MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Carlson, Barofsky, McRae, Schlossberg, and Brown
FROM:	Jason Heuser, Public Policy and Government Affairs Director, and Kelly Hoell, Climate Policy Analyst & Advisor
DATE:	Feb. 7, 2023
SUBJECT:	Climate Guidebook Draft Principles
OBJECTIVE:	Discussion and feedback

Issue
Staff seeks Board feedback on draft principles (attached) related to carbon policy, distributed generation, and green hydrogen for inclusion into the first release of EWEB's Climate Guidebook in March 2023.

Background
EWEB's forthcoming Climate Guidebook will serve as a resource for both internal and external audiences. Readers will be able to access information about EWEB's implementation of its Climate Change Policy (SD15) in the five areas of focus (Climate Policy, Power Supply & Transmission, Customer Decarbonization, Internal Operations, and Resiliency), as well as how EWEB's work intersects with climate issues broadly.

Within the Guidebook, staff wishes to include a set of principles meant to define a general direction EWEB seeks to move towards on specific issues related to climate change. These principles should be built on EWEB's values which are set by the Board of Commissioners and in alignment with established best practices in the utility industry.

Discussion
According to EWEB Board Policy SD15, Climate Change Policy, the Board *authorizes, delegates, and directs the General Manager to participate in local, state, and regional efforts to encourage, develop and enact measures to minimize and/or mitigate GHG emissions that contribute to climate change*. Developing a set of principles will guide the General Manager, and thus the organization, in fulfilling this directive from the Board.

Three sets of draft principles, focused on three different topics, are included in this memo for Board review. Each of these is closely tied to climate change and the role the energy industry plays in decarbonizing society. They include climate policy & GHG reduction principles, distributed generation principles, and green hydrogen principles. Additional topics that merit development of their own set of principles may arise in the future.

The draft principles are meant to inspire discussion among Board members that staff can incorporate as feedback into a final version that will be included in EWEB's Climate Guidebook. The first version of the Guidebook will be brought to EWEB's Board of Commissioners for review at its regular Board meeting on March 7, 2023.

A “principle” is a North Star – an aspirational position towards which EWEB seeks to move. A principle is not a rulebook. As we seek to make positive changes in our community, we must first define the nature of those positive changes. Clearly articulated and transparent principles help us get there by orienting us in a certain direction. Policy development and program implementation is the mechanism by which we move towards these principles.

As we better define our principles on various topics, we may find that some of EWEB’s existing policies and programs do not currently meet all of our aspirations. Recognizing that some policies and programs don’t currently align with our principles may be the first step in eventually ensuring that they do. Identifying these areas of potential misalignment may also help us identify and articulate to our stakeholders what barriers might exist and must be overcome before alignment is possible.

Context on the three topics and why / how the draft principles were developed is included here:

Carbon Policy & GHG Reduction Principles: Through the years, EWEB has worked with many regional partners on supporting climate and carbon policies at the state, regional, and federal levels. EWEB has been guided by a set of principles supported by previous Boards of Commissioners and in coordination with other public utility members of the Public Generating Pool. The proposed draft principles are a refined version of the existing principles.

Distributed Generation Principles: EWEB’s customers are increasingly interested in installing distributed energy generation at their homes and businesses. How we compensate customers for the energy they produce will become more important in the years ahead. The proposed draft principles are in alignment with information staff has been providing verbally to the Board over time and are based on work done in coordination with best practices among comparable public utilities in the region.

Green Hydrogen Principles: Electric utilities are increasingly interested in how hydrogen can play a role in decarbonizing the economy. Here in Eugene, discussions have arisen about whether hydrogen should be blended into natural gas pipelines as a method of lowering the carbon content of the gas system. At the same time, regional coalitions are seeking funding for green hydrogen projects that may involve transportation fueling or other uses. A set of principles will help EWEB define and articulate our interest in hydrogen, as well as the types of projects we seek to pursue. The proposed draft principles are based on alignment with principles advocated by US Department of Energy, Oregon Department of Energy, and several regional partners.

Recommendation
None.

Requested Board Action
Discussion and feedback.

