



## ADMINISTRATIVE POLICY

<b>SECTION:</b> 200 - General Administration	<b>POLICY#:</b> 209
<b>TITLE:</b> Energy Management	<b>R &amp; O #:</b> 21-130
	<b>IMPLEMENTED BY PROCEDURE #:</b>
<b>SPONSORING DEPT/DIV:</b> Sustainability Division	
<b>ADOPTED:</b> 11/30/21	<b>REVIEWED:</b>

**PURPOSE:** The purpose of the energy management policy is to actively promote and pursue the efficient and effective use of energy resources. The County strives to build, maintain, and operate energy efficient and robust facilities, expand its renewable energy portfolio, transition to alternative vehicle fuel infrastructure, and promote an energy conscious culture. This will enhance working conditions, reduce environmental impacts, minimize overhead costs, ensure responsible use of County resources, improve climate resilience, and model best practices to the public.

**APPLICABILITY:** This policy is applicable to all County employees, facilities, vehicles, and energy-using equipment.

**BACKGROUND:** Washington County has an enduring commitment to strategic energy management for County operations. This energy management policy is guided by the Resolution and Order adopted by the Board of County Commissioners in October 2009 (09-93), providing a framework for policy development, planning, and management of sustainability efforts.

The County recognizes its role and responsibility to protect and conserve natural resources, use financial resources effectively and efficiently and celebrate the achievements of a healthy and productive community. Improving energy efficiency is one of the quickest and most cost-effective ways to minimize energy consumption, reduce operating expenses, prevent greenhouse gas (GHG) emissions and reduce the impacts of climate change. Washington County has made notable strides toward improving the energy efficiency of facilities, operations, and vehicles. Additionally, the County empowers employees to make choices that save energy in day-to-day operations through outreach and education. Finally, renewable resources, such as solar photovoltaic systems and renewable diesel, are now offsetting more fossil fuel-based energy used at the County. Major energy-related activities and accomplishments are outlined in the Appendix.

Washington County's past efforts and their effectiveness, as well as the recognition that there is much more to do, provides a strong foundation upon which to develop and implement a strategic energy management initiative. By coordinating efforts, setting goals, implementing energy

saving and efficient energy projects and technologies, Washington County can further progress in conserving energy, optimizing costs, reducing emissions, building more resilient operations, and addressing climate change.

**GENERAL POLICY:** Active management of energy generation and consumption will provide significant financial return to the County and create more sustainable operations capable of adapting and responding to a changing climate. To achieve these benefits, Washington County is committed to the following principles:

- A strategic approach to energy management, integrating energy management considerations into everyday decision-making and practices.
- Ensure energy efficiency and conservation strategies are employed in County facilities, operations, vehicles, and equipment.
- Maintain an active energy management team, led by an Energy Champion, who meets regularly and acts as a focal point for the implementation of this policy.
- Establish specific energy reduction goals or targets and employ a deliberate and robust process to identify and assess opportunities for improvement and apply best practices, including procurement and use of emerging technology and equipment. Reduction goals are identified in the County Sustainability Plan.
- Engage employees and executive leadership in energy conservation actions through education and communications. Employee awareness, involvement, and accountability are central to the success of the energy management initiative.
- Maximize the deployment of cost-effective investments in clean energy production and management for County use.
- Energy management investments will yield a solid return on investment and reduce the County's carbon footprint. The County will apply consistent methods of financial analysis that consider total cost of ownership and operation.
- Leverage available national, state, and local resources to assist in achieving energy management goals, including use of technical and financial assistance resources.
- Monitor, track, and report on progress based on specific performance indicators, communicate goals and results internally and to the Board of County Commissioners, apply lessons learned to continuously improve efforts, review plans annually, and update as appropriate.

**COUNTY GOALS:** Washington County is committed to energy efficiency and conservation in operations to achieve energy cost savings, maximize resources available to county residents, enhance working conditions, and demonstrate environmental leadership. The County aims to accomplish its goals in the following key focus areas. These goals will be periodically reviewed, and new goals may be established in the future.

### **1. Energy Efficiency and Conservation**

- a. Continually assess existing facilities to identify opportunities that will result in economic payback, improved efficiency, reduced maintenance, and overall environmental benefits.
- b. Take advantage of energy audits, rebates, and incentive programs offered by local utilities, the Energy Trust of Oregon and others.

