

<request paragraph submitted by council liaison>

During the September 7, 2021 Climate Policy Commission annual report to the Council, the Commission was asked to bring specific actionable policy proposals forward. Subsequently, the Commission developed a list of policy proposals which were discussed and prioritized with Mayor Akins. The Commission requests a council study session to communicate the status of the policy proposals, discuss two in depth, and solicit feedback and direction from the Council. The specific proposals the Commission would like to discuss are city facility emissions reductions and the establishment of a climate note as a standard element of staff communications to council similar to the existing fiscal note. While the Commission will be prepared to discuss both of these, our primary goal is to receive Council direction and feedback regarding city facility emissions reductions. That may require shortening the discussion of the climate note. The Commission's preferred study session is 2/28/22 or as soon thereafter as possible.



Outline

- Context
- Policy Recommendation Status
- City Facility Emissions Reduction

In all that follows the Climate and Energy Action Plan adopted in 2017 will be referred to as CEAP.

First, context is set by reviewing the CEAP Goals and Targets as well as the CEAP Progress Update from May 4, 2021.

Second, the status of CPC's present policy recommendations are reviewed.

Third, CPC seeks feedback and direction from the Council on CPC's policy recommendation addressing the reduction of the city's facility emissions.

Context

First of all some level setting.

CEAP Goals and Targets

- Reduce Ashland’s contribution to global carbon pollution by reducing greenhouse gas emissions associated with City, residential, commercial, and industrial activities.
 - For the Ashland community: Reduce overall Ashland community greenhouse gas emissions by 8% on average every year to 2050
 - For City of Ashland operations: Attain carbon neutrality in City operations by 2030, and reduce fossil fuel consumption by 50% by 2030 and 100% by 2050.
- Prepare the city’s community, systems, and resources to be more resilient to climate change impacts.

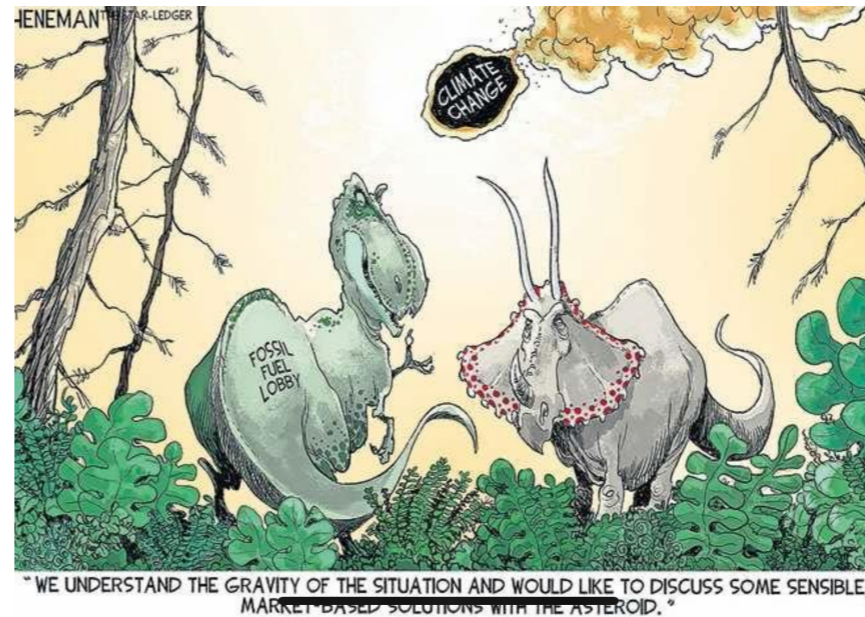
Here are the top-level CEAP goals and targets. Tonight focuses on “Attain carbon neutrality in City operations by 2030, and reduce fossil fuel consumption by 50% by 2030 and 100% by 2050.”

Climate and
Energy Action Plan
(CEAP) Progress
Update 5/4/21

- **Ashland is falling behind** on its goals to reduce greenhouse gas emissions. Since 2015, there has been a significant increase in natural gas connections and consumption.
- Although municipal operations account for a small percentage of Ashland's greenhouse gas emissions, **it's important for the City to lead the way** with investment choices that reduce emissions and increase resilience to likely climate impacts.

Last spring Stu Green, the city climate and energy analyst, presented the annual CEAP progress report. I want to emphasize that he reported that “Ashland is falling behind” and that “it’s important for the City to lead the way”. He also said that “Achieving Ashland’s mitigation goal will require continued attention to reducing transportation [emissions] and greater focus on natural gas emissions.” The remainder of tonight focuses on municipal operations.

We need to
maintain
perspective ...