Attached
Excerpt of draft principles inclusive of the first release of the EWEB Climate Guidebook

EWEB'S CARBON POLICY & GHG REDUCTION PRINCIPLES

Draft: February 2023

Policies and laws to reduce greenhouse gas (GHG) emissions are a viable tool if society is to avoid the worst effects of climate change. Because electric utilities rely on an interconnected grid, policies that impact this grid also impact local electric utilities. Electric utilities rely on the grid to meet customer needs, sell surplus resources, and ultimately work together to keep rates as low as possible. Even with EWEB's ambitious voluntary internal climate policy goals for our owned and contracted resources, there are times when we buy power from the market. Getting to a fully decarbonized Western grid – the Western Interconnect (WECC) – and ultimately a fully decarbonized economy will require policies to reduce GHG emissions at the federal, regional, state, and/or local levels.

The most ambitious proposed federal policy on GHG reductions died in 2009 when Congress failed to pass a bill that would have instituted a nationwide plan to cap carbon emissions and allow emitters to trade pollution credits – a cap-and-trade system. Since then, only minor federal action occurred, until 2022 when Congress passed the Inflation Reduction Act (IRA). The IRA signaled a change in the federal approach to GHG emissions - rather than punish emitters, the IRA subsidizes emissions-free energy such as wind and solar.

In the absence of comprehensive federal legislation, Oregon has attempted to implement GHG policies. In 2019 and 2020, Republican legislators walked out of the Capitol to prevent votes on cap-and-trade legislation. So, Gov. Kate Brown implemented executive orders. In 2022, the Climate Protection Program took effect, setting a declining cap on emissions from fossil fuels – but it does not apply to electricity generation, which already must meet goals under the State's Renewable Portfolio Standard. At the same time, the state's Clean Electricity Standard, which was enacted in 2021, requires the state's two largest utilities – but not publicly owned utilities such as EWEB – to achieve net-zero GHG emissions by 2040. Additionally, the State's Clean Fuels Program addresses GHG emissions from transportation fuels and provides credits for entities that invest in transportation electrification among other low-carbon transportation fuel choices.

As EWEB advocates for comprehensive climate policies as directed in EWEB Board Policy SD15, we will be guided by the following principles. Relating to climate policy, Eugene Water & Electric Board prefers and supports policies:

- that facilitate the reduction of GHG emissions most efficiently and at the least overall cost to society.
- that are technology-neutral, economy-wide, and market-based.
- that recognize the role of legacy hydropower in limiting GHG emissions, ensure that existing hydropower resources will not be disadvantaged relative to newer renewables, and are compatible with a variety of future physical climate and hydropower production conditions.
- that measure carbon emissions as far upstream and nearest to the point of production as possible and are as resource-specific as possible; in pursuit of more effective signals favoring the dispatch of cleaner resources and simpler and/or reduced administrative burden.
- that preserve a path for load/resource growth and flexibility for utilities that pursue cross-sector decarbonization.
- that are regionally consistent.
- that incorporate concepts of environmental justice and equity and seeks to avoid negative impacts to historically and currently disadvantaged communities.

EWEB's Distributed Generation Principles

Draft: February 2023

Traditionally, power plants have been large and centralized structures such as hydroelectric, nuclear, coal, or natural gas plants, usually located far from where most of the power output will be consumed and connected to these load centers via a long-distance transmission and distribution system.

The US EPA[1] defines the term distributed generation to include a variety of technologies that are decentralized and often located close to where the power will be consumed. Due to the decentralized nature, these resources tend to be smaller in size than traditional centralized power sources. Distributed generation technologies may serve a single building such as a home or business or participate in a microgrid (a smaller grid that is connected into the larger electricity delivery system) that could serve a wider area such as an industrial facility, a college campus, a military base, or a downtown district for example.

Per EPA, in the residential sector, common distributed generation systems include:

- Solar photovoltaic panels
- Small wind turbines
- Fuel cells, usually fueled by natural gas
- Emergency backup generators, usually fueled by gasoline or diesel fuel

Per EPA, in the commercial and industrial sectors, distributed generation can include resources such as:

- Combined heat and power systems
- Solar photovoltaic panels
- Wind
- Biomass combustion or cofiring
- Municipal solid waste incineration
- Fuel cells fired by natural gas or biomass or hydrogen
- Emergency backup generators, usually fueled by diesel fuel

Local development of distributed generation technologies is allowing EWEB's customers to generate their own electricity and even generate surplus electricity that they can sell to EWEB via a process called net metering. These distributed generation technologies seek to make our community more resilient to disasters, reduce losses from the long-distance transmission system, and give customers choices about where to get their energy.

At the same time, customers with distributed energy resources are still connected to EWEB's grid. These customers rely on EWEB's grid for energy when their generators aren't producing and as a means to distribute excess energy to other consumers connected to the grid. Solar homes, for instance, still need energy from EWEB's grid at night. And these customers also rely on EWEB's grid of distribution and transmission lines when they sell surplus energy to EWEB.

