

Exhibit A: Biennial Report to Portland City Council on 100 Percent Renewable Energy (Resolution No. 37289)

Resolution No. 37289 requires the Bureau of Planning and Sustainability (BPS) to report to Portland City Council every two years on progress toward the 100 percent renewable energy goals. This report serves as BPS's biennial report from 2017-2019.

Resolution Goals and Target Years

- By 2035:
 - 100 percent renewable electricity.
 - 2 percent community-based ownership of renewable energy generation.
- By 2050:
 - 100 percent renewable transportation and heating.
 - 10 percent community-based ownership of renewable energy generation.

What 100 Percent Renewable Energy Means

Implementing the resolution means taking all the carbon out of the economy in a manner that is just and equitable. The terms “decarbonization” and “net zero carbon” are also used to describe all of these efforts under a single banner.

It's now widely accepted among city peer networks, backed up by scientific and engineering communities, that getting to a net zero economy is comprised of four fundamental pillars. These pillars provide the technical framework for how we arrive at a 100 percent clean energy economy. The four pillars are:

- **Efficiency.** In the near-term, we must accelerate every effort to use less of everything fossil-fuel based. This includes electricity, natural gas, propane, diesel, gasoline, and heating oil. In buildings, this is called energy efficiency. In transportation, it means creating an environment where jobs, housing and services are located in close proximity to reduce the need for vehicle travel. It also means shifting travel modes, so more people are walking, biking, taking public transit and carpooling and less people are driving single occupancy vehicles. It also includes improving fuel economy of the vehicle fleet.
- **Clean electricity.** We must make the electric grid as close to 100 percent renewable as we can, without relying on renewable energy credits and carbon offsets. According to those involved in the resolution's passage, the goal is 100 percent renewably-generated electricity.

- **Renewable transportation fuels.** We must transition cars and trucks to non-fossil based fuels like renewable electricity, renewable biogas¹ (also known as renewable natural gas, or RNG), ethanol and renewable diesel. It's important that renewable fuel have low lifecycle greenhouse gas emissions, including impacts from land-use changes.
- **Building electrification/decarbonization.** We must eliminate fossil fuels used to heat buildings and hot water by switching to non-carbon emitting sources of heat. This transition must be executed thoughtfully and with equity concerns at the forefront of the discussion. People of color and low-income communities must benefit from these new technologies and costs should not be borne disproportionately by those most vulnerable to climate change.

Just Transition

Equity and justice are core principles embedded throughout the resolution. Justice is expressed in the resolution as a set of priorities around community-based development of renewable energy infrastructure; capacity-building and investment in frontline communities; utilization of minority- and women-owned businesses in clean energy development projects; and resources for training and hiring people from within communities of color and women that have traditionally been under-represented in renewable energy and energy efficiency.

What the Resolution Commits the City to Do

There are 26 directives within this resolution. They can be grouped into several broader themes:

- Advancing community-based ownership of renewable energy.
- Improving equitable workforce development, contracting and jobs focused on a just transition.
- Intervening in federal and state policy and regulatory processes to support and promote Portland's resolution.
- Collaborating with and influencing utilities on several fronts: to reduce investments in fossil fuel infrastructure; to maximize programs and funding for energy efficiency, renewable energy, demand response and storage; to reduce energy burden for low-income customers.
- Electrifying transportation.

¹ Some community members have raised concerns about RNG, including a lack of confidence in the availability of supply, and questions about the air quality and emissions impacts from RNG production.

- Greening City government operations electricity supply and going beyond on renewable energy credits (REC) purchasing.
- Building green infrastructure in neighborhoods that have not historically benefited from City investments.
- Creating new avenues for more people to engage in climate work with the City, especially youth, Oregon tribes, people of color and low-income people.

Resolution No. 37289 does not specifically mention transportation mode shift or reducing single-occupancy vehicle trips. However, given the accelerating climate crisis and the trends observed in transportation emissions, we know this must be a part of the City's strategy to reach 100 percent renewable energy economy- and community-wide by 2050.

Findings

1. The City is benefiting from - and contributing to - measurable progress in decarbonizing the utility sector and in electricity procurement for City operations.

The City's most recent carbon emissions inventory update shows that emissions resulting from residential and multifamily energy use have declined 19 percent below 1990 levels, a per-person decrease of 41 percent. This is primarily a result of the improved efficiency of appliances and lighting, weatherization retrofits of homes, the transition from oil to natural gas as a home heating fuel, and the increased use of renewable energy by utilities.

Portland benefits from historically progressive state renewable portfolio standards, appealing utility programs for voluntary green power purchasing through programs like Blue Sky, Clean Wind and Smart Energy, and longstanding investments in energy efficiency and renewables through Energy Trust of Oregon. All of these efforts together have reduced the emissions from electricity and natural gas in our homes and buildings.