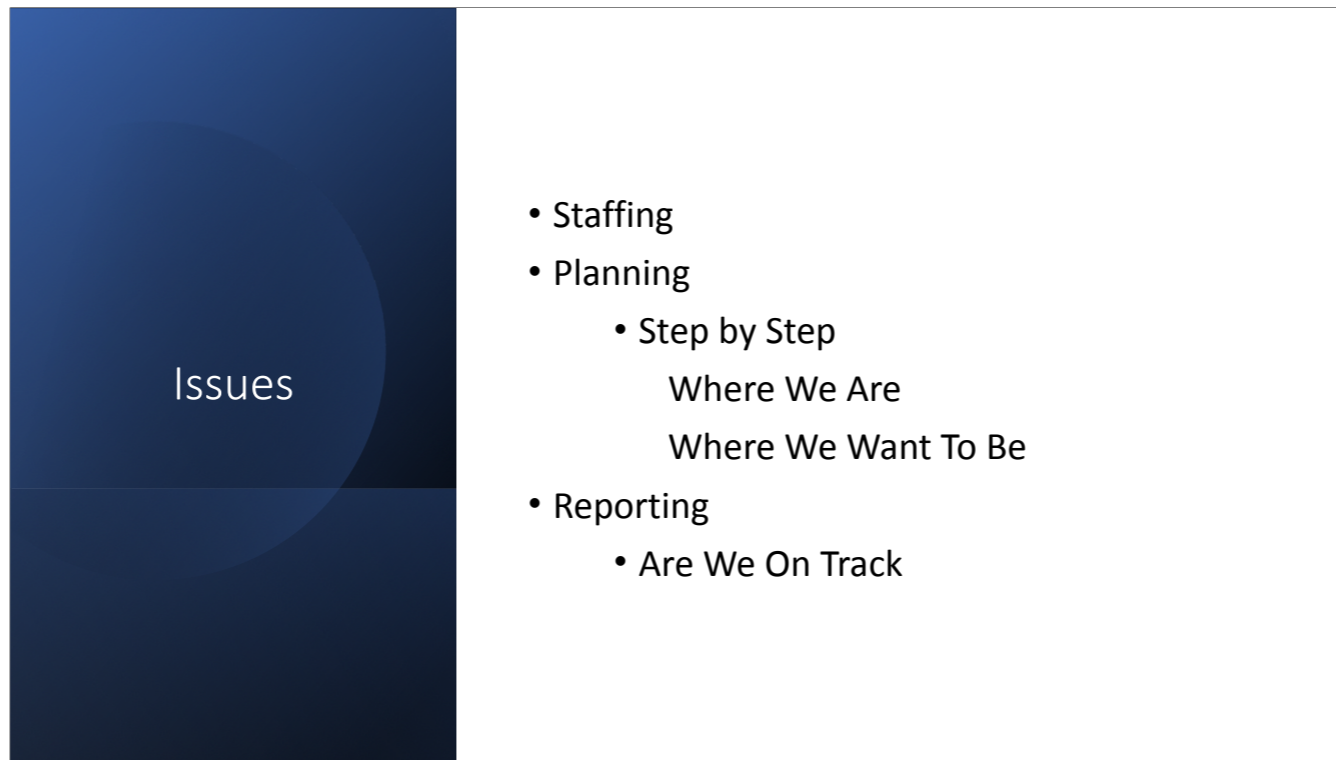
<read caption> Climate change is simultaneously an environmental, financial, and social justice issue. We have been and will continue to see significant and worsening impacts right here in Ashland. Empty reservoirs, urban wildfires, and continual smoky summers have already occurred. The financial costs are both immediate and long term as our current tourist economy and any conceivable diversified economy is impacted. Even during Ashland's present general fund budget difficulties sufficient staff time needs to be devoted to upfront emissions reduction planning, as discussed later in this presentation, and resiliency planning. We do not know if the implementation of those plans will result in net positive or negative impact measured in dollars either to the city budget or the community as a whole over the coming few decades. What we do know is if we apply the "if everybody does this" test our current path will result in massive costs both locally and globally. Ashland must not be a free-rider depending upon everyone else doing their part while we do not. We must find a way to address Ashland emissions and become resilient to the changes already occurring and to come.



Progress

- City staff have internalized CEAP goals and are implementing CEAP as opportunities arise
- City vehicle fleet trending towards EV
- APCR adopting electric equipment
- Administrative Policy: Future Use of Carbon Emitting Fuels in Municipal Facilities
 - ... no future installation of infrastructure that utilizes carbon emitting fuels (predominantly natural gas) shall occur within any City owned or operated facility
 - ...

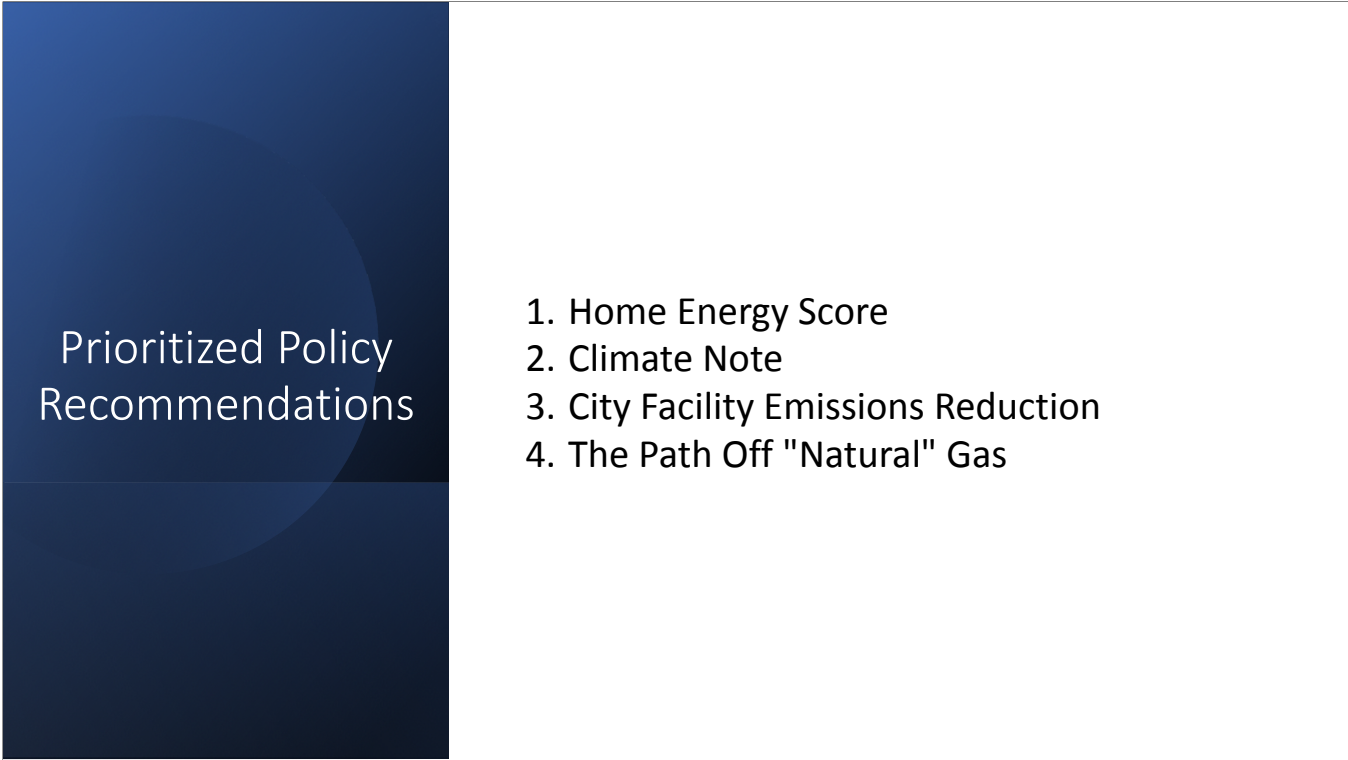
City staff have internalized CEAP and are engaged in implementing CEAP. As specific projects occur city staff have considered CEAP goals. There are a significant number of electric vehicles in the city fleet. APCR has begun the process of electrifying landscaping equipment which are surprisingly emissions intensive in addition to producing substantial noise pollution. There is an administrative policy which in the fullness of time would eliminate some amount of "natural" gas use. This last point will be expanded upon later tonight.