EWEB incurs significant costs maintaining a robust grid and procuring energy for all customers, even those with distributed generation technologies. EWEB believes that these costs should be equitably shared among all customers.

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1 US Environmental Protection Agency, Energy and the Environment: Distributed Generation of Electricity and its Environmental Impacts. Distributed Generation of Electricity and its Environmental Impacts | US EPA

With that goal in mind, EWEB has developed the following principles:

- EWEB supports and facilitates customer choice to install non-utility owned distributed generation equipment and infrastructure.
- EWEB recognizes that some distributed generation technologies are better at meeting the community's historical electricity demand (load) than others.
- EWEB supports pricing mechanisms that fairly compensate customers for surplus electricity they generate and that do not transfer unpaid costs to other customers.
- EWEB strives for the equitable allocation of costs among all customers to maintain the electric grid.
- EWEB will need a rate design that fairly assigns the costs of procuring energy (including peak energy needs) and maintaining the electric grid to the customers who cause those costs.
- EWEB prioritizes the safety of utility workers and customers and will develop interconnection standards that ensure safety and reliability.
- EWEB supports policies that incorporate concepts of environmental justice and equity and seeks to avoid negative impacts to historically and currently disadvantaged communities.

EWEB's Green Hydrogen Principles

Draft: February 2023

The most abundant element in the universe – hydrogen – is evolving as a tool to decarbonize sectors of the economy that have few or no other low-carbon options. In 2021, the federal government set a goal of reducing the cost of hydrogen to one dollar for one kilogram within one decade (1 1 1)[2]. Recently, the U.S. Department of Energy committed $7 billion in competitive funding for entities and groups forming regional hubs to pursue research and deployment of clean hydrogen. And the 2022 Inflation Reduction Act contains tax credits for both investing in hydrogen projects and producing hydrogen using renewable energy.

The energy storage capabilities of hydrogen offer intriguing possibilities for utilities planning to incorporate more intermittent, renewable energy resources into their portfolios. Excess electricity from renewables such as wind and solar can be used to create hydrogen and that hydrogen can be converted back to electricity when it's needed later or sold for use in other secondary applications. Producing hydrogen, rather than curtailing resources during times of surplus, will reduce the overall cost and justify further investment in intermittent renewable energy sources. By storing energy, hydrogen can help balance fluctuations in renewable energy production, while also fostering a secondary market for abundant renewable energy.

The technology for hydrogen is advancing rapidly. Researchers are improving methods of creating clean, green, renewable hydrogen through electrolysis, which involves splitting water molecules into hydrogen and oxygen. And utilities are launching pilot projects to test hydrogen's energy storage potential.

To guide us in proactively pursuing technologies to harness the power of hydrogen, EWEB has developed the following principles:

- EWEB supports hydrogen production that results in the lowest possible lifecycle greenhouse gas emissions[3] and facilitates the use of and/or investment in non-carbon emitting electricity generation resources.
- EWEB supports using hydrogen both to help decarbonize the economy, and to store energy from intermittent renewable resources.
- EWEB will consider hydrogen in potential solutions improving the reliability of the local grid (i.e., *local grid support)*
- EWEB will identify ways that storable hydrogen can support resiliency that would allow EWEB and our community to recover more quickly from a variety of disaster scenarios.
- EWEB will participate in regional efforts to attract funding from the federal government and other sources for hydrogen research and deployment in the Northwest in alignment with these principles.
- EWEB will prudently invest staff time and financial resources to exploring and implementing EWEB-led hydrogen pilot projects that advance the utility's goals.
- EWEB supports policies that incorporate concepts of environmental justice and equity and seeks to avoid negative impacts to historically and currently disadvantaged communities.

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2 US Department of Energy, Hydrogen Shot: Hydrogen Shot | Department of Energy

3 Lifecycle greenhouse gas emissions are the overall GHG impacts of the production of a particular fuel. Depending on the boundaries of the analysis, this could include the GHG impact of feedstock production and transportation, fuel production and distribution, and use of the finished fuel. There are different lifecycle GHG emissions associated with different hydrogen production methods. For example, using renewable power to split a water molecule via electrolysis has a different lifecycle GHG value compared to a process that uses fossil-based energy to crack fossil natural gas molecules via steam methane reformation technology. EWEB seeks to be technology agnostic and move towards ever-evolving technologies that result in the lowest climate impacts.