However, more recent emissions trends show that, while the carbon intensity of building energy use is decreasing, emissions from the consumption of electricity and natural in buildings have been on the rise over the last five to six years. (For reference: see BPS's greenhouse gas inventory update, [2017 Carbon Emissions and Trends](#).)

We know energy efficiency is the most cost-effective decarbonization strategy that also comes with a raft of co-benefits (i.e., human health, resilience, long-term cost reduction, local economic multiplier effect, job creation). City staff have been working across bureaus to prioritize a systematic Citywide approach to scoping, financing and implementing energy efficiency upgrades in City buildings. This work has been accelerated and supported by the American Cities Climate Challenge.

Over the last year, Office of Management and Finance, Parks and Fire have been collaborating with BPS to 1) leverage and expand Parks' excellent work on energy savings performance contracting and 2) integrate net zero carbon goals and considerations into capital planning, asset management and budget processes.

The resolution directs the City to prioritize renewable resources in its own electricity procurement and to reduce our reliance on RECs during the transition to 100 percent renewable resources over time. In pursuit of this objective, BPS coordinated the City's participation in Portland General Electric's (PGE) Green Future Impact program. Through Green Future Impact, about 40 percent of the City's PGE electricity load will be placed on a "green tariff," which costs less per megawatt-hour than RECs do, for a higher-value product. Green Future Impact energy will be generated by a solar plant built here in Oregon to serve this demand.

The City is also collaborating with PGE on the Smart Grid Test Bed, an important piece of the decarbonization puzzle. The Test Bed is a multi-year learning program based on three substation sites, one each in Hillsboro, Milwaukie and North Portland (Overlook). The Test Bed will help the utility rethink how people use energy through new technologies, programs and products. It will help PGE balance renewable energy on the grid by shifting energy use to different times of the day through price signals and technology like smart thermostats. In utility-speak, this is called demand response and is considered an essential component of getting to 100 clean electricity.

2. Together with community, technical and other partners, the City is advancing community ownership of renewable energy.

BPS has been piloting, advocating for and supporting community solar since 2011. Since 2017, BPS has been engaged in program development for the statewide Oregon Community Solar program, which was enabled by the State's landmark 2016 Clean Electricity and Coal Transition Act (SB 1547).

Starting early in 2019, BPS began collaborating with a coalition of partners including Verde, Hacienda Community Development Corporation, GRID Alternatives, Bonneville Environmental Foundation and Energy Foundation - in support of a shared goal to develop community-based renewable energy generation. BPS has dedicated resources from the American Cities Climate Challenge to prepare the City and community-based organizations for the launch of the Oregon Community Solar Program in January 2020.

BPS also plans to work with the largest energy-consuming bureaus like Bureau of Environmental Services and Water Bureau, to support a range of community-based solar projects as an "anchor tenant." In other words, the City could offset some of its remaining, non-renewable energy use by purchasing solar energy from one or more of these emerging, community-based

projects. Anchor tenants are an important part of community solar projects because they reduce risk for the project developers, much like an anchor tenant does in a traditional shopping mall development.

3. Together with community, technical and other partners, the City is advancing and transportation electrification.

BPS has been partnering with utilities and others to facilitate increased adoption of electric vehicles and the installation of charging infrastructure in Portland.

TriMet has committed to having diesel-free buses by 2040, has a plan to phase-in electric buses and is building a bus depot that will include electric bus charging infrastructure. BPS advocated for TriMet to commit to a diesel-free future and will continue to advocate and hold TriMet accountable to its commitment.

In October 2019, Portland General Electric opened a new electric vehicle charging hub at the Eastport Plaza Shopping Center in East Portland. BPS shared information with PGE staff about where charging infrastructure would maximize the benefits to Portlanders in East Portland, especially in areas with a high density of renters and multifamily housing. PGE then chose a location for Portland's second Electric Avenue that prioritizes people living in East Portland.

The newest Electric Avenue will give East Portland residents public access to reliable and affordable electric vehicle charging, furthering PGE's and the city's commitment to bring the benefits of electric vehicles to all communities. This project is a demonstration of PGE and Portland's commitment to climate equity goals and aligns with the city's Electric Vehicle (EV) Strategy and Climate Action Plan.

BPS staff have been partnering with local stakeholders to advise staff at the Oregon Department of Environmental Quality (DEQ) to design the new Zero Emission Vehicle Rebate program, which offers "cash on the hood" (instant) rebates of up to \$5,000 for the purchase or lease of new or used battery electric vehicles and plug-in hybrid electric vehicles. The Charge Ahead Rebate program is earmarked for low and moderate-income households.

