020, the City of Berkeley, CA passed an ordinance prohibiting gas in commercial and residential buildings, which was upheld in federal court. In December 2021, New York City, the largest city in the United States, passed a law that restricts the use of fossil gas in newly constructed residential and commercial buildings by phasing in emissions limits beginning in 2023. In Fall 2021, Eugene, OR declared a policy direction to explore pathways to prohibit gas in new and existing buildings. So far, over 50 local governments in California alone have passed regulations to prohibit gas and mitigate fossil fuel consumption, and numerous local governments around the country have either adopted similar policies or are considering them. Because of these efforts, there is an increasing understanding about best practices in policy development and a growing network of national, regional, and local organizations capable of providing support to local governments pursuing building electrification. We applaud Milwaukie City Council for pursuing similar policy and are always available to share information about similar efforts happening in Oregon and throughout the country.

In addition to concerns about the climate warming effects of fossil gas, towns and cities have identified other important reasons to restrict gas use in buildings, including significant indoor and outdoor air pollution, seismic vulnerabilities of the gas system, and the expectation of sharp increases in ratepayer costs as gas prices rise.

Last year, Breach Collective and the Green Energy Institute joined with 62 other organizations from around the Pacific Northwest to release a comprehensive report titled, "Methane Gas: Health, Safety, and Decarbonization," as a means to curtail confusion created by NW Natural and other fossil fuel entities' purposeful misinformation campaigns targeting elected officials and the public. The report aims to help policymakers and government staff to (1) identify false expressions of environmental care as a cover for climate-damaging activities; (2) know where to

¹ Power Past Fracked Gas, Methane Gas: Health, Safety, and Decarbonization (August 2021), available at https://powerpastfrackedgas.org/wp-content/uploads/2021/08/Methane-Gas-Health-Safety-and-Decarbonization.pdf

find accurate data about the many impacts of the gas industry; (3) avoid undue influence by fossil fuel interests; and (4) make sound policy decisions for the health and safety of our communities in the just transition to a decarbonized economy. We encourage Milwaukie City Councilors and staff to read through the report to better understand the significant and serious harms posed by methane gas and false solutions offered by gas utilities as a means of delaying regulation for as long as possible.

To assure that any gas regulation or building electrification policy from Milwaukie City Council best addresses the full harms of gas to your residents and the climate, we suggest amending the Net Zero Building resolution to include explicit reference to harms from indoor and outdoor air pollution, seismic risks, and the strong likelihood of increased costs to ratepayers. Below, we provide some language to that effect:

WHEREAS, fossil gas cooking appliances emit nitrogen dioxide, carbon monoxide, and formaldehyde, which compromise indoor air quality and impact the respiratory health of vulnerable populations, including children, the elderly, and those with existing health conditions,²

WHEREAS, Milwaukie is located in an area at risk to earthquakes, and natural gas infrastructure is potentially a significant source of fire and explosion during earthquakes and other fire events;

WHEREAS, all-electric technologies are cost-competitive substitutes to fossil gas counterparts;³

WHEREAS, the most cost-effective time to integrate electrical infrastructure is in the design phase of a building project because building systems and spaces can be designed to optimize the performance of electrical systems and the project can take full advantage of avoided costs and space requirements from the elimination of natural gas piping and venting for combustion air safety;

WHEREAS, the lack of air conditioning in homes makes long and frequent heat waves dangerous, but replacing gas furnaces with electric heat pumps provides efficient heating in the winter and efficient cooling in the summer;⁴

WHEREAS, gas utility ratepayers are at significant risk of incurring additional costs and rate increases due to fossil gas price volatility and utility decarbonization plans,⁵

² Rocky Mountain Institute, Health Effects from Gas Stove Pollution at 8 (May 2020), available at https://rmi.org/insight/gas-stoves-pollution-health/,

³ Rocky Mountain Institute, The New Economics of Electrifying Buildings, An Analysis of Seven Cities (2020), available at https://rmi.org/insight/the-new-economics-of-electrifying-buildings/

⁴ E3, Residential Building Electrification in California, Consumer economics, greenhouse gases and grid impacts (April 2019), available at

https://www.ethree.com/wp-content/uploads/2019/04/E3 Residential Building Electrification in California April 2019.pdf.

⁵ Regulatory Assistance Project (RAP), Under Pressure: Gas Utility Regulation for a Time of Transition (May 2021) available at

 $[\]underline{https://www.raponline.org/knowledge-center/under-pressure-gas-utility-regulation-for-a-time-of-transition/.}$

WHEREAS, the lifecycle impacts of fossil fuels pose risks to the health, livability, and safety of local communities surrounding the fuels' extraction, refinement, and combustion sites, transportation routes, and storage facilities and those communities are often disproportionately low-income and/or communities of color;

Thank you for your consideration,

Nick Caleb Climate and Energy Attorney Breach Collective

Carra Sahler Staff Attorney Green Energy Institute at Lewis & Clark Law School



Milwaukie City Council Testimony Potential Ban on Natural Gas Installations in New Construction January 18, 2022

Mayor Gamba, Members of the Council,

For the record, my name is Greg Astley, Director of Government Affairs for the Oregon Restaurant & Lodging Association.

To say the last twenty-two months have been beyond difficult for the hospitality industry would be an understatement. Many people forget lodging properties were some of the first casualties of COVID-19 and the restrictions imposed because of the global pandemic.

Although restaurants were formally shut down, lodging properties first felt the impact because of travel restrictions and limitations on large gatherings. Conventions, business trips and even leisure travel were severely restricted or eliminated leading to devastating economic losses and record unemployment.

Best estimates put recovery for our members in 2023 or possibly even 2025, if they ever fully recover. Many restaurants have permanently closed, maybe even some of your favorite ones here in Milwaukie or the surrounding area.

Our industry is resilient and innovative though. Operators find ways to overcome obstacles like an ice storm, wildfires, or a global pandemic. But they need options and flexibility to survive.

It has come to our attention Mayor Gamba is planning to introduce a resolution and ask for a vote at tonight's meeting to "make changes to the city code that would require all newly constructed residential, commercial, and industrial buildings to be electric only by February 5, 2024".

As this resolution was filed on Friday, January 14, 2022, it's incredibly concerning to our organization and our members that there has been no public outreach or information about this resolution and no attempts to engage the restaurant and lodging industry in a conversation about what this may mean for the future.

Limiting the choices for restaurants or lodging properties when it comes to energy doesn't make sense. Not only would some operators have an unfair advantage over others, the options for what you could cook just wouldn't be the same. Some concepts need natural gas for cooking, it's not the same meal without it.