Over the past year administrative, analytical, and management staff who worked with the commission have left. Temporary administrative staff has enabled CPC to keep meeting. CPC's effectiveness is seriously impaired without stable, adequate staff.

In addition, staffing shortages in various departments have made it difficult to collaborate. For example, the electric department master plan process has not started. The CEAP goals mentioned earlier are a large task that is time sensitive. While setting directional policy, such as the 2017 adoption of CEAP, is helpful, it is not adequate to ensure that the goals are achieved on time. The city needs sustained attention to implementing a plan that identifies specific achievable tasks and timelines with ongoing reporting indicating if the city is on track so that corrective action can be taken as needed. The city is not unique in this, all Ashland's community members and organizations need their own plans, but the city should serve as a shining example.

Policy Recommendation Status



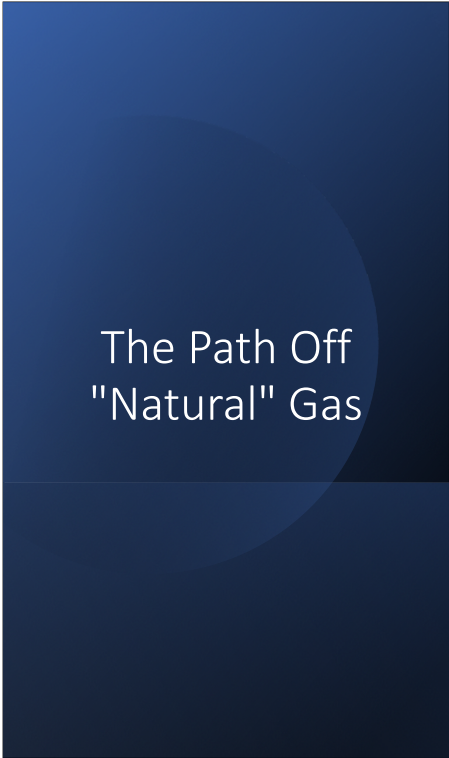
Prioritized Policy Recommendations

1. Home Energy Score
2. Climate Note
3. City Facility Emissions Reduction
4. The Path Off "Natural" Gas

During the September 7, 2021 Climate Policy Commission annual report to the Council, the Commission was asked to bring specific actionable policy recommendations forward. Subsequently, the Commission developed a list of policy recommendations which were discussed and prioritized with Mayor Akins. The Commission requested this council study session to communicate the status of the policy recommendations, discuss two in depth, and solicit feedback and direction from the Council.

The specific recommendation the Commission would like to discuss tonight is city facility emissions reductions.

The policy recommendations have not been brought forward in the agreed upon priority and only one will be addressed tonight due to reasons that will become apparent as each is presented.



The Path Off "Natural" Gas

- Scope:
 - Community wide plan for phasing out the use of “natural” gas
- Status:
 - Still in development
 - Equity issues

First I'd like to update council on the path off "natural" gas. It is first because it is broadest. Two of the other proposed policy recommendations are steps along the path. So any discussion about what "natural" gas is and why it is important to have a path off "natural" gas can be had at this point in the presentation.

The word “natural” is in quotes because “natural” gas is as natural as coal or oil. In other words it is a marketing term that has been used for decades to promote a harmful product.

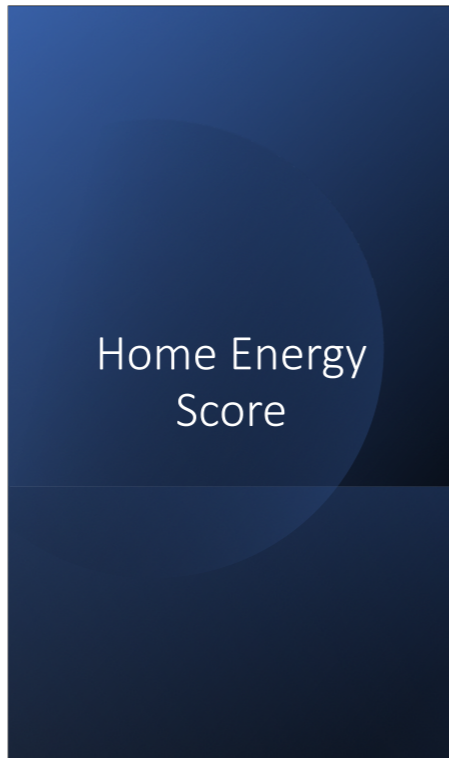
"Natural" gas is primarily methane. Burning methane inherently generates greenhouse gas emissions. A substantial portion of Ashland's greenhouse gas emissions come from heating our buildings and water with “natural” gas. When used for cooking methane combustion produces by-products which can exacerbate health issues such as asthma.

The use of “natural” gas is an equity issue. For example, low income housing more frequently does not have a proper stove ventilation hood which can immediately impact health. Low income workers more frequently need to work outdoors through high temperature and low air quality days which are a long term consequence of using “natural” gas with subsequent climate change.

It is essential for Ashland to change its use of methane. In addition to greenhouse gases produced at the point of combustion there is substantial methane leakage everywhere from the wells where the gas is extracted through the pipes that carry the gas to our homes and from the appliances where the gas is combusted. These leaked methane emissions have approximately 86 times the climate impact over 20 years as the climate impact of the same quantity of carbon dioxide.