BPS contributed funding to support the Living Cully Community Mobility Needs Assessment, which was conducted by Verde staff in partnership with Hacienda CDC, Organizing People Activating Leaders (OPAL) and Coalition of Communities of Color. This study assessed current transportation needs and behaviors of the low-income mostly Latino community that will be living at the new Living Cully Plaza development. Additionally, the study assessed community interest in clean mobility options that could potentially serve the needs of the Living Cully Plaza residents. The project report includes valuable information about the awareness of clean mobility technology and the feasibility of those options for this particular community.

4. The City is enabling and encouraging low-carbon transportation options, including through infrastructure development, right-of-way allocation, and information and incentives.

Portland Bureau of Transportation's (PBOT) new strategic plan, Moving to Our Future, lays out a set of strategies anchored around pursuing equitable mobility, better transit, safer biking and greener travel choices. Broadly, these big moves forward the City's overall transportation decarbonization strategy, including reducing demand and encouraging a shift to greener fuels.

Over the past two years, PBOT has:

- Implemented Central City in Motion (CCIM) strategy. Central City in Motion is PBOT's effort to plan, prioritize, and implement transportation improvements in the city's core. Eighteen projects were prioritized through this planning effort, including new pedestrian crossings, bus lanes and bikeways. The aim is to make lower-carbon transportation modes the option of choice for more Central City travelers.
- Worked with transportation service providers, such as shared scooters, bike share and ride-hailing services, to better understand how to motivate people to use these lower-carbon travel options.
- Expanded information sharing and encouragement programs, such as Safe Routes to Schools and Sunday Parkways, to help introduce low-carbon transportation options to community members.

PBOT has also partnered with community organizations on several initiatives that increase community access to low- and zero carbon transportation options. These include:

- **BIKETOWN for All:** PBOT helped develop BIKETOWN for All, which now serves 750 active members, to provide Portland-area residents living on low incomes with reduced-cost membership. Memberships cost \$3 per month and include 90 minutes of daily ride time. To reduce barriers, the program encourages adherence to BIKETOWN rules, but does not charge members for violations. Eligibility: Oregon Trail Card holders, residents of affordable housing, those who qualify for utility assistance, and many others who receive a range of social services. Members can take part in free bike safety workshops and receive a free bike helmet. Partners: Community Cycling Center, Motivate, the Better Bike Share Partnership and several affordable housing communities, social service agencies and nonprofits serving Portlanders with low incomes.
- **Affordable Housing Transportation Wallet:** PBOT is piloting new incentives that provide people living in existing affordable housing developments with access to free transportation options, like transit passes, bike or scooter share memberships, rideshare and carshare credits. Up to 500 residents in participating housing developments will receive a Transportation Wallet with transportation options incentives. Partners: ROSE CDC, REACH CDC, Hacienda CDC, Home Forward, Human Solutions, Catholic Charities, and Portland Community Reinvestment Initiatives Inc.

- **Pricing Options for Equitable Mobility:** The project will inform PBOT and BPS as they consider if and how new pricing policies—like parking fees, right-of-way charges, road tolls, cordons and other strategies—could potentially be used more intentionally to improve mobility, address the climate crisis and advance equity for people historically underserved by the transportation system in Portland. OPAL staff sit on the project strategy team along with PBOT and BPS staff, helping to set agendas, establish strategic direction and conduct community outreach. American Cities Climate Challenge provides technical assistance and strategic advice.

5. City engagement in state level policy and regulatory proceedings has been robust and ongoing.

City staff have had ongoing consistent participation in a range of legislative and regulatory proceedings over the last two years. The following are worth special mention.

SB 978 (Actively Adapting to the Changing Utility Sector). BPS staff participated in a unique six-month proceeding intended to unpack the technological, social and economic implications of the current utility regulatory structure in Oregon. The key question posed by SB 978 is how might we improve or innovate upon Oregon’s regulatory framework to achieve climate and social equity outcomes along with traditional utility cost-of-service goals.

This was one of the first OPUC proceedings that intentionally invited in communities of color and environmental justice stakeholders to offer perspectives on racism and colonialism within the utility sector. In its final report to the legislature, the PUC reported that they would collaborate with the Legislature and stakeholders to make progress on climate and equity—two issues that most SB 978 participants prioritized. BPS intends to continue holding the PUC accountable to this work.

UM 1930 (Community Solar). BPS has maintained a consistent presence in this proceeding, advocating for the interests of community-based projects and low-income customers. We have submitted numerous written comments and provided in-person testimony at the Public Utility Commission throughout a two-and-a-half year that still has not quite concluded (as of this writing.)