Having multiple energy options also means a more reliable system for everyone. The recent winter storms showed the importance of having more than one source of energy to cook with or heat your home or business.

As a statewide association, we challenge Council to consider the impacts of local climate change work and how it may conflict or coordinate with state objectives. Inconsistent rules and regulations, or worse, contradictory goals, not only frustrate operators but can hinder the kind of economic and job recovery we so desperately need right now.

We urge you to delay adoption of this resolution until the language can be studied publicly and the community, including businesses like restaurants and hotels, can have any understanding of the process and analysis of information needed to pass transformative energy policy ideas through building codes.

We also encourage Council to open a conversation and have discussions with the public and those businesses and individuals impacted by such a far-reaching decision. We strongly support the City engaging a diverse group of community members, industries and employers who may not have had the opportunity to attend tonight's meeting and be heard.

We're asking you to consider a reasonable, balanced approach to renewable energy for Milwaukie's future and to make sure everyone has a seat at the table.

Thank you.

Greg Astley
Director of Government Affairs
Oregon Restaurant & Lodging Association

Scott Stauffer

From: Ryan Makinster <ryanm@hbapdx.org>
Sent: Tuesday, January 18, 2022 2:31 PM

To: Mark Gamba

Cc: OCR; Angel Falconer; Lisa Batey; Desi Nicodemus; Kathy Hyzy

Subject: Jan. 18, 20220 Agenda Item RS 7. B.

Attachments: We sent you safe versions of your files; HBAPDX Milwaukie 011822 RS7B Letter.pdf

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This Message originated outside your organization.

1/18/2022

Mark Gamba, Mayor 10722 SE Main St. Milwaukie, OR 97222

By E-mail

Re: Jan. 18, 20220 Agenda Item RS 7. B.

Dear Mayor Gamba,

I am writing you today in opposition to the resolution titled "A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MILWAUKIE, OREGON, DIRECTING THE CITY MANAGER TO BEGIN THE PROCESS TO REACH OUR GOAL OF BEING NET ZERO BUILDING ENERGY BY 2035" as currently drafted.

Although we support the city's efforts to address climate change and the substantial work, over recent years, that has gone into those efforts, as a representative of the homebuilding industry, our members companies, their employees and the Oregon families that we supply homes to, I must also provide our concerns for the record.

The Home Builders Association of Metropolitan Portland (the "HBA") represents over 1300 businesses and tens of thousands of women and men who work in the residential building and remodeling industries throughout the greater Portland area. We are dedicated to maximizing housing choices for all who reside in the region while promoting housing access and availability for everyone.

We believe a balanced approach, recognizing all forms of transitional and renewable energy including renewable hydrogen and natural gas, solar, etc. as part of the solution should be the goal, rather than an exclusionary outcome. Just as a best practice dictates having a diverse stock portfolio, a diverse energy portfolio is also important to the resiliency and cost effectiveness of the energy grid.

The market expects and often demands gas in new homes, and with the advances in renewable natural gas and hydrogen technologies, it is possible and becoming more cost effective to provide a sustainable, climate-friendly solution to the end user. We encourage the city to not "throw the baby out with the bath water" through this resolution, but understand the market demand and work to offer a better, more sustainable climate friendly version of what is desired rather than try and force a change through a mandate serving to exclude a specific type of energy delivery.

As an industry that provides homes to Oregonians, we respectfully ask that you consider a balanced approach that recognizes the need for multiple resilient and redundant systems to deliver affordable energy to the end user in their home.

Sincerely,

Ryan Makinster

Director of Policy and Government Relations

CC: Councilor Angel Falconer

Councilor Lisa Batey

Councilor Desi Nicodemus

Councilor Kathy Hyzy

Ryan Makinster

Director of Policy and Government Affairs
Home Builders Association of Metro Portland
d 503.603.4505 o 503.684.1880 c 971.325.9240 | hbapdx.org



1/18/2022

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By E-mail

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Home Builders Association of Metropolitan Portland 15555 SW Bangy Rd., Ste. 301 Lake Oswego, OR 97035 As an industry that provides homes to Oregonians, we respectfully ask that you consider a balanced approach that recognizes the need for multiple resilient and redundant systems to deliver affordable energy to the end user in their home.

Sincerely,

Ryan Makinster

Director of Policy and Government Relations

CC: Councilor Angel Falconer

Councilor Lisa Batey

Councilor Desi Nicodemus

Councilor Kathy Hyzy



Whitney Minnich Assistant Director Realtor® Advocacy wminnich@pmar.org

January 18, 2022 Mayor Gamba Councilor Falconer Councilor Batey Councilor Nicodemus Councilor Hyzy

Dear Mayor Gamba and Councilors,

On behalf of PMAR's 9000 members, I'm urging you to consider a different strategy than forced electrification to meet Milwaukie's climate goals. PMAR supports climate resiliency and many potential pathways to get there. However, there is concern that a ban on natural gas for the city may have unintended consequences. With implementation, there is concern that these policies could impact the region's most vulnerable, by increasing the cost of housing. Where is the balance?

We are in a housing crisis with a historic low inventory of residential homes for sale. As of today, the Portland Metro area has .6 months of inventory (Regional Multiple Listing Service Market Action Report). Further data provided by RMLS shows that of the 1051 total residential homes SOLD in 2021 in Milwaukie, 831 use natural gas. If we are going to meet our housing needs and address the humanitarian crisis we are seeing on our streets, we need to make sure our development community is robust. This will impact future home building in Milwaukie.

Has the City determined answers to the following considerations:

- How will it reliably provide affordable heat on the coldest winter days?
- What will be used to generate that electricity?
- Can the electric system handle all that energy?
- How much will this cost compared to other ways to meet our climate goals?
- Will this action cause reduction in greenhouse gasses?

Diversification of our energy system is important for a host of reasons. No energy system is perfect, and we need to work to bring more renewable options to both systems, as quickly and affordably as possibly, while ensuring the resiliency of both energy grids. In order to do this, we need to leverage the strengths of each and build solutions collaboratively where there are challenges, using solid data and a clear process. Do we really want to put all our eggs in one basket with forced electrification? We'll reach our climate goals faster and more affordably by working together on a diversified, resilient energy system that drives down costs through innovation. I think of my own 1905 craftsman home, built with radiant heat, so it has pipes, not ducts. If I were to replace my high efficiency 99%+ gas boiler today with an electric boiler, I'd be losing efficiency and the units available would not meet the heating needs of my home. This winter when my water heater died on Christmas Eve, we spent 8 days without hot water, while we hustled to locate equipment. It was helpful to have choices, and as a result, we were able to install a high-efficiency water heater with a lifetime warranty. These are the sorts of priorities that deserve consideration when drafting retrofit codes to existing homes.