The Avista “natural” gas franchise agreement expires in 2025. CPC will be bringing to council policy background and recommendations both for franchise agreement negotiation and for action both before and after that negotiation.

This is a complex topic. CPC is still wrestling with how best to address it.

A graphic with a dark blue background. On the left, the text "Home Energy Score" is written in white, centered vertically. On the right, there is a white rectangular box containing a bulleted list of details about the score.

Home Energy Score

- Scope:
 - Simple metric similar to vehicle MPG rating
 - Helps understand full home costs
 - Motivates investments to
 - Lower utility bills
 - Reduce greenhouse gas emissions
 - Increase comfort, safety, and health
- Status:
 - Under development with RV realtors
 - Realtor training materials being created

The Home Energy Score was designed to help homeowners understand the full costs of operating their home and motivate investing in improvements that lower utility bills, reduce greenhouse gas emissions, and increase comfort, safety, and health. It has been described as equivalent to the "miles per gallon" disclosure for automobile sales.

The Home Energy Score was developed by the US Department of Energy and endorsed by the State of Oregon to provide information to homebuyers about residential building energy performance.

It involves a state-certified assessor (such as a home inspector) carrying out a low-cost rapid assessment of the home's assets--that is, its building envelope and its heating and cooling systems and equipment. The assessment does not consider the homeowner's behavior--for example, at what temperature they set their thermostat. So in that way it's analogous to the standard miles per gallon disclosure for new cars that doesn't take into account individual drivers' habits.

CEAP included a Home Energy Score program as a priority action to reduce greenhouse gas emissions, but improving home energy efficiency can help achieve affordability, health, and safety objectives as well.

Three Oregon cities (Portland, Milwaukie, and Hillsboro) already require a Home Energy Score when a residence is listed for sale, and the score is reported on the multiple listing service. Eugene, Bend, and Hood River are in the process of developing a program.

In Ashland, local realtors suggested a collaborative program between the City and the Rogue Valley Association of Realtors, and CPC is working with the association to develop it. Once fully rolled out, local realtors will be trained to educate buyers and sellers about the benefits of an energy efficient home and promote the usefulness of a home energy score's simple summary metric and recommendation for cost-effective efficiency improvements. Each party is contributing what it does best to implement the program, and an evaluation framework will enable us to assess impact and make adjustments as necessary.



Climate Note

- Scope:
 - Provides City Council specific information in a consistent format to
 - evaluate municipal project greenhouse gas emissions
 - implement CEAP goals
- Status:
 - Under development with city manager
 - Staffing levels impacting development

A climate note can be thought of as similar to the financial impact statements that council receives in a staff communication when a decision is presented to them. Rather than dollars climate impacts measure greenhouse gas emissions and community resiliency.

The city manager has requested that CPC bring specific implementation ideas to him. While CPC can assemble examples of how other cities have implemented this concept there is presently no staff with which CPC can collaborate to incrementally develop an Ashland specific method.

City Facility Emissions Reduction

<the following was used to help develop this presentation; although not spoken during the council presentation it may prove useful to those reading this presentation at a later time>

Does the presentation answer the following questions and support the short form answers?

- what is the proposed policy in easy to understand, non-legal terms?

direct staff to create and execute a plan to eliminate "natural" gas usage in city operations in a timeframe consistent with CEAP goals

- who does the proposed policy affect?

principally Public Works and more specifically the facilities management staff; is there a specific department name?

- what community outreach and stakeholder engagement is planned? when will it occur?

none needed to implement; example needs to be communicated

- are stakeholders in a position to implement the ordinance requirements?

yes, depending on cost, schedule, and other work load

- what are the staff and budget impacts including consideration of state and federal funding opportunities?

immediate additional staff planning work; long term staff and budget impact depends on planning result

- why is the policy important?

cannot meet CEAP goal without implementation

- how will the policy affect climate mitigation and/or adaptation?

will eliminate direct city "natural" gas emissions; facility upgrades may reduce energy costs and provide safer staff environment through building shell improvements, e.g. reducing smoke infiltration and enhancing smoke reduction through filtration

- when does the policy need to be in force?

immediately

- do successful examples exist? what are they?

NYC ban on "natural" gas not only within city buildings but across community; Ithaca; there are other cities which have taken the specific steps we are requesting council to take

- how much policy support and opposition exists?

an informal chat with appropriate city staff would illuminate this

- will policy support or opposition be generated by council consideration or adoption?

staff positions need to be considered

- if this is a city operation policy will policy implementation encourage appropriate community emulation?

