



# Fossil Fuels

Every community member is safe from the risks posed by fossil fuels and energy infrastructure

# Goal: Every community member is safe from the risks posed by fossil fuels and energy infrastructure.

## Description

Fossil fuels endanger the planet and disproportionately harm frontline communities by stoking climate change and accelerating the environmental degradation of ecosystems, among other harms. At the same time, fossil fuels have been an important part of the economy, providing the vast majority of transportation fuels and a large portion of commercial and residential heating fuels. The infrastructure that supports the use of fossil fuels — from well heads in far-off places and large tank farms that supply a region, to a single gas pump fueling a car — is woven into the fabric of communities. The risks may be hard to recognize at first due to the ubiquity of fossil fuel infrastructure, but these systems can pose significant risks and cause serious harm when accidents occur.

The Oregon Department of Energy’s 2025 Oregon Energy Strategy identified various pathways to meeting the State’s energy policy. Under its “least-cost pathway,” total fuel consumption will drop by 70% by 2050, and most remaining fuels will shift from being fossil based to low-carbon alternatives.<sup>67</sup>

A transition to cleaner sources of fuel will need to be carefully managed; legacy systems need to be maintained in good working order up to the point they are no longer needed. At the same time, as we consider alternative technologies like low-carbon fuels, we must also be thoughtful about any risks they may pose to our communities in the future.

In addition to the risks that fossil fuel use poses to the health and well-being of individuals and the planet, the infrastructure supporting the fossil fuel economy poses a significant threat in Multnomah County specifically. Multnomah County is home to the Critical Energy Infrastructure (CEI) Hub, a stretch of fuel depots along the Willamette River north of downtown Portland. The CEI Hub stores 90% of the liquid fuels used in Oregon and is situated on soils that will liquefy during a major earthquake.

The CEI Hub poses a grave threat to the community that is being addressed through new state rules like the Fuel Tank Seismic Stability Program. Other facilities that store hazardous toxic inhalants and smaller fuel facilities are not currently regulated for seismic stability.

## How we measure progress

**Indicator 1:** Percentage of Multnomah County energy derived from fossil fuels.

**Description:** Gasoline, diesel fuel, and natural gas are the three primary fossil fuels combusted in Multnomah County for energy. In addition, significant portions of the electricity used in Multnomah County are generated from the combustion of coal and natural gas. Fossil fuels will decrease over time as a percentage of total energy use due to electrification and the use of other alternative clean fuels.

**Current data:**

| Energy Type | % Fossil Fuel Based |
|-------------|---------------------|
| Electricity | 63% (Coal, Methane) |
| Gasoline    | 90%                 |
| Diesel      | 70%                 |
| Natural Gas | ~99% (Methane)      |

**Data Source:** City of Portland, [Summary of 2023 Multnomah County Carbon Emission and Energy Trends](#)

**Indicator 2:** Number of annual carbon monoxide poisonings resulting in an emergency room or urgent care (ED/UC) visit.

**Description:** Carbon monoxide is a colorless, odorless toxic gas byproduct of combustion that can result in injury or death at sufficient exposure levels. A combustion appliance that is not properly vented to the outdoors can result in a dangerous build up of carbon monoxide.

**Current data:** 25 ED/UC visits October 2024-April 2025.

**Data Source:** [Oregon ESSENCE](#), Oregon Health Authority

# Strategy 1: Regulate liquid fuel storage facilities not currently covered by the DEQ Fuel Tank Seismic Stability Program.

## Why does this matter?

According to the Oregon Department of Environmental Quality (DEQ), there are eight facilities with fuel storage capacity between 50,000 and 1 million gallons in Multnomah County not regulated by the DEQ Fuel Tank Seismic Stability Program. These facilities may have a similar seismic risk profile to regulated facilities. DEQ anticipates spills from these facilities after an earthquake would result in significant negative public health and environmental impacts.<sup>68</sup> These smaller facilities, which still pose a substantial risk, should be included in a comprehensive above ground storage safety program, similar to the existing statewide below ground storage program.

## Putting this into practice

- Conduct a study of above ground fuel storage facilities not covered by the DEQ Fuel Tank Seismic Stability Program to understand the geographic distribution and demographic risks from tank failures.
- Advocate for the creation of a comprehensive above ground storage safety program.