We appreciate the work that the city and others have done for climate action, particularly in the realm of renewable energy. We encourage you to envision more investment in renewables across our entire energy system – both the gas and electric grid. We need more possibilities for how we create energy systems that are reliable, affordable and reduce emissions at the same time. It is PMAR's hope that a work group forms with input from all stakeholders, to develop a plan and policy to meet Milwaukie's climate goals.

Sincerely, Michele Gila Director of Realtor® Advocacy, PMAR

Scott Stauffer

From: Dan Kirschner <dkirschner@nwga.org>
Sent: Tuesday, January 18, 2022 2:54 PM

To: Mark Gamba; Kathy Hyzy; Lisa Batey; Angel Falconer; Desi Nicodemus; OCR

Cc: Natasha Jackson; Scott Peterson; Judy Adair

Subject: Natural Gas Resolution

This Message originated outside your organization.

Mayor Gamba and Milwaukie City Councilors:

The Northwest Gas Association represents the owners and operators of the 30,000 miles of safe, reliable energy infrastructure that is the gas delivery system in Oregon. Collectively, our members serve warmth and comfort to more than two million Oregon residents, including thousands of homes in Milwaukie.

Our members also serve heat and productive energy to 85,000 businesses, institutions and industries across Oregon upon which tens of thousands of livelihoods depend. Hundreds of those businesses of all different stripes are located in Milwaukie including restaurants, hotels and motels, dry cleaners, schools, grocery stores, clinics, manufacturers and more.

It is on our own behalf and on behalf of the consumers that rely on the energy delivered by NWGA members that we express serious concerns with Agenda Item #7 on tonight's Council Agenda, "Natural Gas Ban".

We share the City's concern for and commitment to climate action. Indeed our members are actively investigating and rapidly adopting measures to decarbonize the energy they deliver to home and businesses in Milwaukie and the greater Pacific Northwest. With respect, banning the constructive use of a particular infrastructure to achieve our shared objective while forcing over-reliance on another infrastructure is misguided. Decarbonization is the objective. Electrification is a pathway to the objective but certainly not the only one and arguably not the best pathway.

We enjoy a diverse energy portfolio in the Northwest delivered by multiple different yet integrated and interdependent systems. The many ways those systems work together is both a marvel and a unique value to energy consumers here. Two recent extreme weather events demonstrate the importance of a diverse energy mix.

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For instance, the electric grid relies upon the gas infrastructure to fuel the generation of electricity when demand outstrips the ability of other resources to meet the need. During the recent heat dome event, virtually all of the gas-fueled electricity generation was running all out to provide vital cooling for the region.

The gas infrastructure is highly reliable and supplies upwards of 90% of the energy required during the coldest hour of the coldest day of the year. When the power was out during last year's ice storm event, those with gas in their homes were still able to enjoy hot water, the ability to cook, and heat from gas fireplaces.

Instead of forsaking an entire infrastructure as a part of the solution, we urge you to consider every tool in the toolbox; to methodically and deliberately optimize each tool to achieve the objective in the context of broader economic, environmental and physical impacts. In short, the gas delivery system is a vital asset to achieving our shared decarbonization objectives. We urge you to work closely with affected stakeholders to craft a thoughtful course toward decarbonization.

With warm regard,

Dan Kirschner, Executive Director

Northwest Gas Association 1914 Willamette Falls Dr, #260 West Linn, OR 97068 O - (503) 344-6637 M - (503) 880-7269

www.nwqa.orq



Click here for up-to-date information about NWGA events

Testimony on Natural Gas Ban

Mayor Gamba, City Council — thank you for providing this opportunity for testimony.

My name is Elijah Cetas, and I'm here with my partner Sofie Jokela. We've residents of Ardenwald neighborhood, and we love living in Milwaukie.

I'm currently a law student at Lewis & Clark law school and I'll start.

First off, thank you for introducing this important resolution to ban gas and move towards 100% electric buildings.

Homes and buildings consume <u>nearly 43% of all energy in Oregon</u> and cause about <u>one-third of the state's climate pollution</u>—the second largest source of climate pollution after the transportation sector. A recent study found that these number may even be a significant undercount, from leaks in urban areas - our homes, pipelines, storage tanks. (Source:

https://www.sciencedaily.com/releases/2021/10/211025172125.htm

Putting an end to the expansion of fracked gas in homes and buildings is one of the most important first steps we can take in Oregon and across the country to reduce emissions and stop runaway climate catastrophe. By taking the lead here you join with the cities across the country like Berkeley, San Francisco, and now New York City making this necessary transition. You support the bold efforts of our sister City in Eugene; and you send a clear and direct message to the Portland and other growing cities in the West to step up and do the necessary work to protect their residents and the climate.

Hi everyone. My name is Sofie. I'm enrolled in community college taking prerequisites for a nurse-midwife program at OHSU, and I work with unhoused community in Portland.

In addition to what Elijah said, I am also in favor of the ban as someone who lives and cooks in a home that is heated and runs on fracked gas. I love to cook, and now with the pandemic I'm cooking more than ever. But I worry about the health affects of our gas range. We know that cooking with gas for just an hour produce nitrogen dioxide levels that would be illegal if found outdoors, and that children who grow up in homes with gas stoves have a 42 percent increased risk of asthma symptoms.

I don't want to live in a house that poisons me, and I certainly don't want to think about bringing our future children into a space that could be so harmful to their health.

By now you've probably heard from NW natural. We certainly have. They are wasting no time to greenwash gas with false promises of clean bio-gas and net zero promises. The science doesn't add up. We need to electrify.

But what you might hear most is that gas is reliable. Well I'm here to tell you it's not. In the biggest climate disasters to hit this town - the 2020 wildfires, and the 2021 ice storm and heat wave, our gas heating was more a hindrance than a help. We lost power in the ice storm, and with it our access to gas heat. In both the wildfires and the heat wave, we fled our poorly ventilated home for a family member's house, where an all electric heat pump filtered the smoke and cooled the air.

100% electricity is the future, and it's time we stepped into it. Our full support. Thank you.

Sincerely, Sofie Beth Jokela Elijah Rempe Cetas

10049 SE 36th Ave. Milwaukie, OR 97222

Er.cetas@gmai.com Sofiejokela@gmail.com (503) 789 2352

Scott Stauffer

From: Wendy Woods <woodsw67@gmail.com>
Sent: Wednesday, January 19, 2022 11:39 AM

To: OCR

Subject: Support for Electrification

This Message originated outside your organization.