absolutely

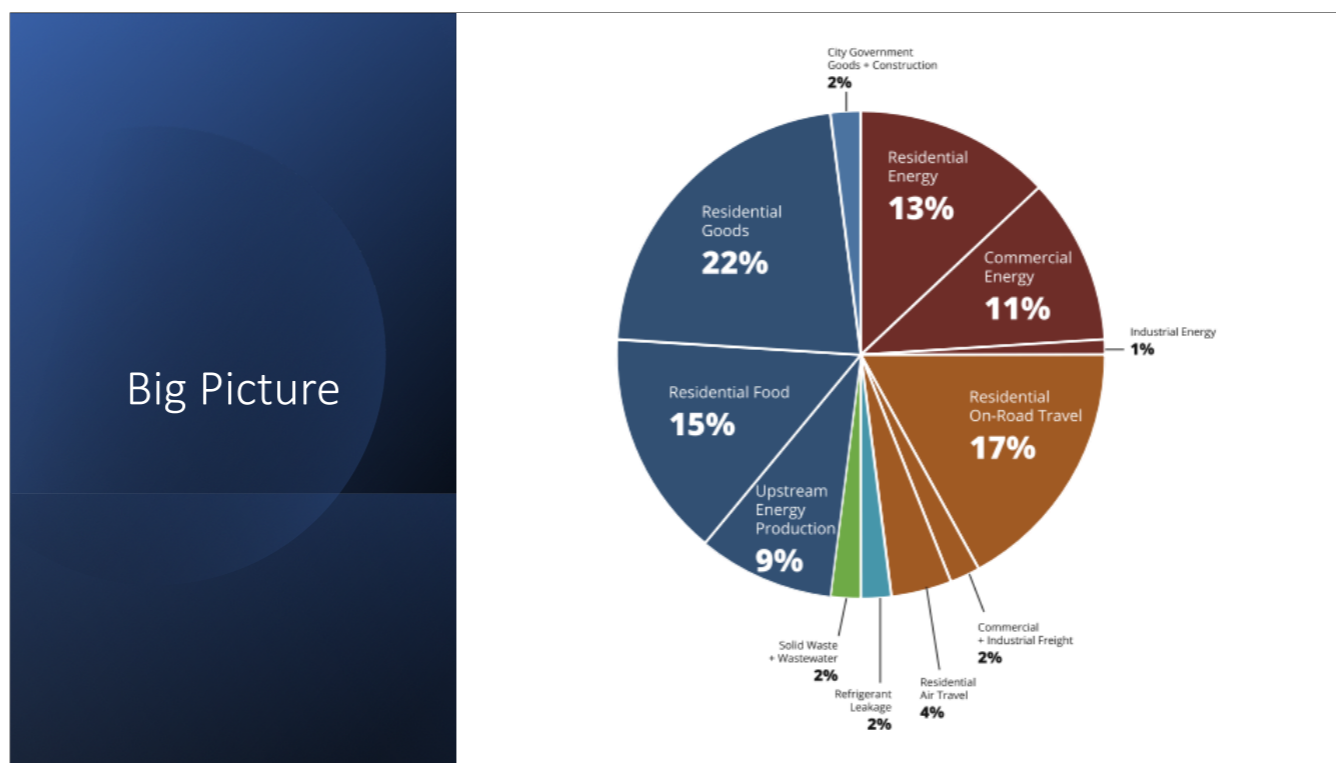
CEAP Goal & Definitions

- Goal
 - For City of Ashland operations: Attain carbon neutrality in City operations by 2030, and reduce fossil fuel consumption by 50% by 2030 and 100% by 2050.
- Definitions
 - Carbon Neutrality:
 - Offsets vs. consumption
 - Fossil fuels:
 - Motor vehicle fuels (gasoline & diesel)
 - "Natural" Gas

The CEAP goal which tonight's policy recommendation addresses is <read it>. Let's start by defining carbon neutrality and fossil fuels.

Carbon neutrality means that the same amount of greenhouse gases are being removed from the atmosphere as are being emitted. So far, so easy. Now what happens if 2030 rolls around and the city has not eliminated its emissions? The adopted CEAP says the city must find some way to be neutral. Emissions generally cannot be instantly turned off at reasonable cost. So the other alternative is to buy offsets. We don't know how much offsets will cost. However, a CPC commissioner has specific offset expertise.

The definition of fossil fuels is pretty obvious. In the context of municipal operations it is largely motor vehicle fuels and the "natural" gas that heats our buildings and warms our water. While both are important tonight's policy recommendation focuses on the "natural" gas component. This focus is due to two factors: first, each type of fossil fuel usage is a large discussion so we need to discuss them separately and second, we have brought forward the "natural" gas discussion first because buildings have longer life cycles than vehicles so we need to start sooner to meet the goal's schedule.



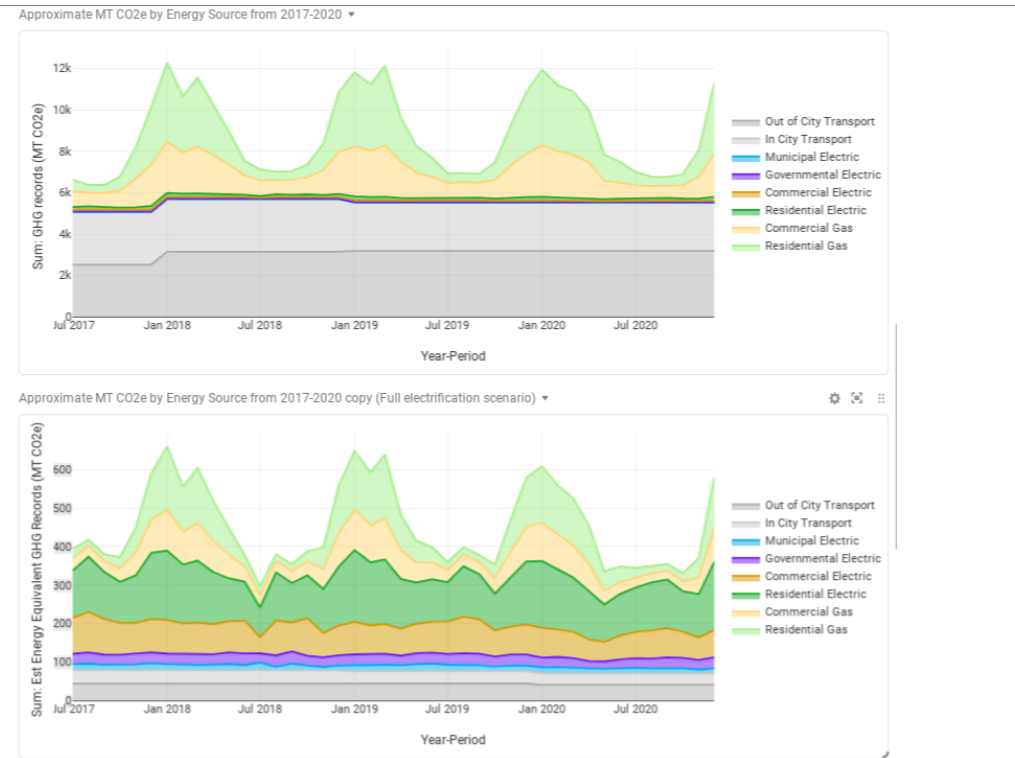
How do city facility emissions fit into the bigger picture of Ashland emissions?

