



CITY OF BEND STRATEGIC ENERGY MANAGEMENT PLAN

2020



CITY OF BEND

1. Background

Purpose:

The purpose of the City of Bend's Strategic Energy Management (SEM) Plan is to promote and sustain the efficient use of energy and to reduce fossil fuel dependence in keeping our climate action goals established in City Council Resolution 3044. Strategic energy management exemplifies the City's core values of *Inclusivity, Sustainability, Partnership, Stewardship and Responsiveness*, and has been consistently reflected in Council Goals since the early 2000's. Reducing fossil fuel consumption throughout the City's facilities and operations will reduce adverse impacts on the environment, increase the resiliency of our City, and generate financial savings by reducing operating costs allowing us to direct more resources towards providing vital customer services. It also demonstrates leadership in the community in promoting environmental stewardship and can inspire others to do the same. Our Strategic Energy Management (SEM) program is a long-term effort of strategic importance to our City government, in which we are dedicated to continually improving our energy related business practices and obtaining the benefits from doing so.

Strategic Energy Management Goals:

In September 2016, the City Council adopted a Climate Action Resolution ([Resolution 3044](#)) that established fossil fuel and carbon reduction goals for City facilities and operations:

- Carbon neutrality by 2030
- 40% reduction in fossil fuel use by 2030
- 70% reduction in fossil fuel use by 2050

This Strategic Energy Management Plan establishes five long-term and overarching strategies to achieve our climate action goals over time that spans facilities, fleet and transportation, procurement, and energy supply. The City will strive for continuous improvement across these five categories until the climate action goals are met and sustained. This Plan also includes a short-term, five-year action plan that directs specific, actionable initiatives within each strategy that drives progress on each strategy over the next five years. The short term action plan will be updated periodically to evaluate and report progress and to identify next steps or additional actions to fulfill the SEM strategies.

2. 5 Long Term Strategies for Strategic Energy Management



The five long term strategies for strategic energy management include the following five focus areas:

1. Data driven decision making
2. Energy efficiency
3. Renewable energy
4. Fleet and Transportation
5. Materials Management/Procurement

1. **Data Driven Decision Making**

Establish data driven, performance based decision making for City strategic energy management.

Success is dependent on establishing an effective way of making decisions relating to strategic energy management. This relies on developing and tracking reliable and meaningful datasets, establishing an effective program management system, and building sufficient engagement across the organization to ensure support. Energy management requires coordination, communication, and shared projects across departments and the SEM program management should be structured to facilitate accordingly. Additionally, it is essential that appropriate data sets are developed to effectively track, report, evaluate, and manage strategic energy management strategies and activities in the long term. All strategies in this SEM will require specific targets, progress metrics, and data to support them.

2. **Energy Efficiency**

Reduce our overall electrical and natural gas energy consumption of City facilities and operations through energy efficiency.

Energy efficiency is the most cost effective means of reducing overall energy consumption in buildings and fuel use and energy efficiency activities should be the first initiatives employed in strategic energy management. There are several tools and resources that can be leveraged to continue and expand upon the City's energy efficiency activities, such as the Energy Trust of Oregon's Strategic Energy Management Program and Energy Savings Performance Contracts (ESPC). The City has had success utilizing these tools to achieve energy efficiency savings in the past and will continue to look for these opportunities, as well as emerging tools and resources as they develop.

In addition to pursuing energy efficiency for the City's existing buildings and equipment, the City will create energy efficiency standards and targets for new facility development and new equipment and infrastructure to ensure that the most cost effective and highest efficiency technologies are standard.



3. Renewable Energy

Plan conversion to 100% renewable energy

To achieve carbon neutrality by 2030, the City must procure or offset the remainder of its carbon footprint through renewable energy sources. This can be achieved through a combination of on-site renewable energy generation, community renewable energy generation, offsite renewable energy purchases through the utilities, and/or the purchase of carbon offsets. Cost effective energy efficiency measures should be leveraged first to reduce the overall energy demand that must be fulfilled with renewable sources.

4. Fleet and Transportation

Reduce fossil fuel consumption by City related transportation, including fleet and employee commuting.