Dear Mayor and Councilors,

I applaud the City of Milwaukie proposal to slow the climate emergency. While many have done a lot, we have not done enough. This moment is one in which you have an opportunity to be a leader among cities. Corvallis, Eugene and other Oregon cities are taking similar steps.

Scientists know the earth is reaching tipping points where the damage cannot be reversed. The latest IPCC report warns that we have <u>very little time left to act</u>. At least, we must cut greenhouse gas emissions in half no later than 2030 to maintain a habitable planet.

Scientists are certain that global warming is caused by humans burning fossil fuels, including methane. The catastrophic impacts of warming: wildfires, floods, heat domes, are accelerating. **The solution is to STOP using fossil fuels.** Technology already exists that allows us to power vehicles and buildings with clean electricity.

Methane gas in buildings harms public health and the climate

The use of methane gas in buildings is one of the top growing sources of greenhouse gas emissions, and is also putting residents at increased risk to their health and safety due to the high levels of air pollution that it generates.

Most recently, scientists discovered that gas appliances have been <u>leaking methane in buildings</u> - and into the air - at least <u>six times</u> the rate ever previously known.

Transportation and buildings together are the source of about 75% of our greenhouse gases and a third is from natural gas, which is mostly methane, a much more potent greenhouse gas than carbon dioxide over the short term.

Electrification is the most cost-effective solution available that uses existing technologies, according to the research of Saul Griffith, a recipient of a MacArthur award.

In particular, the city should **complete** the following **by 2025**:

- 1. Install efficient **electric heat pumps** in all buildings to both heat and cool the space as well as to heat water. Increase energy efficiency.
- 2. Replace all city owned **autos and buses** with electric versions.

These steps are urgent. We simply don't have a moment to waste.

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Thank you for taking the lead in Oregon, making it easier for other cities to follow. Wendy Woods PhD

Exhibit pages from: RS 7. B. 1/18/22 Speaker Registration

Scott Stauffer

From: OCR

Sent: Tuesday, January 18, 2022 1:25 PM

To: Carlson, Nina; OCR

Cc: Williams, Kathryn; Yocom, Jennifer

Subject: RE: Verbal Testimony request on the gas ban agenda item at the 1/18 Milwaukie

Good Afternoon Nina, it was pleasure to chat this morning. We'll keep an eye out for Kathryn in the Zoom participants list and when Council takes comment on the natural gas ban resolution we'll promote Kathryn to the panel to speak. If you have any questions please let me know – I will be monitoring email and the Zoom chat during the meeting.

SCOTT STAUFFER, CMC

City Recorder he • him • his City of Milwaukie p: 503.786.7502

From: Carlson, Nina < Nina. Carlson@nwnatural.com>

Sent: Tuesday, January 18, 2022 1:18 PM **To:** OCR < OCR@milwaukieoregon.gov>

Cc: Williams, Kathryn < Kathryn. Williams@nwnatural.com >; Yocom, Jennifer < Jennifer. Yocom@nwnatural.com >

Subject: Verbal Testimony request on the gas ban agenda item at the 1/18 Milwaukie

This Message originated outside your organization.

Scott,

Thank you for your time this morning explaining the process to request time to present verbal testimony on a council agenda item. I would like to request time for verbal testimony for tonight's city council agenda (1/18) around the discussion of the gas ban. This would be for our Vice President of Public Affairs and Sustainability, Kathryn Williams. She will be on the Zoom link for the meeting, but if she needs to have a special link to be a panelist for that portion of the meeting, her email is copied above. Please alert me if there is a question or I need to use a different process.

Kind regards,

Nina Carlson

NW Natural- Government Affairs w: 503.721-2474 m: 503.312-0683 nina.carlson@nwnatural.com



CITY OF MILWAUKIE

10722 SE Main Street P) 503-786-7502 F) 503-653-2444 ocr@milwaukieoregon.gov

Speaker Registration

The City of Milwaukie encourages all citizens to express their views to their city leaders in a **respectful** and **appropriate** manner. If you wish to speak before the City Council, fill out this card and hand it to the City Recorder. Note that this Speakers Registration card, once submitted to the City Recorder, becomes part of the public record.

	oraci, socialites pair et me poblici record.
Name: Jau 15AC Organization: Lisac's Fireplace	Address: Phone: Email:
Meeting Date: 4/18/22 Topic:	Netwol GAS BAR
	You are Speaking
	in Support
	in Opposition
	from a Neutral Position
	to ask a Question
Comments:	

Would Like to speek



Thank you, Elijah Cetas

CITY OF MILWAUKIE

10722 SE Main Street P) 503-786-7502 F) 503-653-2444 ocr@milwaukieoregon.gov

incentives to transition existing home infrastructure.

Speaker Registration

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Elijah Cetas Name:	Address: 10049 SE 36th Ave., Milwaukie OR 97222	
Organization: Resident; Breach Collective	Phone: Email:	
Meeting Date: 1/18/22 Top	Resolution to ban fracked gas hookups	
	You are Speaking	
	■ in Support	
	in Opposition	
	from a Neutral Position	
	to ask a Question	
Comments:		
Milwaukie. It is so important to reduce methal perspective. As a resident living with gas, I all for extreme weather if I had an all electric he as a climate leader and first pass this resolut	path to ban natural gas from new residences in the pollution from both a climate justice and human health lso believe I would be safer, healthier, and better prepared at pump system. I urge Milwaukie to continue to step up tion, followed shortly by an ordinance banning fracked gas collaborating with Portland and the state of Oregon for	



CITY OF MILWAUKIE

10722 SE Main Street P) 503-786-7502 F) 503-653-2444 ocr@milwaukieoregon.gov

Speaker Registration

The City of Milwaukie encourages all citizens to express their views to their city leaders in a **respectful** and **appropriate** manner. If you wish to speak before the City Council, fill out this card and hand it to the City Recorder. Note that this Speakers Registration card, once submitted to the City Recorder, becomes part of the public record.

Nick Caleb Name:	Address: 3418 NE 72nd Ave
Organization: Breach Collective	Phone: 5418916761 Fmail: nick@breachcollective
Meeting Date: 1.18.2022 Topic	Building Energy Net Zero resolution
	You are Speaking
	■ in Support
	in Opposition
	from a Neutral Position
	to ask a Question
Comments:	
I also submitted written testimony to the city in	support of this item.

Nicole Madigan

From: Elvis Clark <eclarkmilwor@yahoo.com>

Sent: Sunday, July 10, 2022 9:20 PM

To: OCR

Subject: Written testimony for this Tuesday (7/12/22) Milwaukie City Council Study Session

Attachments: We sent you safe versions of your files; CouncilTest22Jul12.pdf

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This Message originated outside your organization.