HB2017 (Transportation Policy & Funding). PBOT worked closely with the Office of Government Relations and many external partners to shape a more progressive transportation policy and funding package. Highlights include:

- **Transit funding** – significantly increased funding authorization for TriMet to reduce low income fares and expand urban and suburban transit service;

- Multimodal infrastructure funding – significantly increased funding for active transportation and safety infrastructure projects that enable more biking, walking and transit use; including specific new funding Safe Routes to Schools infrastructure;
- State highway pricing – direction to ODOT to explore the feasibility of pricing I-5 and I-205 in Portland. Highway pricing, if well designed, can reduce peak hour traffic congestion, climate emissions, and air pollution in highly impacted communities;

State Carbon Legislation. Over the past several legislative sessions, the City has supported the State developing a comprehensive framework for carbon reduction, such as the HB 2020 cap and invest bill considered in the 2019 legislative session.

SB 1044 (Zero Emissions Vehicles). BPS sent written testimony to legislators supporting the bill, which established the following Zero Emission Vehicle (ZEV) targets:

- 90 percent of all new vehicles sold in Oregon need to be ZEVs by 2035
- 50 percent of all vehicles registered in Oregon need to be ZEVs by 2035
- Oregon state agencies will “lead by example” with specific goals for state fleets to purchase or lease ZEVs.

These targets go beyond those in the Governor’s Executive Order 17-20, which commits to have 50,000 EVs on the road by 2020.

New Mobility. The City has actively engaged to shape legislation for transportation network companies (TNCs), like Uber and Lyft, and automated vehicles (AVs) to ensure that local jurisdictions have authority to manage TNC and AV operations for improved safety, while reducing congestion and climate pollution.

HB 2242 (Relating to Public Utility Commission of Oregon.) This bill didn’t pass in 2019, but would have given OPUC permission to consider differential energy burden and other inequities of affordability in utility rates. The City submitted testimony in support of the bill. This measure should be an easy step to address energy burden and equity in the ratepayer/utility sector. In response to community requests for support of this legislation, BPS has advanced this issue in its proposed 2020 state legislative agenda for City Council’s consideration.

6. It's harder to show progress on workforce-related objectives.

Workforce and contracting for a just transition is a central theme in the resolution. Because the City is not the contracting agency for most renewable energy development that happens in Portland, or elsewhere in Oregon, it is hard to demonstrate much impact on these objectives. This could change if local community had greater control over energy supply decisions.

Portland Clean Energy Fund (PCEF) presents a tremendous opportunity to boost workforce development in the local clean energy economy and green transportation jobs, so we expect to see more progress on these fronts in the coming years.

Next Steps for Implementation

While Portland (meaning both the community broadly as well as the City as an operation/organization) have made demonstrable progress and have achieved some noteworthy successes, it is fair to say our collective advancements have been incremental. Local emissions reductions have started to plateau in recent years and transportation-sector emissions have seen year-over-year increases.

In order to reach the emissions reductions necessary to stave off the worst impacts of climate change, we must accelerate and amplify all that we are doing. In particular, the City must turn its attention to the transportation sector with all available resources and much improved coordination between bureaus, external partners and community.

PBOT has committed to advancing transportation justice through its new strategic plan, *Moving to Our Future*. This includes commitments to advance racial equity, reduce greenhouse gas emissions, and more broadly apply a climate justice lens to all of its work, including defining the specific people-based indicators that need tracking. Specifically, PBOT will continue to move forward an overall transportation decarbonization strategy through this lens, including reducing demand and encouraging a shift to greener fuels. This is an important pairing with City's work on transportation electrification, which has focused on supporting investment in areas and ways that benefit renters in multifamily dwellings and people who live in East Portland.

Utilities will need to commit to decarbonizing their systems and products faster. The City and the utilities must learn how to do to community engagement together, to apply an anti-racist, equity lens to our future energy supply options. BPS will continue to lift up community solar projects and advocate for continued state support of community solar.

It's essential that the City walk its talk on climate. We must accelerate our efforts to green the City fleet and municipal building stock. Efforts to ramp up energy efficiency in City buildings are in full swing with the support of the American Cities Climate Challenge.

Equity-centered and community-led processes like the Zero Cities Project can model community engagement in the climate and energy sector. We're eager to see how Zero Cities may better align BPS's resources and priorities with those of frontline communities in our common pursuit of net zero carbon buildings community-wide.

Portland Clean Energy Fund will be an incredible catalyst for implementing the 100 Percent Renewable Energy Resolution. PCEF's mandate to invest in energy efficiency, renewable energy, green infrastructure, workforce development and training and innovation projects will breathe life into a whole new range of clean energy initiatives.

Between BPS's energy policy team and PCEF's community-building and financial capabilities, PBOT's work on climate- and equity-centered transportation planning, and the commitment of internal City bureaus to take decarbonization goals seriously, the City is poised to accelerate the just transition to a 100 percent clean economy more rapidly over the next critical decade, as long as City budgets are devoted more intentionally to this work.