### STRATEGY CATEGORY

- ☒ County Strategy
- ☐ Investment Opportunity
- ☐ Community Leadership

### STRATEGY TYPE

- ☒ Advocate ☒ Research
- ☐ Convene ☐ Implement

### COUNTY CAPACITY

- ☒ Existing ☐ Additional ☐ New

### COUNTY CONTROL



### COUNTY INFLUENCE



### COUNTY PRIORITY



## Authorizing agencies

Oregon Legislature; Oregon Environmental Quality Commission; Oregon Department of Environmental Quality

## Lead Department(s)

Office of Sustainability; Office of Emergency Management



## Strategy 2: Protect communities from uncontrolled release of stored hazardous materials.

### Why does this matter?

A 2023 Multnomah County report, [Risk of Earthquake-Induced Hazardous Materials Releases in Multnomah County, Oregon: Two Scenarios Examined](#), found serious risks posed by the storage of hazardous industrial chemicals, including toxic inhalation hazards, that are vulnerable to uncontrolled release because of an earthquake. Most of the highest-risk hazardous facilities in Multnomah County are in liquefaction zones in North Portland and along the Columbia River Slough. These areas also tend to have higher proportions of environmental justice communities. The report modeled the release of chemicals from four facilities that store toxic inhalants in above ground tanks and found that a seismically induced uncontrolled release could result in up to 2,500 deaths and 17,000 potential injuries. The report identified 70 “type-2” facilities in Multnomah County that store gaseous hazardous materials that may pose a public health threat in case of release.

Much is still unknown about the extent of this threat, including the risks from facilities in neighboring jurisdictions. More analysis is needed to better understand the risk, current industry and regulatory practices, and what steps are needed to better protect public health. Many communities impose a fee on the storage of hazardous materials both to fund emergency response and to encourage the use of alternative materials that pose less of a risk to the public.

### Putting this into practice

- Explore seismic requirements for stored hazardous materials identified in the report, and conduct further modeling to understand the scope of risk posed to Multnomah County residents.
- Work with state and local jurisdictional partners to explore and support development of a hazardous material storage fee to fund better emergency response capability, especially in areas close to hazardous material storage.

### Authorizing agencies

Oregon Legislature

### Lead department(s)

Office of Sustainability; Office of Emergency Management

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## Strategy 3: Research the potential public health implications of hydrogen when used to replace natural gas for residential and commercial use.

### Why does this matter?

Many studies suggest that hydrogen will play an important role in a fully decarbonized future, as it does not create greenhouse gas emissions when burned. Hydrogen can be used as a battery to store renewable electricity for later use or to directly replace fossil fuel use in heating, manufacturing, and even transportation. While hydrogen can be produced from renewable energy, often called green hydrogen, most hydrogen used today is derived from methane gas, called grey hydrogen. As expanded use will require significant infrastructure investments, clarity about hydrogen sources and their respective environmental and economic value is critical.

Additional consideration is needed when blending hydrogen in the natural gas supplied to homes and businesses. The natural gas system is made of many interconnected components, including transmission pipelines, neighborhood distribution systems, and home appliances. Understanding how different hydrogen blending rates interact with the legacy system are critical for understanding overall safety. For example, hydrogen can

ignite more easily than methane, and can also leak more easily, in part because of its potential to embrittle metal distribution system components and leak through polymer based pipes.<sup>69</sup> In recognition of the potential safety challenges, the 2025 Oregon Legislature passed Senate Bill 685 that requires gas companies to inform customers and the Oregon Public Utility Commission if they plan on blending more than 2.5% hydrogen into the gas system. Additional study is needed to understand the safety implications of hydrogen blending safety with existing home appliances, including issues like flashback and impacts on indoor air pollution.<sup>70</sup>

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### Putting this into practice

- Request that state agencies:
  - Review literature and convene experts to compile a technical understanding of potential benefits and risks.
  - Host community forums to bring together parties interested in understanding the potential benefits and risks of hydrogen as a fuel source.
  - Use gathered information to inform future planning and regulatory decisions.
- Advocate for additional regulations if appropriate.

### Authorizing agencies

Oregon Legislature; Oregon Public Utility Commission; Oregon Department of Energy

## Strategy 4: Manage the transition of fossil fuel service “gas” stations.

### Why does this matter?

Gasoline and diesel fuel can be dangerous if not properly handled. As a result, gas stations are subject to a variety of regulations to ensure safety. Regulatory requirements include fire suppression standards, underground storage tank regulations, and air quality permits. The introduction of battery electric vehicles (BEV) presents a new challenge for gas station businesses, including the decision to include new charging infrastructure to complement gas and diesel sales. Gas stations that serve a primarily local market may be particularly hard pressed because approximately 80% of BEV charging happens at home,<sup>71</sup> and smaller stations may lack the capital assets to invest in charging infrastructure.