Hi, Scott or sorry I forget the deputy Recorder's name.

Please find attached my written testimony regarding the Council's Agenda item 2, Natural Gas Discussion; July 12, 2022, Study Session.

Thank you Elvis Clark Ardenwald Neighborhood Milwaukie

Sent from Yahoo Mail. Get the app

Re: Written Testimony for **item 2, Natural Gas Discussion**, Milwaukie City Council Study Session, July 12, 2022

I Oppose the City interfering with the Natural Gas Home Heating Market

- Restricting access to natural gas for home heating is likely to result in more natural gas linked emissions, not less. Milwaukie's electrons can not be separated (even contractually as when wind and solar generation drops, the electric utility PGE will be forced to use the mix of electrons that are on its grid). 40%, and rising, is natural gas' share of electric generation in Oregon (Energy Information Administration data, years 2010 through 2020, for the state of Oregon). One half to two thirds of natural gas used in generation is lost being burned. By comparison, less than ten percent of natural gas used in home heating furnaces is lost being burned.
- I am more scared of our City Council than of the abstract risks posed by Climate Change. The mayor's climate alarmism for our local area voiced in last September's Pilot is already proving dubious, as this summer is likely cooler than last summer locally (now that June 2022 is in the meteorological books at minus 5.6 Fahrenheit relative to last June 2021 mean average temperature (65.1 F versus last year 70.7 F, National Weather Service, Portland Airport benchmark temperature gauge), and July is not off to an unusually hot summer month either).
- It is disturbing that a City Council, comprised of five people, should have so much power as to deny its residents, an essential service as natural gas home heating.
- The Council's discussion earlier this year about banning natural gas for home heating, caused me to retrofit my home to be capable of burning wood for heating, as I fear the Council may "go off the deep end" with the departing Mayor Gamba. I am not thrilled by the idea of burning wood as a back up against being totally reliant on the PGE electric utility monopoly. Wood even in the most efficient of stoves, still emits particles into my neighbors' air shed.

Sincerely, Elvis Clark Ardenwald neighborhood Milwaukie 97222

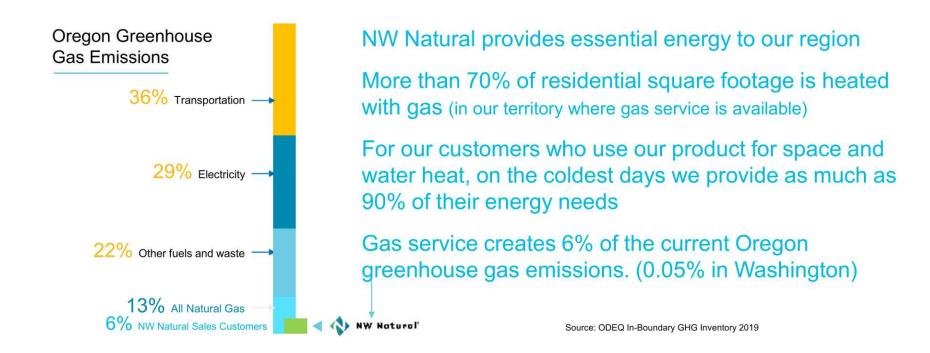


City of Milwaukie work session- July 2022

Nina Carlson, Kellye Dundon, Chris Kroeker



ROLE OF THE SYSTEM TODAY



A HISTORY OF LOOKING FORWARD



Manufactured gas for lighting and heat

Network expands with arrival of Northwest pipeline

- Modernized system
- · Leads rate decoupling
- First carbon offset program, Smart Energy

RNG and Renewable Hydrogen to deeply decarbonize



The pathway to our vision of carbon neutral

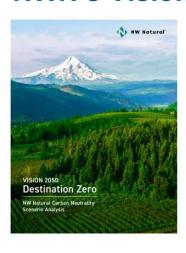
A decarbonizing network:

- Renewable Natural Gas
- --- Hydrogen
- --- Waste CO₂
- --- Renewable Electricity



COMMITMENT TO DECARBONIZATION

NWN's Vision 2050



- Detail released in November 2021, three scenarios to reach carbon neutrality by 2050
- Data-backed model of decarbonization options, including renewables
- Integrated Resource Plan is in process at OPUC

And More...

- DEQ Program (requiring 50% ghg reduction by 2035, 90% by 2050)
- SB 98 and SB 844 (renewable gas)
- Green tariffs
- Hydrogen hubs
- Federal policy

- Market transformation with new equipment
- Smart Energy offsets
- Carbon capture pilots
- Carbon sequestration
- ONE Future consortium

FROM WASTE TO RENEWABLES (RNG)

- Renewable natural gas is not a fossil fuel and does not add more CO₂ into the atmosphere. It's made by capturing and cleaning GHGs from landfills, food waste, farm waste, wastewater and wood waste and then using those emissions as a carbonneutral fuel. The potential supply is vast and there's no need for new appliances or pipelines
- RNG lifecycle emissions are similar to wind and solar energy
- 487 RNG facilities are operating or under development in the North America
- NWN is currently connecting 3 RNG projects in Oregon onto our pipeline system
- NWN announced first RNG agreements totaling 3% of sales volume in Oregon (currently at 12% wind and solar nationally)

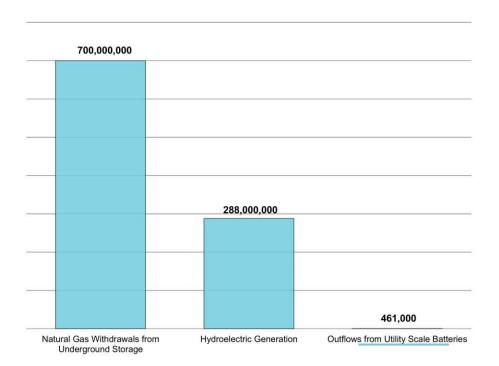
Oregon Senate Bill 98 supports volumetric RNG targets:

10% 15% 20% 25% 30%



GAS SYSTEM: LONG-DURATION STORAGE

2019 U.S. Energy Output by Facility Type (MWh)



- 2.5 times the energy of hydro facilities and about 1,500 times the energy delivered from current large-scale utility batteries
- Existing facilities can be used to store renewable natural gas and methanated hydrogen
- NW Natural's current storage can hold 6 million MWh of energy that can be delivered whenever needed
- To replicate that with a Li-ion battery, that's \$2 trillion at today's prices⁵
 - Source: EIA Weekly Natural Gas Storage Report Withdrawals are calculated and aggregated from a weekly regional report. This understates the total volumes withdrawals if data was available for daily withdrawals from individual storage facility.
 - To convert natural gas volumes to MWh for comparison, this figures uses a national average heat content of 1036 btu/cf and a direct energy conversion of 0.29307 MWh/MMBtu.
 - Source: EIA 923 Form Hydroelectric and battery generation are pulled from generator level data identified with prime movers "HY" and "BA", respectively. Net generation is aggregated for hydroelectric generators and gross generation is aggregated for batteries.
 - The figure for hydroelectric generation is the total net generation from hydroelectric facilities and does not distinguish between what can and cannot be stored.
 - https://www.nrel.gov/docs/fy19osti/73222.pdf

POWER TO GAS

Converting wind, solar, or hydro to renewable hydrogen for use in our pipeline system

- Partners with renewable electric system to solve peak capacity gap
- Renewable hydrogen blended or methanated into the existing pipeline system for immediate use
- Can use <u>existing</u>, flexible and longduration gas storage facilities
- 100+ projects in Europe, 5 in North America

Wasted power turned into useable, renewable energy



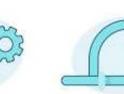
Take excess renewable electric energy



Add water (electrolysis) to create hydrogen



Blend hydrogen (or create RNG by methanating with waste carbon) into pipeline



Use now or store for the future

HYDROGEN AT NW NATURAL

2020-2021

- 5% blending at NW Natural Sherwood facility (appliance testing)
- Training Town injection
- System monitoring and evaluation
- Equipment checks
- 2022: 24/7 blending begins (summer)
- Increasing blends by 5% increments with goal of 15% by year-end
- Additional equipment testing
- <u>Upcoming:</u> Clean hydrogen project in Eugene with EWEB and Bonneville Environmental Foundation



NATURAL GAS + HYDROGEN BLENDING PROJECTS

UNITED STATES

CenterPoint (Minnesota)

1 MW electrolyzer, 5% blend, gas flowing

New Jersey Natural Gas

<1 MW electrolyzer, 5% blend, gas flowing

Pacific Gas & Electric (California)

Hydrogen to Infinity transmission blending study and demonstration facility

SoCal Gas (California)

Solar hydrogen home under construction

CANADA

Enbridge (Toronto)

2%, to 1,500 customers, electric grid balancing

ATCO (Edmonton)

5%, construction starting 2022 for 2,000 customers

FortisBC (Port Moody)

Pilot hydrogen production facility

The gas blending building in Mainz, Germany, home to a 6 MW electrolyzer and direct hydrogen blending into the natural gas system

UNITED KINGDOM

HyDeploy (Keele & Winlaton)

20% blending, serves more than 600 mixed-use buildings

H21 (Northern Gas Networks)

100% hydrogen network underway



RENEWABLES IN SYSTEM & IN DEVELOPMENT

MWMC RNG Project – flowing!

- Partnership between Eugene-Springfield and NW Natural
- Provides 100% methane recovery
- Will save 7,500 MT tons of CO2e annually
- Benefits local ratepayers





EWEB H2 Project

- Partnership/MOU between EWEB, BEF and NW Natural
- Clean hydrogen production relying on renewable zero-emissions excess electricity
- Plans include the potential for a facility within Eugene city limits





VISION 2050: DESTINATION ZERO

Reducing overall consumption, increasing renewable supplies

Balanced Approach Scenario, Vision 2050: Destination Zero



SUMMARIZING OUR VIEW

We embrace the change that's needed. With the electric and gas systems working together, we can meet our shared climate goals.

We're committed to a carbon neutral pipeline by 2050 With policy support, we see no technical barrier.

No such thing as a "ban on natural gas"

Nearly half of Oregon natural gas use is for power generation, and more will be needed without coal; we'll be using it directly in our system or in less efficient power plants.

Reliability must be a part of the solution

Gas system designed for winter; with 3x the peak capacity of the electric grid and seasonal storage, gas system can also operate when the power is out.

Electric resistance: most common, costly, highest emitting.

It's about double the emissions and up to 60% more costly than gas furnaces or electric heat pumps – and it's prevalent in low-income housing.

Residents choose gas and choice.

- 70% oppose a ban on gas for new hookups
- 73% of voters agreed that families and businesses should have a choice of energy options to meet their needs
- 78% of voters believe use of renewable natural gas should be encouraged`

¹DHM Research in NW Natural Service area, Nov. 2021.



Discussion

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The Future of Buildings: Clean, Safe, and All-Electric

Brian Emanuels

Local Advocacy Fellow

Brian.Emanuels@ClimateSolutions.org



The climate crisis

"Climate impacts are already worsening public health crises, increasing economic disruption, and exacerbating racial inequity in Oregon."

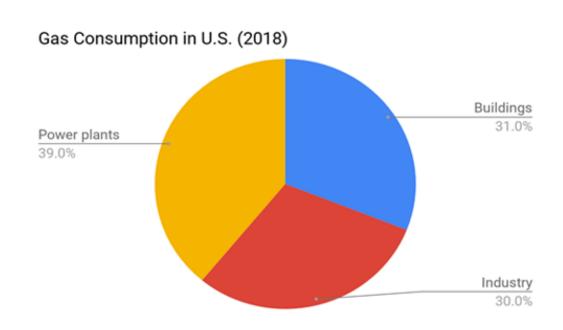
--Oregon Health Authority, Climate + Health in Oregon 2020 report





buildings? Why now?

Emissions from buildings are on the rise



One-third of all gas consumption nationwide comes from buildings.

According to the American Gas Association, gas companies connect to at least one new house *every minute*, totaling over 560,000 gas hook-ups every year nationwide.