The City will reduce fossil fuel consumption that occurs in its fleet vehicles and from employee commuting. Reducing fossil fuel combustion from transportation has an additional community benefit of reducing local air pollution. Governed by the Fleet Manager's strategic plan, the City will invest in fleet vehicles that have low or zero emissions, and may include a combination of electric vehicles, hybrid vehicles, and alternative fuels for trucks and heavy equipment. The City will evaluate the potential to realize cost savings as well as leverage funding mechanisms including grant opportunities through Pacific Power and the VW settlement agreement to support the City in its fleet conversion.

In addition to fleet, the City will consider ways reduce emissions from employee commuting to reduce overall fossil fuel use.

5. Materials Management/Procurement

Reduce fossil fuels related to materials consumption through procurement activities and waste management

The upstream and downstream fossil fuel impacts of goods and services consumed is now recognized as the largest contributor to greenhouse gas emissions across the nation. Reducing fossil fuel use associated with materials is a vital component of the City's Strategic Energy Management Approach.

This will require identifying new policies and procedures for reducing the City's consumption footprint through its procurement practices, especially for the procurement of energy intensive systems, equipment and services. Priorities for focus will be identified in a consumption based greenhouse gas emissions inventory for City operations and facilities.



Additionally, the City will reduce fossil fuels from its waste management practices by ensuring waste is prevented as much as possible, and waste that does occur is recovered with the least environmental impact possible.

3. 5 Year Action Plan

Action Plan Summary

Data-driven decision making

- Establish governance and decision making systems
- Greenhouse gas emissions inventory
- Establish ongoing data tracking and management

Energy Efficiency

- Plan for net zero in new facilities
- Develop SOPs for energy efficiency
- Engage building occupants in energy efficiency
- Identify cost saving efficiency projects
- Confirm performance regularly

Renewable Energy

- Generate on-site renewable energy through rooftop solar, in-conduit hydro, and biogas capture
- Procure off-site renewable electricity
- Offset natural gas usage through renewable natural gas projects or offsets

Fleet and Transportation

- Convert to hybrid, electric, and alternative fuel fleet over time and as feasible
- Support fleet conversion by planning to upgrade facilities and maintenance shops
- Support fleet conversion by training workforce
- Encourage reduction of fossil fuel consumption in employee commuting and travel

Materials Management

- Utilize tools, technology, and resources to assist in sustainable procurement decision making, processes, and tracking
- Develop standards and criteria to guide procurement decisions for departments
- Create comprehensive sustainable procurement policy and program
- Develop policies and procedures to promote recycling and reuse



Below are specific actions within the five strategic energy management areas that can be undertaken in the next five years.

| Data-driven Decision Making <i>Establish data driven, performance-based decision making for City strategic energy management</i> | | | |
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| ACTION | DESCRIPTION | ACCOUNTABILITY | TIMELINE |
| Create and adopt a citywide energy policy | City Manager adopts an energy policy that establishes goals about energy management and clear direction to City departments implement energy management strategies in facilities and operations | City Managers Office | December 2020 |
| Establish and launch an Energy Team | Define and formalize roles and responsibilities, including a governance system and decision making process | City Managers Office | December 2020 |
| Update the City's GHG inventory | Establish an updated baseline of greenhouse gas emissions through a comprehensive GHG inventory | City Managers Office | December 2020 |
| Select and cost estimate an energy management system | Investigate and select a preferred energy management system will allow us to continually track the performance of buildings and facilities, and allow us to identify energy savings opportunities. Solicit cost estimate to consider including in 2021-23 budget. | Facilities, City Managers Office | June 2021 |
| Include energy management goals in facility planning in utilities | Include assessment of energy generation opportunities, energy efficiency, and best management practices for energy efficiency in all utility facility plans | Engineering, Infrastructure and Planning Department | Ongoing |

| Energy Efficiency <i>Reduce our overall electricity and natural gas consumption in City facilities and operations through energy efficiency</i> | | | |
|---|---|-----------------------|-----------------|
| ACTION | DESCRIPTION | ACCOUNTABILITY | TIMELINE |
| Design and plan new facilities and major remodels to be net zero or net zero-ready | As City expands into new facilities, enlist every eligible major project in the Energy Trust of Oregon's Path to Net Zero Program, and require design teams to have net zero ready expertise. | Facilities | Ongoing |
| Develop standard operating procedures for energy efficiency | Create, publish, and enforce standard operating procedures that promote energy efficient use of energy | Facilities | April 2021 |