This pie chart is from the 2017 CEAP. It shows Ashland's total emissions as estimated in 2015. "Natural" gas is the dominant source of the residential and commercial energy sections in the upper right quadrant. These sections represent nearly 1/4 of Ashland's emissions.

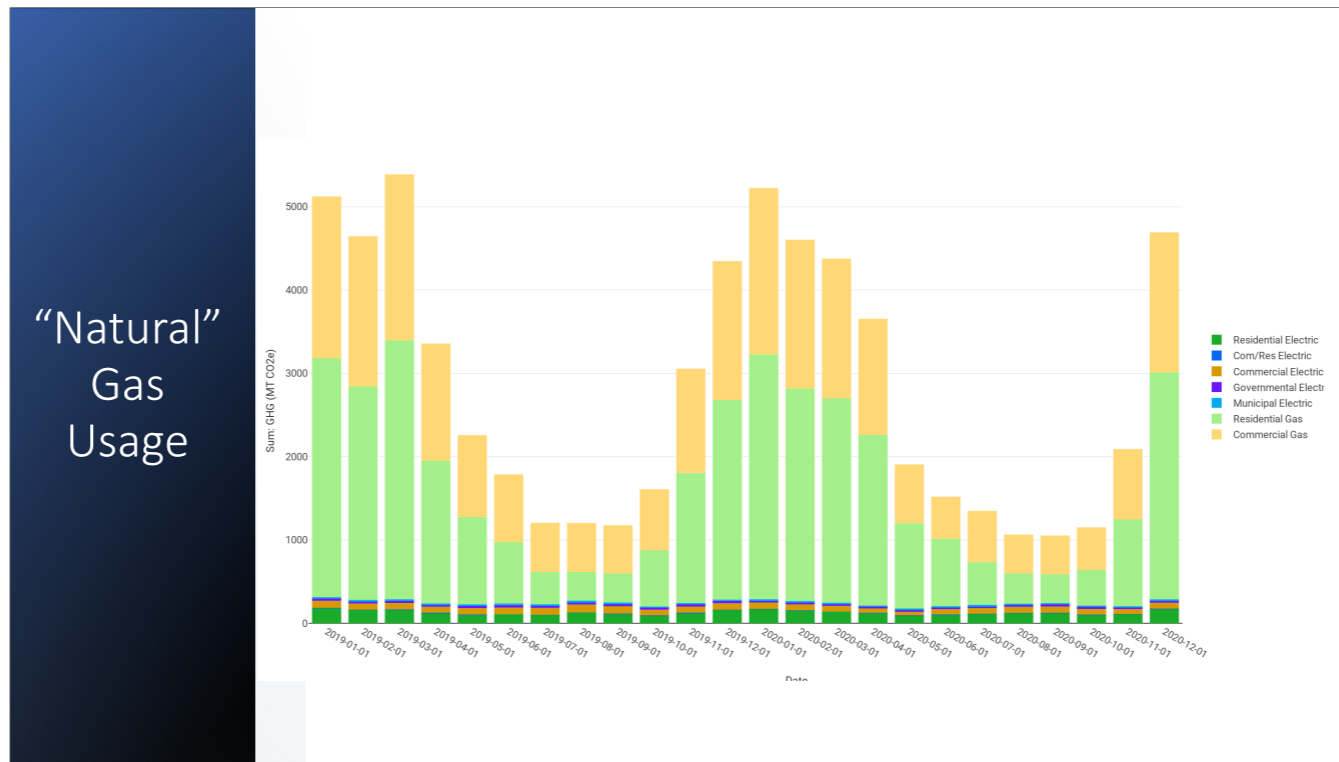
Since this inventory was produced in 2015 it has been discovered that upstream "natural" gas leakage is much worse than previously thought. Some estimates indicate that, rather than "natural" gas being a bridge fuel to a clean future, "natural" gas is producing as much global warming impact as coal. So this chart is likely understating the role of "natural" gas on Ashland's emissions.

Although the portion of overall Ashland emissions released by the city is small it is important for the city to set an example. In Ashland no one "natural" gas unit will dominate emissions. Instead emission reduction must be done by reducing the emissions of thousands of "natural" gas units throughout the community, including the city.

Total Direct Emissions



The graphs on this slide represent the total direct emissions from all sources for about 3 recent years. Principally these are emissions from using vehicle fuels, such as diesel and gasoline, and “natural” gas. The peaks in each year show “natural” gas usage each winter. The details of these graphs are not particularly relevant to our discussion tonight. The single key message of this slide is the difference in the vertical scales between the top slide which represents current emissions and the bottom slide which represents the emissions if Ashland had been fully electrified during that same time period. Current emissions has peaks of about 12,000 megatons of carbon dioxide equivalents while the fully electrified graph has peaks of about 600 megatons. This indicates a 20 to 1 reduction in emissions. So eliminating diesel, gasoline, and “natural” gas usage will reduce the offsets the city must buy by 95%.



This graph focuses solely on “natural” gas usage during the years 2019 and 2020. The point is there is no reduction.

Administrative Policy: Future Use of Carbon Emitting Fuels in Municipal Facilities

- Except as provided below, no future installation of infrastructure that utilizes carbon emitting fuels (predominantly natural gas) shall occur within any City owned or operated facility. Exceptions to this policy may be approved by the City Administrator if it is determined that the carbon fuel infrastructure is the only viable solution to meet the specific need of that particular facilities functionality...
- ... municipal facilities currently in existence or under construction shall utilize climate neutral, low emission energy sources as much as possible and ensure that upgrades/replacements of building systems utilize higher efficiency and/or lower emission technology ...

Ashland has had the administrative policy shown on this slide in place for several years that restricts the installation of “natural gas” infrastructure. Why isn’t this good enough?

First, unlike the present administrative policy implementation it needs to be the case that exceptions rise to the council level to ensure that the community has a chance to weigh in on such exceptions. Second, the administrative policy exceptions are too broad. There needs to be more specificity. Third, there is no requirement for advance planning which can affect what is considered “viable”. Fourth, there is no recognition of the code requirement to “attain carbon neutrality in City operations by 2030” which means emissions must be eliminated or offsets purchased. Due to offset costs waiting for equipment end of life may not be the most cost effective approach.