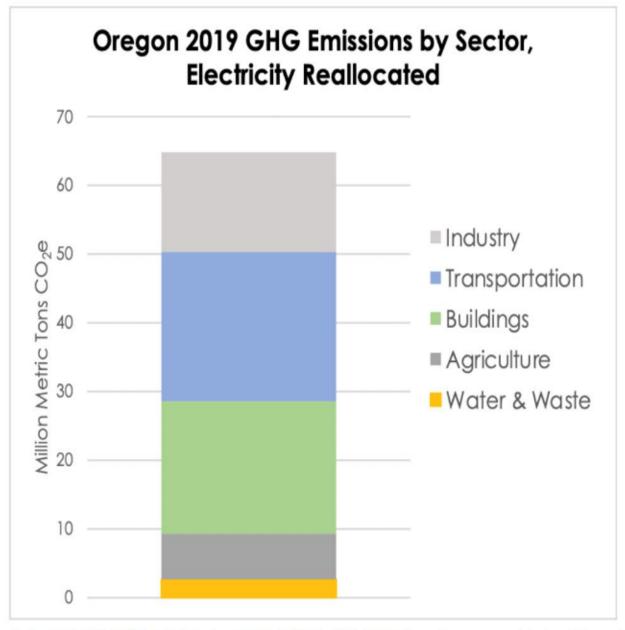
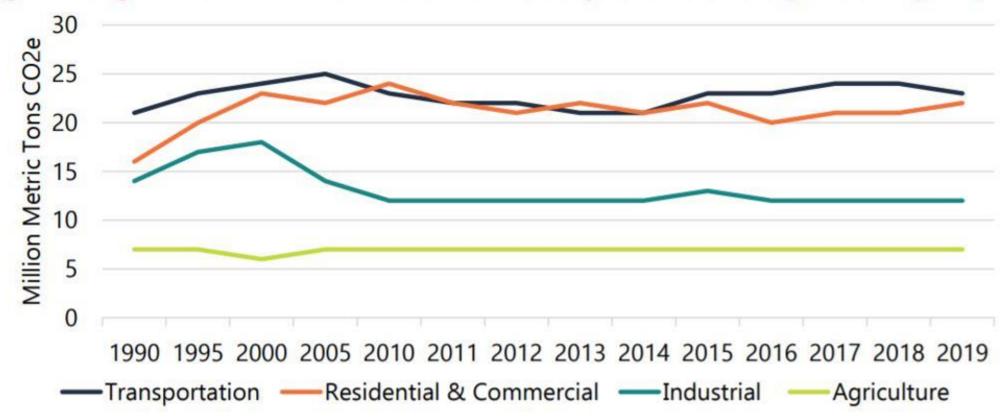


Figure 2. Oregon's 2019 GHG emissions from Oregon DEQ's GHG Sector-Based Inventory, with electricity emissions reallocated to respective demand sectors. Elements of the Inventory have been recategorized in line with the classification system used by the EPS.

Where do emissions come from in Oregon?

Are emissions going down in Oregon?





Setting the path for climate progress

Oregon Climate Action Plan (EO 20-04)

- New climate targets to reduce GHG emissions:
 - At least 45% below 1990 levels by 2035
 - At least 80% below 1990 levels by 2050



Recent policy victories make electrification a clear win for the climate

1. Capping Climate Pollution: Climate Protection Program (CPP)

- ❖ Requires oil & gas companies to reduce GHG emissions 50% by 2035 & 90% by 2050;
- Establishes targets for industrial facilities to cut GHG emissions 50% by 2035;
- Invests millions of dollars in clean energy projects across the state.

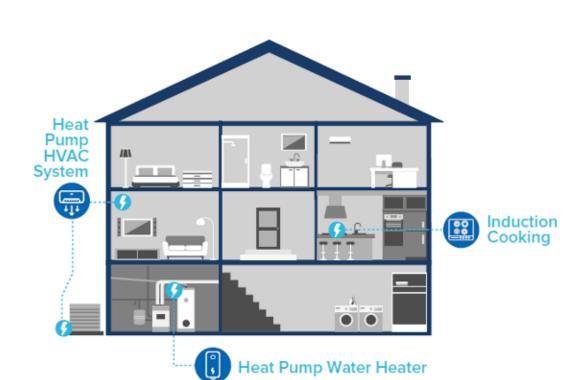
2. 100% Clean Electricity for All (HB 2021)

- Transitions Oregon's electricity grid to 100% clean, emissions-free sources by 2040.
- Supports regional sharing of clean power, bans new fossil gas power plants.

3. Transportation Policies

- Clean Fuel Standard
- Zero Emission Vehicle (ZEV) Standard, and Advanced Clean Trucks Rule

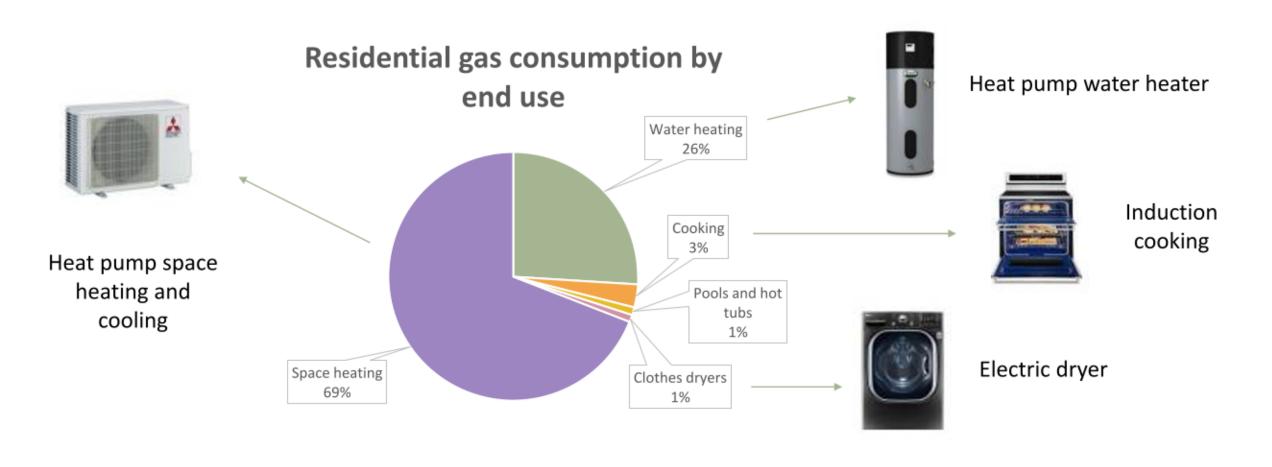
What does an all-electric home look like?



Heat pump HVAC systems include both heating and cooling, which will help protect residents during summer heat waves and smoke.

Heat pumps are also highly energy efficient and can reduce energy use overall.

Shifting gas use to electric



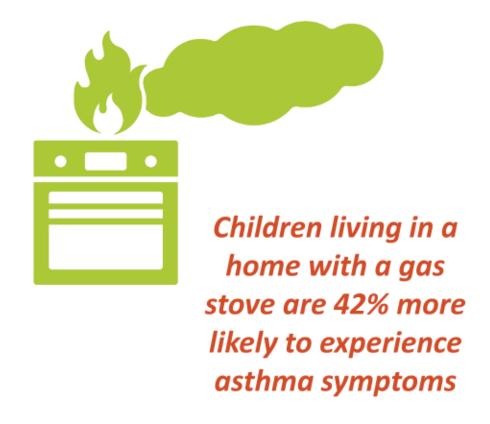


Why does gas use matter?