With the sales of BEVs increasing, Oregon is entering a period of mid-transition — a time of overlap between existing fossil fuel infrastructure and a future state where BEVs are dominant. The mid-transition requires deliberate management to ensure continued access to fueling stations, while also focusing on a rapid phase-in of clean technologies.<sup>72</sup> Ideally, management of this transition unfolds in such a way where the cleanest and most efficient services are not inadvertently lost.

### Putting this into practice

- Conduct research to understand thresholds in fossil fueling infrastructure that may lead to closures and how the transition can be effectively managed to limit disruptions while maximizing benefits.
- Advocate for additional regulatory oversight of fossil fueling stations in Multnomah County that considers opportunities to transition sites to EV charging and remediate site contamination when closures occur.
- Consider strategies, like a prohibition on new gas station developments in Multnomah County, that also recognize the need to modernize existing fueling stations, meet changing geographic demand, and minimize environmental harms.

### Authorizing agencies

Oregon Department of Energy; Oregon Department of Environmental Quality; Cities



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## Strategy 5: Identify and pursue regulatory pathways to limit the growth of the natural gas system and support integrated energy planning across electric and gas utilities.

### Why does this matter?

The transition to clean energy sources and the strategic electrification of end uses like home heating need to be carefully managed. The natural gas system provides nearly half of winter heating needs in Multnomah County and can provide some resilience value in the case of an electrical outage. However, natural gas combustion needs to be addressed because it represents 21% of greenhouse gases in Multnomah County.<sup>5</sup> Alternatives to natural gas like renewable natural gas and hydrogen face significant questions about cost effectiveness and availability.<sup>73</sup> Limiting the growth of the gas system reduces the risk that new investments are underutilized.<sup>73</sup> This helps address the concern that households and businesses unable to electrify are left to pay more for a gas system whose costs are shared across fewer customers.

Households with older, inefficient gas furnaces can already save on heating bills by switching to high-efficiency heat pumps,<sup>74</sup> and the Oregon Energy Strategy's least cost pathway assumes most households will use electricity for home heating by 2050.<sup>67</sup>

However, new demands on the electricity system from household electrification, including electric vehicles and the growth of large energy users like data centers, could overwhelm existing electricity supplies especially during periods of high demand. Significant attention is being paid to ensuring electricity supply availability, but integrated energy planning across electric and gas utilities is needed to ensure reliability, resilience, and affordability across the transition to clean energy.<sup>67</sup> This strategy aligns with regional precedents in limiting gas system expansion and the Oregon Energy Strategy's call for greater transparency and joint planning across utilities.

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### Putting this into practice

- Advocate at the state level and explore local legal pathways to limit expansion of the natural gas system in Multnomah County.
- Explore regulatory options for limiting risk to residential customers carried by future stranded assets of the gas system, including the accelerated depreciation of existing assets, enhanced assistance for low- and moderate-income households, and other approaches.
- Advocate for and engage in joint energy planning across the gas and electric energy systems to ensure reliability and support a *just transition*.

### Lead department(s)

Office of Sustainability

## Strategy 6: Add seismic safety valves to residential and commercial natural gas connections.

### Why does this matter?

Natural gas leaks are dangerous and require immediate action. In the case of an earthquake, the connection point between a building and the gas system, typically near a gas meter, can break, leak, and even catch fire.<sup>75</sup> Automatic shutoff valves can stop the flow of gas and prevent the uncontrolled release of gas.

According to Northwest Natural (NWN), overlapping redundancies exist in their system to limit damage to the gas system from an earthquake. These include valves that will automatically close if there is a loss of pressure, flexible polymer distribution pipes that are more resistant to earthquakes, and investments in retrofitting gas meters with smart meters that can shut off automatically. NWN is currently modernizing about 10% of gas meters with ultrasonic smart meters that have automatic shutoff capabilities.<sup>76</sup> Dangers still exist, however, and automatic shutoff valves installed on the customer side of the meter can stop the flow of gas between the meter and the customer and provide an extra layer of protection. These valves are relatively inexpensive, but must be installed by a professional.

### Putting this into practice

- Require seismic shutoff valves for new installation of gas meters that do not have a built-in emergency (seismic) shutoff.
- Explore new programs that help gas customers retrofit existing gas connections with emergency (seismic) shutoff valves.

### Authorizing agencies

Oregon Legislature; Oregon Public Utility Commission



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