“Natural” Gas Industry

- What about “renewable” “natural” gas?
- Questions to ask
 - Cost
 - Schedule
 - Residual Emissions
 - Health Impacts
- Speaker note references
 - Sample gas industry marketing
 - Rebuttal

The “natural” gas industry has started a marketing campaign claiming its future product “can realize climate goals without sacrificing reliable and affordable energy”. This campaign obfuscates by not addressing cost, schedule, emissions, and health issues and suggesting sacrifice is required. No sacrifice is needed since reliable and affordable electric energy is available. The speaker notes provide links to one such article and to a detailed rebuttal of these claims. The best possible outcome for Avista and its employees as well as the City of Ashland and its community members is to engage in a collaborative transformation of how we cook our food, heat our homes, dry our clothes, and heat our water.

[OregonLive.com](https://www.hereisoregon.com/sponsor-article/?prx_t=8VYHAUz5TAimMRA&ntv_acpl=1139594&ntv_acsc=0&ntv_ht=9hwgYgA&e=1baab36185bc7bb091d01b3a927b262b&utm_source=Sailthru&utm_medium=email&utm_campaign=Newsletter_here_is_oregon%202022-03-04&utm_term=Newsletter_here_is_oregon) newsletter sponsored content headline “Local utility builds on history of innovation to pursue net-zero emissions solutions” links to https://www.hereisoregon.com/sponsor-article/?prx_t=8VYHAUz5TAimMRA&ntv_acpl=1139594&ntv_acsc=0&ntv_ht=9hwgYgA&e=1baab36185bc7bb091d01b3a927b262b&utm_source=Sailthru&utm_medium=email&utm_campaign=Newsletter_here_is_oregon%202022-03-04&utm_term=Newsletter_here_is_oregon

A rebuttal can be found here: <https://powerpastfrackedgas.org/wp-content/uploads/2021/08/Methane-Gas-Health-Safety-and-Decarbonization.pdf>



New Construction

- All Electric First Cost Can Be Lower
- Fuel price exposure
 - “Natural” gas prices set by world markets
 - Renewable electricity has no fuel price exposure; everyone has access to sun and wind
- Regulatory exposure
- Ashland Municipal Code violation

It is impossible to estimate, much less compare, the energy and capital cost of one fuel source versus another in buildings that have yet to be designed. However, there are case studies available showing how others have built all-electric residential and commercial buildings at net construction savings and significant operational savings producing major life cycle cost reductions. The speaker notes provide a reference to one such study.

In addition, installation of "natural" gas in new construction has the effect of committing the city for decades to the use of a known source of greenhouse gas emissions and exposing the city to "natural" gas price fluctuations. When possible regulatory changes such as carbon pricing or outright prohibition of greenhouse gas emissions are factored into the future cost of “natural” gas this can lead to very high costs due to the need to retrofit a building, including both infrastructure as well as equipment, before the “natural” gas equipment reaches its usual end of life. Utilizing "natural" gas in new construction would violate the city’s CEAP code.

<https://www.communityenergyinc.com/wp-content/uploads/Building-Electrification-Study-Group14-2020-11.09.pdf>



Replacement Process

- Remaining life span
 - Shell
 - Equipment
 - 2030
- Replacement requirements
 - Shell improvements
 - Electrical supply
 - Wiring
 - Plumbing
 - Ducts
- Financing

The replacement of “natural” gas appliances such as boilers, furnaces, water heaters, cook tops, and ovens requires advance planning.

Why is advance planning necessary? First, in order to avoid the replacement of old “natural” gas equipment with new “natural” gas equipment other infrastructure such as wiring, tubing, and ducts may need to be installed. Second, coordinated planning across facilities may significantly reduce costs. Third, identifying whole buildings which may be at end of life can avoid costly equipment upgrades that are then scrapped.

What is the advance planning process?

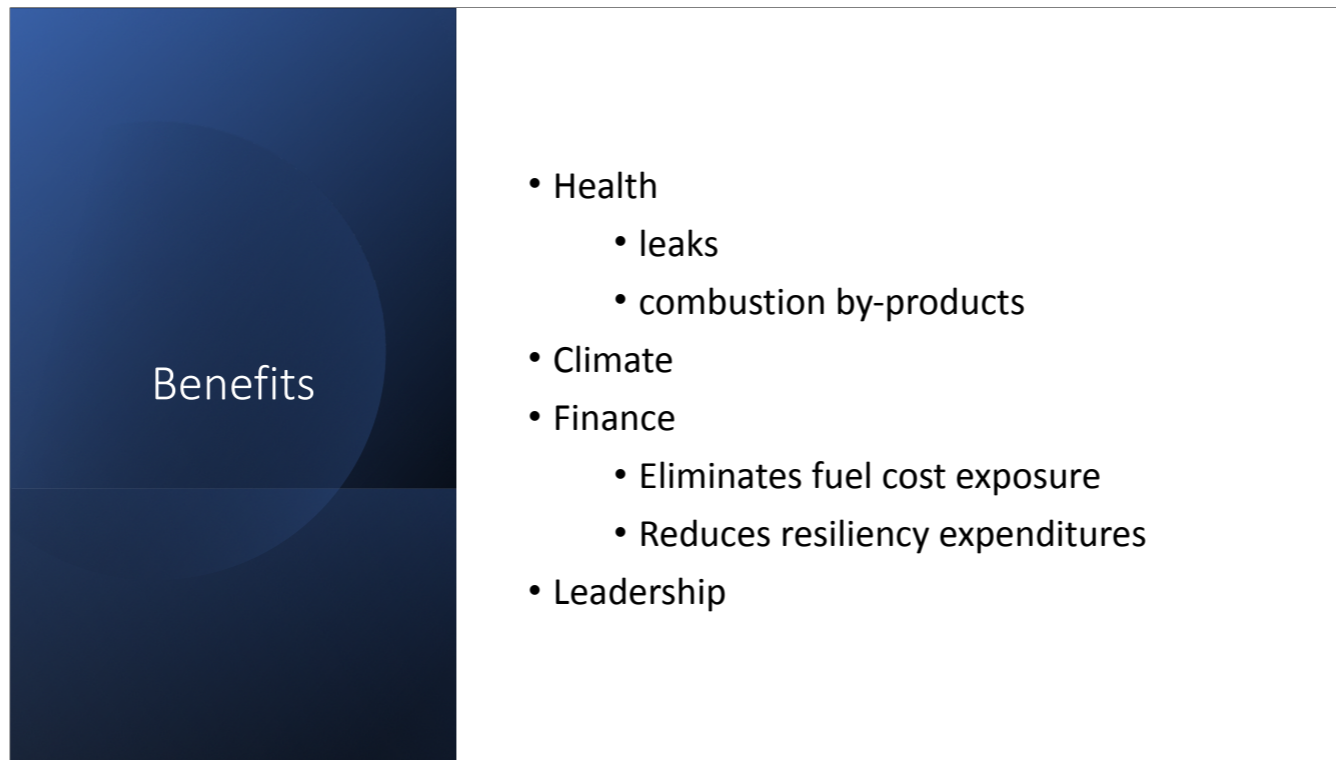
The remaining life span of the building shells and equipment must be determined. The remaining life span determination must include the 2030 code requirement.