Indoor air pollution

Gas cooking appliances emit dangerous pollutants like carbon monoxide, nitrogen oxide, particulate matters, and formaldehyde – and have been shown to leak methane even when they're turned off.

A study by UCLA found that after one hour of cooking with a gas stove, 90% of homes would not meet federal air quality standards for outdoor air.



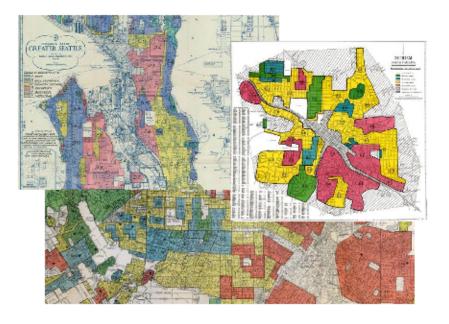
Indoor air pollution

Pollutant	Health Effects	
	Acute	Chronic
Nitrogen oxide (NOx)	Decreased lung function, asthma exacerbation, respiratory infection, stroke	Premature mortality, lung and breast cancer, cough, shortness of breath, asthma, wheezing, respiratory illness in children
Carbon monoxide (CO)	Death, brain damage, seizures, memory loss, dementia, headaches, dizziness, nausea	Brain and heart toxicity, heart failure and cardiovascular disease, low birth weight
Fine particulate matter (PM 2.5)	Stroke, increased blood pressure	Premature mortality, bronchitis, asthma onset and exacerbation, low birth weight and preterm birth
Ultrafine particles (UFP)	Increased blood pressure	Cardiovascular disease, neurological disorders
Formaldehyde	Respiratory/eye/skin irritation, sneezing, coughing, nasal congestion, drowsiness, chest tightness, shortness of breath, asthma exacerbation, death (higher doses)	Cancer, asthma and bronchitis in children, damage to respiratory system, headaches, sleep disorders, memory loss, birth defects, low birth weight, spontaneous abortion

Environmental (in)justice

"The burden of air pollution is not shared."

- American Lung Association



Segregation and redlining have led to BIPOC communities, particularly Black communities, being pushed to live in places where there is already greater exposure to air pollution.

Black, Latino, and Asian people, as well as people with lower socioeconomic status, have higher risks of premature death from particle pollution.

Safety impacts

Earthquake risk makes Oregon State particularly vulnerable because highly pressurized gas pipelines run a risk of exploding during earthquakes and causing fires and immediate danger.

All-electric buildings are more resilient following natural disasters, since electricity can be restored more quickly than repairs can be made to ruptured gas lines.



Electrification saves money

DIVE BRIEF

Switching to efficient electric heat pumps and appliances could save Oregon \$1.1B through 2050, study finds

Published July 6, 2022







Figure 1. Cost Savings for an All-Electric Home versus Mixed-Fuel Home in Eugene

- According to RMI's analysis, an all-electric home in Eugene saves \$1,600 in upfront construction costs, primarily due to the cost savings from eliminating the need for gas infrastructure.
- The all-electric home also has a \$3,500 net present cost savings over a 15-year period. The increase in life-cycle cost savings is primarily due to utility bill savings of the all-electric home, equal to \$208 a year.

Less gas now, lower costs later

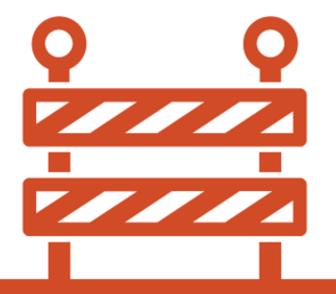
If we don't make this transition now, new buildings constructed with gas will last over 50 years.

New gas pipelines built now will become stranded assets in the future.

The homes least likely to switch now will be low-income homes, who will have to pay for costly electrification retrofits down the line.



The opposition has already started too



Greenwashing gas

Environment | Health | Local News | Local Politics | Northwest | Puget Sound

Natural gas industry's \$1 million PR campaign sets up fight over Northwest's energy future









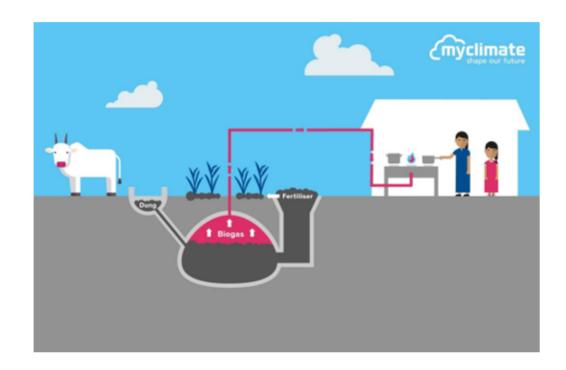




Greenwashing gas

Renewable natural gas (RNG, aka biogas or biomethane) and green hydrogen are not good solutions for decarbonizing our buildings sector.

They may be useful in sectors that are harder to electrify like the industrial sector or long-haul transportation.





do we move towards solutions?

We can *lead* in the Pacific Northwest

This work has already begun.

- Eugene, Multnomah County, Portland Public Schools resolutions
- Seattle, Shoreline, and Bellingham, and other fossil fuel phase out-policies in Tacoma and Olympia
- Washington State Building Codes win



Washington council significantly restricts use of natural gas heating in new commercial buildings

EXAMPLE DEERE

A new roll of returnings line is driven into place for installation by NPL crease on Seminole Orbo, Sept. 21, 2014, is Spoilabe. The What indo Building Code Counce appropriate on Priday, April 22, 2122 son finest metricions on the use of returnings to beet new commercial halding. (DNI PSL Effect Spoilaber 1998).

Oregon State Policy Progress

- DEQ Climate Protection Program (requiring gas utilities to reduce their GHG footprint by 50% by 2035 and 90% by 2050)
- Legislative Resilient Efficient Buildings Task Force directed to develop legislative proposals for 2023 session to enable the state to achieve GHG goals in the building sector for both new and existing buildings.
- Natural Gas Fact-Finding Investigation (aka "Future of Gas" docket) at OPUC

We have a range of local policy options and activities

- All-Electric resolutions can require allelectric government buildings or for all buildings
- Carbon-based building performance standards can reduce emissions for existing large buildings
- Heat pump campaigns/policies can raise or allocate money to help retrofit homes of lower-income and BIPOC communities

- Green building incentives can offer expedited permitting to builders who choose clean energy
- Franchise Agreements can be negotiated to reduce gas consumption or replace it with cleaner energy

Questions?