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| | intensive equipment, such as HVAC, lighting, sensors, etc | | |
| Create building occupant engagement plan | Create a building occupant and employee engagement plan that promotes and teaches employees to practice energy efficient behaviors in City facilities and solicits ideas from employees about how to improve energy performance within the organization | Facilities | April 2021 |
| Develop WRF-specific Energy Management Plan | Develop a written Energy Management Plan that addresses budget reduction goals for the facility while commissioning new electric-powered pumps | Utilities, WRF Energy Management Team | July 2023 |
| Verify building performance | Assess need for retro commissioning every five years and complete retro commissioning if appropriate | Facilities | June 2025 |
| Implement energy saving O&M projects identified in Annual Energy Plan | Implement the projects that are identified in the Energy Trust of Oregon SEM program Annual Energy Plan for Operations and Maintenance. | Facilities | Ongoing |

Renewable Energy

Convert to 100% renewable energy through on-site generation, off-site procurement, and offsets

| ACTION | DESCRIPTION | ACCOUNTABILITY | TIMELINE |
|---|---|--|-----------------|
| Assess opportunities for onsite solar on city-owned buildings and land | On an ongoing basis, assess the potential and feasibility to site solar projects on City facility rooftops and open land | Facilities | Ongoing |
| Develop in-conduit hydro project at the water filtration facility | Pursue a project to generate hydropower through in-conduit hydro at the Outback Water Filtration Facility | Engineering Infrastructure Planning & Development, Utilities | June 2023 |
| Assess opportunities for additional in-line hydro generation throughout water system | Include in the Integrated Water Master Plan the commitment to assess opportunities for in-line hydro synergy projects as upgrades to water system are made, on an ongoing basis | Engineering Infrastructure Planning & Development, Utilities | Ongoing |
| Maximize biogas use at the water reclamation facility through | Include objectives and plans to capture biogas during next master plan and upgrades to the water reclamation facility | Engineering Infrastructure Planning & Development, Utilities | June 2023 |



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| boiler replacement | | | |
| Assess feasibility for developing an RNG project at the WRF | Conduct a feasibility study for producing pipeline quality RNG at the WRF to determine cost effectiveness | Engineering Infrastructure Planning & Development, Utilities | June 2023 |
| Assess opportunities for alternative fuels for operations | Conduct an assessment potential alternative fuels for fuel use in City operations, such as generators and heavy equipment | City Managers Office | June 2021 |
| Procure off-site renewable electricity | Procure renewable electricity offsite through a PPA for remaining fossil-fuel based electricity consumption | City Manager's Office, Finance, Facilities | December 2023 |
| Offset natural gas consumption | Encourage the development of and participate in Cascade Natural Gas's carbon offset program to offset natural gas use | City Manager's Office, Finance | June 2023 |
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Fleet and Transportation

Reduce fossil fuel consumption from City related transportation, including fleet vehicles, employee commuting and employee travel

| ACTION | DESCRIPTION | ACCOUNTABILITY | TIMELINE |
|--|--|----------------------------|-----------------|
| <i>Fleet</i> | | | |
| Investigate fleet electrification and alternative fuel replacement opportunities | Conduct a thorough assessment of alternative vehicle and electric vehicle options and determine replacement opportunities that are cost effective and provide necessary functions to departments | Fleet Services | July 2021 |
| Budget alternative fuel vehicles | Submit alternative fuel vehicle plan with FY21-23 biennial budget | Fleet Services | March 2021 |
| Introduce and pilot hybrid and electric vehicles as replacement opportunities occur | On an ongoing basis, when replacing fleet vehicles, select hybrid and electric vehicles as those vehicles are cost effective and serve the needs of the department | Fleet Services | Ongoing |
| Plan for new facilities to support electric and alternative fuel vehicles | Determine facility and shop, and tool requirements to support electric vehicle maintenance and incorporate those as new facilities are planned and built | Fleet Services, Facilities | Ongoing |
| Determine training requirements needed for staff to support alternative fuel | Determine what skills are needed for staff to be able to maintain electric vehicles and other alternative fuel vehicles and develop a training program for staff | Fleet Services | July 2020 |