- c. Replace established paper functions with digital documentation and processes, as appropriate.
- 2. Renewable Energy**
- a. Identify and prioritize renewable energy opportunities at new and existing facilities that can offset the energy impact of County operations and improve energy resilience.
  - b. Continue to apply existing County programs to streamline and promote the use of solar photovoltaic systems.
  - c. Purchase clean energy from utility providers when feasible.
- 3. Green Buildings and Infrastructure**
- a. Continue to apply County and State building codes which set requirements for energy efficient construction. Look for cost-effective ways to build in efficiency above code.
  - b. Equip new buildings with energy and water efficient features.
  - c. Comply with energy management measures outlined in the Strategic Facilities Plan.
  - d. Analyze Building Automation System data to maximize equipment efficiencies and system schedules.
  - e. Perform retro-commissioning to identify where building equipment/systems are not operating as designed and implement necessary re-tuning measures.
- 4. Transportation**
- a. Enhance fuel efficiency of County fleet vehicles and continue replacing County owned vehicles and equipment with alternative fuel models, when feasible.
  - b. Install electric vehicle charging stations at additional County facilities.
  - c. Encourage employees to choose alternative means of commute and business travel including public transit, walking, biking, carpooling, or driving an electric vehicle.
  - d. Support employees' commute flexibility options such as alternative work schedules and/or telecommuting programs, when applicable.
- 5. Education and Outreach Programs**
- a. Provide building operator training related to energy management.
  - b. Engage and empower employees and building occupants to reduce energy use.
  - c. Reward staff for energy-saving ideas via the Employee Suggestion Program.
  - d. Ensure recognition of extraordinary efforts made to help the County meet energy goals.
- 6. Climate Action Planning**
- a. Develop GHG reduction targets and establish mitigation measures to address climate-related impacts in County operations.
  - b. Reduce the amount of GHG emissions produced from County operations, buildings, and transportation.
  - c. Develop adaptation strategies for a changing climate as part of the County's strategic planning, emergency management and resilience planning or other County plans.
- 7. Monitoring and Communication**
- a. Track metrics, measure progress, and communicate on key energy and emissions data and initiatives.
  - b. Provide a GHG Inventory report and regular sustainability reports (including energy-related accomplishments), to the Board of County Commissioners, County employees and the public.

- c. This policy will be available on both the internal and external County websites and will be made known to all employees through standard employee communication processes.

**ENERGY USE PERFORMANCE METRICS:** Energy consumption and GHG emissions will be tracked using the following performance metrics:

- 2008 has been established as the baseline year for Washington County.
- Energy consumption and costs will be tracked using the web-based tool, Energy Manager.
- Electricity consumption and generation will be measured in kilowatt hours (kWh), and natural gas will be measured in therms.
- Petroleum and other liquid fuels (gasoline, diesel, biofuels) used in county vehicles, equipment, and generators will be measured in gallons.
- Total building energy use is tracked in kilo-British thermal units (kBtu).
- GHG emissions associated with energy use will be measured in metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e) using Good Company's G3C Carbon Calculator.

Energy and cost savings will be determined by comparing current energy consumption with past baseline energy consumption (2008) for facilities, vehicles, and equipment. Energy use will be normalized by using full-time equivalent (FTE) employees or square footage of facilities to get an accurate comparison of relative use from year to year. Additionally, energy costs will be indexed to a 2008 baseline year, adjusted for inflation with the consumer price index, to show changes over time. Energy saving impacts from specific energy management projects and activities will be tracked as appropriate.

#### **POLICY GUIDELINES:**

1. **Responsibilities:** The Sustainability Division is responsible for working collaboratively with County departments to implement this policy, monitor for compliance and track needed updates. County departments and divisions shall provide energy and fuel use data to the Sustainability Division at least annually for analysis. The Sustainability Division is responsible for data management and analysis for reporting to the Board of County Commissioners, County employees and the public.
2. **Exceptions:** Exceptions may only be granted by the County Administrator.
3. **Implementation:** Elected officials and department directors are expected to be knowledgeable of, and shall be responsible for, implementing this policy within their respective departments. Observance of this policy is mandatory for all County employees and violation may result in disciplinary action up to and including termination.
4. **Periodic Review:** This policy shall be reviewed by the Sustainability Division least every three years, or more often if needed, and updated as necessary.

## **DEFINITIONS:**

**Alternative Fuel:** An alternative to gasoline or diesel fuel that is not produced in a conventional way from crude oil. Examples include ethanol, natural gas, propane, hydrogen, biodiesel, renewable diesel, electricity, methanol, and p-series fuels. Alternative fuels reduce the number of harmful pollutants and exhaust emissions.

**Alternative Work Schedule:** A pre-authorized recurring work schedule that differs from the employee's standard work schedule.

**Baseline:** Energy consumption in a predetermined year from which to measure.

**Baseline Year:** 12-month period of electricity consumption selected by Washington County.

**Battery Electric Vehicle (BEV):** A pure electric vehicle, only-electric vehicle or all-electric vehicle is a type of electric vehicle (EV) that exclusively uses chemical energy stored in rechargeable battery packs, with no secondary source of propulsion (e.g. hydrogen fuel cell, internal combustion engine, etc.).