The replacement requirements must be determined. In order to right-size the replacement equipment, improve building health and comfort, and reduce operating costs, cost effective shell improvements must be considered.

The replacement of “natural” gas equipment with electric equipment is likely to significantly increase electric service requirements. Upgrading electric service can be a lengthy process. It needs to be done in advance of the “natural” gas equipment reaching end of life in order to keep the building functional without installing new “natural” gas equipment.

Additional building infrastructure such as wiring, plumbing, and ducts may be needed as part of switching from “natural” gas to electric equipment. With advance planning this infrastructure can be installed prior to switching and at lower cost should the building need other maintenance which opens the walls, ceilings, roof, or floor.

Advance planning also provides time to identify and acquire other sources of funding besides taxes, utility rates, and fees imposed on Ashland community members.



New research shows that “natural” gas equipment leaks enough to be a health risk even when the leaks are not large enough to be a fire or explosion risk. In other words the uncombusted components of “natural” gas are themselves a health risk. In addition, the “natural” gas combustion by-products adversely effect health by raising the risks of diseases such as asthma. This is particularly a problem in older housing which does not have sufficient ventilation and so constitutes an equity issue. References describing the dangers and measured negative impacts on health are contained in the speaker notes.

“Natural” gas leakage and combustion by-products both are significant greenhouse gases which are exacerbating climate change. Eliminating “natural” gas usage will long term reduce the likelihood of extremely hot weather and smoky conditions. These reductions will lower the costs of providing temperate filtered air to all and increase the likelihood of a vibrant economy that relies on people being outside.

Transitioning off “natural” gas in a planned, orderly fashion will reduce life cycle costs. Waiting will expose the city to significant fuel costs as the fixed costs of the gas system are imposed on fewer rate payers.

The city can change its current and future use of “natural” gas and, by doing so, demonstrate what is needed to combat climate change by both the public and private sector at the local, regional, statewide, and national level.

<https://ehp.niehs.nih.gov/doi/10.1289/ehp.122-a27>

<https://news.stanford.edu/2022/01/27/rethinking-cooking-gas/>

<https://rmi.org/insight/gas-stoves-pollution-health>

Summary

- For City of Ashland operations: Attain carbon neutrality in City operations by 2030, and reduce fossil fuel consumption by 50% by 2030 and 100% by 2050.
- Start Now To Save Money
 - Building Life Cycle
 - > 100 years
 - “Natural” Gas Equipment Life Cycle
 - > 20 years
 - Unknown Offset, Regulatory, Fuel Costs
- City Needs To Model Best Practices
 - Create Plan
 - Execute Plan

In summary, to achieve the council approved city operations goal which is 8 years away in a cost effective manner planning needs to start now. Buildings have life cycles over 100 years and “natural” gas equipment life cycles are over 20 years. 8 years already appears difficult when considering averages.

What is needed is a methodical examination of the handful of city facilities which are responsible for the bulk of city facility emissions. Once that data is available a practical plan can be produced to achieve the stated goal.

City government is one of Ashland’s major organizations. Modeling best practices by creating and executing a specific plan will provide valuable learnings to be shared with Ashland’s other major organizations. Collaboration across the major organizations is key to reducing the burden on any one organization.

Policy Recommendation

- Direct staff to develop a policy for council adoption to prohibit the use of “natural” gas equipment in
 - new city facilities and
 - city facility remodels which include the replacement of space and water heating or cooking appliances
- Direct staff to develop a facilities management plan with the goal to phase-out the use of “natural” gas in all city facilities as the “natural” gas equipment either
 - reaches the end of its useful life or
 - is less expensive to replace prior to end of its useful life than to buy offsets to meet the code required 2030 municipal goal
- Both recommendations subject to specific exceptions still to be determined.
- Both recommendations to be developed in collaboration with CPC.

CPC recommends that council direct staff to bring to council within 3 months a resolution or ordinance, whichever is appropriate, that generally prohibits the installation of new “natural” gas equipment in new construction or significant remodels of city facilities. This is the easy part.

CPC also recommends that council direct staff to bring to council within 6 months a plan to phase out existing city facility “natural” gas equipment by 2030 or estimate the offset costs for such equipment that will not be electrified by 2030. Any such plan should seek out other funding sources in order to minimize the taxes, utility rates, and fees imposed on the Ashland community. The plan should include both building shell and equipment considerations. This is the hard part.

Although CPC is not aware of any at present there may be some instances where eliminating “natural” gas is not practical. This is impossible to predict without examining the specifics.

CPC cannot substitute for staff. However, CPC brings together diverse skill sets and life experiences that can significantly augment staff. CPC stands ready to assist in the implementation of these recommendations.

The 3 and 6 month recommended time lines are based on the urgency of the climate problem. We look forward to a discussion with staff either tonight or in the immediate future to develop a specific scheduled work plan.