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| vehicle maintenance | | | |
| Train and hire staff with ability to maintain alternative fuel vehicles | Build internal capacity by training staff to maintain electric and alternative fuel vehicles and recruit for those skills when hiring new staff | Fleet Services | Ongoing |
| <i>Employee Travel and Commuting</i> | | | |
| Develop transportation demand management program for employee commuting | Encourage employees to reduce single vehicle occupancy trips for commuting by developing and implementing a comprehensive transportation demand management program (TDM) | City Managers Office | July 2021 |

Materials Management

Identify ways to reduce fossil fuels associated with materials consumption through procurement practices and waste management practices

| ACTION | DESCRIPTION | ACCOUNTABILITY | TIMELINE |
|--|--|-----------------------|-----------------|
| <i>Procurement</i> | | | |
| Encourage and support departments using life cycle costs when making purchasing decisions | Develop tools and resources to assist departments in determining life cycle costs and using it to make purchasing decisions based on life cycle costs | Procurement | December 2021 |
| Automate and digitize paper intensive contract processes | Implement electronic signature system to reduce paper usage and storage in Procurement and across the City | Procurement | December 2021 |
| Purchase and implement procurement software | Implement an e-procurement system to automate current paper intensive processes and assist in implementing sustainable procurement policy | Procurement, IT | December 2022 |
| Establish sustainability criteria in RFP scoring | Revise procurement Code to include sustainability criteria in standardized scoring for RFPs | Procurement | December 2022 |
| Adopt and implement a sustainable procurement policy | Create a policy that establishes goals related to sustainable procurement and provides clear direction on developing and using a sustainable procurement program | Procurement | June 2023 |
| Develop and implement a | Develop a comprehensive sustainable procurement program that establishes | Procurement | June 2025 |



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| comprehensive sustainable procurement program | and prioritizes sustainability attributes for particular product categories, and provides processes and procedures for departments to implement program requirements | | |
| Waste Management | | | |
| Develop policies and procedures that promote re-use and recycling over disposal | Complete an assessment of how materials are being disposed of and determine options for improved end-of-life management. Development standard operating procedures for reuse and recycling that are easy to follow | Procurement | December 2021 |

5. Implementation

Implementation of the Strategic Energy Management Plan will require coordination and decision making across departmental boundaries. Each of the five strategic areas have one or two key staff leads responsible for ensuring the actions are implemented and reporting on progress. Key staff from relevant departments will participate in the Energy Team for the City of Bend. The Energy Team will be staffed by coordinated by staff in the City Managers Office and have representation from Facilities, Engineering and Infrastructure Planning Department, Fleet, Utilities, Procurement. The Energy Team will be the oversight body for the Strategic Energy Management Plan and will have the following responsibilities:

- Meet quarterly to report on SEM progress
- Develop recommendations for certain policy or strategic decisions related to the SEM
- Participate in planning and execution for employee communication and engagement strategies
- Deliver an annual progress report for Strategic Energy Management



This report has been reviewed and approved on 11/24/2020 by the Strategic Energy Management Steering Committee:

Cassie Lacy, *City Managers Office, Project Manager*
Stephanie Betteridge, *City Managers Office, Executive Sponsor*
Grant Burke, *Facilities*
Dustin Mitsch, *Facilities*
Ryan Oster, *Engineering Planning & Infrastructure*
Rick Albeck, *Fleet*
Gwen Chapman, *Procurement*
Tina Lindenberg-Kircher, *Procurement*
Jesse Thomas, *Office of Performance Management*
Mike Buettner, *Utilities*
David Stensland, *Utilities*
Sharon Wojda, *Finance*

The Strategic Energy Management Plan was reviewed and approved by City Manager, Eric King, on 12/08/2020.