**British thermal unit (Btu):** The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

**Building Code:** Legally required construction practices.

**Carbon Dioxide (CO<sub>2</sub>):** The most common greenhouse gas, carbon dioxide is produced in large amounts when fossil fuels are burned.

**Carbon Dioxide Equivalent (CO<sub>2</sub>e):** The amount of carbon dioxide by weight emitted into the atmosphere that would produce the same estimated radiative forcing as a given weight of another radiatively active gas. Carbon dioxide equivalents are computed by multiplying the weight of the gas being measured by its estimated global warming potential.

**Carbon Footprint:** The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company.

**Climate Change:** Climate change refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among others, that occur over several decades or longer.

**Climate Change Adaptation:** Adjustment or preparation of natural or human systems to a new or changing environment which moderates harm or exploits beneficial opportunities.

**Climate Change Mitigation:** A human intervention to reduce the human impact on the climate system; it includes strategies to reduce greenhouse gas sources and emissions, and enhancing greenhouse gas sinks.

**Climate Resilience:** The ability to anticipate, prepare for, and respond to hazard events, trends, or disturbances related to climate change. This includes the adaptive capacity for a system to absorb stresses imposed by climate change and to adapt and evolve the system to be better prepared for future impacts.

**Consumer Price Index (CPI):** CPI measures changes over time in the general level of prices of goods and services that a reference population acquires, uses or pays for consumption.

**Consumption per Square Foot:** The aggregate ratio of total consumption for a particular set of buildings to the total floorspace of those buildings.

**Electric Vehicle (EV):** a vehicle that uses one or more electric motors or traction motors for propulsion.

**Emissions:** Anthropogenic releases of gases to the atmosphere. In the context of global climate change, they consist of radiatively important greenhouse gases (e.g., the release of carbon dioxide during fuel combustion).

**Energy Audit:** A program carried out by a utility company in which an auditor inspects a building and suggests ways energy can be saved.

**Energy Conservation:** The decision and practice of using less energy, and the prevention of the wasteful use of energy, especially in order to ensure its continuing availability. Energy conservation involves using less energy by adjusting behaviors and habits.

**Energy Efficiency:** A ratio of service provided to energy input (e.g., lumens to watts in the case of light bulbs). Services provided can include buildings-sector end uses such as lighting, refrigeration, and heating; industrial processes; or vehicle transportation. Unlike conservation, which involves some reduction of service, energy efficiency provides energy reductions without sacrifice of service by using technology that requires less energy to perform the same function.

**Fossil Fuels:** Combustible material obtained from below ground and formed during a geological event. For purposes of the Energy Management Policy, examples of such fuels include coal, oil, and natural gas.

**Full Time Equivalent (FTE):** Employee's scheduled hours divided by the employer's hours for a full-time workweek. When an employer has a 40-hour workweek, employees who are scheduled to work 40 hours per week are 1.0 FTEs. Employees scheduled to work 20 hours per week are 0.5 FTEs.

**Greenhouse Gas (GHG):** A greenhouse gas absorbs and re-radiates heat in the lower atmosphere, trapping heat on Earth that would otherwise be radiated to outer space. The main greenhouse gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), chlorofluorocarbons (CFCs), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFC), and perfluorinated carbons (PFC). The most abundant greenhouse gas is carbon dioxide (CO<sub>2</sub>).

**Kilowatt Hour (kWh):** A measure of electricity defined as a unit of work or energy, measured as 1 kilowatt (1,000watts) of power expended for 1 hour.

**Metric Ton (MT):** A unit of weight equal to 2,204.6 pounds. Used in this policy as a measure of greenhouse gas emissions.

**Plug-in Hybrid Electric Vehicle (PHEV):** A hybrid electric vehicle whose battery can be recharged by plugging it into an external source of electric power, as well as by its on-board engine and generator.

**Renewable Energy:** Energy generated from sources that are naturally occurring and replenishable through natural forces over a short period of time, most commonly sun, wind, water and various animal and plant derived fuels.

**Resilience:** A capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.

**Retro-commissioning:** Systematic process for optimizing the energy efficiency of existing base building systems through the identification and correction of deficiencies in such systems, including but not limited to repairs of defects, cleaning, adjustments of valves, sensors, controls or programmed settings, and/or changes in operational practices.

**Solar Photovoltaic Systems:** Systems that directly convert sunlight into electricity either for use locally or for delivery to the electric grid.

**Sustainability:** Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.

**Telecommuting or Remote Work:** The practice of working in a home office in lieu of traveling to a central County workplace.

**Therm:** One hundred thousand (100,000) Btu. It is the approximate energy equivalent of burning 100 cubic feet - often referred to as 1 CCF - of natural gas.

## APPENDIX

### Energy - Related Activities and Accomplishments at Washington County

#### Strategic Energy Management

- Washington County has been enrolled in the Energy Trust of Oregon (ETO) Strategic Energy Management (SEM) Program since 2011, a member of the very first cohort.
- Energy consumption at the County buildings enrolled in the SEM program is tracked, regular energy assessments of County operations are conducted, and best practices in energy efficiency are implemented to maximize savings.
- Low-cost and no-cost energy efficiency strategies are recommended and prioritized in the SEM program.
- A cross-divisional County Strategic Energy Management Team meets regularly to discuss opportunities and progress.
- Energy consumption in all County buildings is monitored and progress is reported annually to the Board of County Commissioners. Energy use per FTE has dropped significantly since 2011. This energy data is also used in the County's GHG inventory.

#### Renewable Energy

- Oregon enacted House Bill (HB) 2620 in 2007 requiring the installation of solar energy systems on new public buildings or major building remodels which had a building contract price of greater than \$1,000,000. The other requirement was that the funds spent on inclusion of solar technology into a building project be at least 1.5% of the total cost. In compliance with these requirements, solar photovoltaic systems have been installed at three County Facilities – Public Services Building, Public Safety Training Center, and Wingspan Event and Conference Center. A solar installation is also being added to the new Washington County Consolidated Communications Agency facility in 2021.
- In 2019, Washington County enrolled in PGE's Green Future Impact program for a period of 15 years. Through this program, Washington County is supporting the development of a new utility-scale solar facility in Eastern Oregon. This project will be Oregon's largest solar project, named Pačhwáywit Fields. This will help meet approximately 50% of Washington County's electricity demand, when it begins generating energy in 2022.

#### Employee Engagement

- Employee engagement in energy conservation is a top priority for the County. Employees are educated to save energy through energy fairs, department trainings, Eco Times newsletter articles, Energy Minute email reminders, and Horizons (intranet) posts.
- In 2016, Washington County developed an Energy Conservation Toolkit to empower staff and leadership to explore steps they can take to contribute to energy conservation. It is designed to help initiate workplace dialogue and actions aimed at saving energy. This Toolkit will be updated periodically and was recently expanded to include other sustainable practices.
- Sustainability and Facilities Liaisons are regularly updated about energy conservation strategies and energy efficiency projects at the County. An energy team (sub-team of the Sustainability Liaisons) meets regularly to develop outreach and engagement tools, and activities for employees.

## **Sustainable Transportation**

- Two Chevy Volt plug-in hybrid vehicles (PHEVs) were added to the Fleet motor pool in 2017, and one Chevy Bolt battery electric vehicle (BEV) was added in 2019.
- The County added three public electric vehicle charging stations in 2012 near the Public Services Building. One public charging station and two motor pool EV charging stations were replaced in 2019 with an upgraded easier to use ChargePoint system. An additional motor pool ChargePoint charging station was added at the Walnut Street Center. EV charging stations have been added to the Wingspan Event and Conference Center and Washington County Consolidated Communications Agency facility.
- The County encourages the use of active and sustainable transportation options including walking, biking, public transit, and carpooling.
- Bike parking, lockers, and locker rooms are available at many County facilities.
- The Sustainability Division manages a bike fleet to provide employees with active transportation options while at work.
- Washington County participates in the regional carpool matching program, Get There Oregon, operated by Metro.
- As part of the Universal Annual Pass Program, all regular County employees are eligible for a free TriMet Hop fastpass. TriMet will provide Hop pass holders a free taxi ride in the event of a family emergency or personal illness for any employee who has commuted to work that day using non-drive alone transportation options.
- The County provides remote working options for staff whose assignments can be completed at home or in off-site locations.
- Washington County is actively expanding the network of bike lanes, sidewalks and pedestrian paths throughout the community as project funding is available.

## **Related Policies and Guidelines**

- In 2007, the County issued a [Space Heater Policy](#) that prohibits the use of space heaters in County buildings, without explicit authorization from the Facilities Manager.
- In 2010, the County adopted [Vehicle and Equipment Idle Reduction Guidelines](#) to help enhance fuel efficiency, reduce carbon emissions, extend engine life and improve health and safety.
- In 2013, the County issued [Sustainable Meeting and Event Guidelines](#) that highlight best practices while hosting meetings and events, including energy conservation measures.
- In 2021, the County published [Telecommuting / Remote Work Policy and Procedure](#), which outlines eligibility and guidelines for remote work. This policy supports the County's ongoing efforts to reduce commuting miles, conserve resources, and promote a healthy environment.