

# What is Integrated Resource Planning?

**Integrated Resource Planning helps EWEB anticipate and plan for our power portfolio needs over the next 20 years. The ultimate purpose is to answer one question:  
How will we meet customers' future electricity needs?**

## Why are Integrated Resource Plans important?

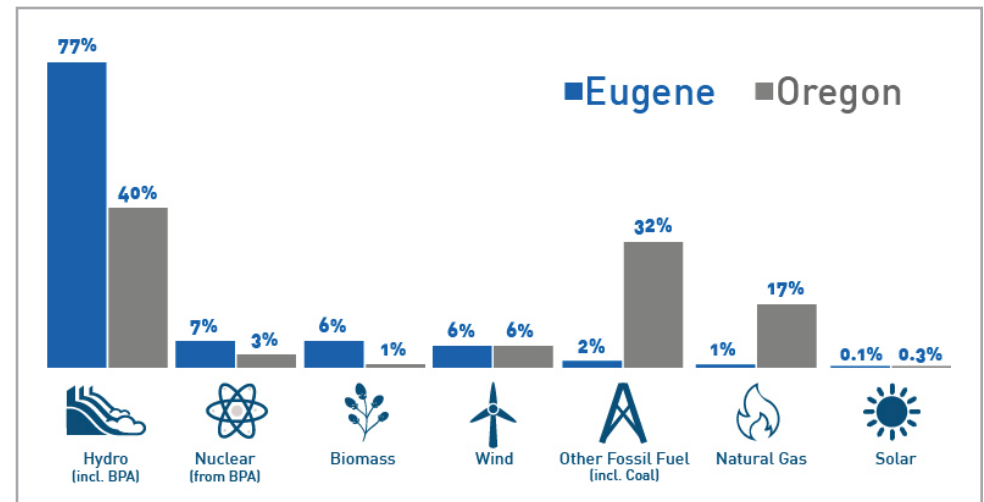
1. Providing electricity requires huge, multi-million dollar investments. Planning helps ensure that those investments make sense for our customers now and in the future.
2. An Integrated Resource Plan provides transparency to customers. It shows where the community's power comes from and gives the public a way to comment on the strategy.
3. An Integrated Resource Plan is an excellent way to identify relevant partnership opportunities. Since the grid is interconnected, regional partnerships often provide the most cost effective strategies.
4. It's critical to examine changes in technology, regulations, and customer preferences, and plan for how to best meet our customer needs under a variety of potential futures.

## Creating an Integrated Resource Plan

Utilities consider many criteria when creating the ESP. Common questions include:

- How will the demand for electricity change over time?
- Do we have enough generation capability to meet changes in demand?
- What sources should our power come from?
- What do our customers want and expect?

## What is EWEB's Current Power Resource Portfolio?



## Disruptive Factors

The electric utility industry is undergoing a period of rapid transformation. Some of the "disruptions" that could affect our resource portfolio include:

- Electric vehicle adoption and charging
- Regulations that place limits and/or prices on carbon
- Energy efficiency and smart technology affecting usage patterns
- Extreme weather events impacting generation and peak usage
- Advances in energy storage technology
- Advances in customer-side generation

# Glossary of IRP terms

**Carbon:**

Short for Carbon Dioxide, a greenhouse gas produced by burning fossil fuels and other sources.

**Carbon Price:**

A charge placed on greenhouse gas pollution mainly from burning fossil fuels. Often involves a cap on the amount of carbon that can be produced, and sometimes allows producers to trade allowances.

**Climate Change:**

The rise in average surface temperatures on Earth due primarily to the human use of fossil fuels, which releases carbon dioxide and other greenhouse gases into the air.

**Demand:**

The rate at which energy is being used by the customer.

**Distributed Generation:**

The process of generating energy close to its point of delivery. Roof top solar is an example of DG.

**Demand Response:**

Incentive-based programs that encourage customers to temporarily reduce their demand for power at certain times in exchange for a reduction in their electricity bills.

**Demand Side Management:**

Activities or programs undertaken by a utility or its customers to influence the amount or timing of electricity they use. DSM is often used in order to reduce customer load during peak demand and/or in times of supply constraint.

**Energy Efficiency:**

Refers to programs that are aimed at reducing amount energy used in homes and other building Examples include high-efficiency appliances, lighting, and heating systems.

**Generation:**

The process of producing electricity from hydroelectric turbines, wind, solar, fossil fuels and other sources.

**Load:**

The amount of electricity on the grid at any given time, as it makes its journey from the power source to all the homes, businesses.

**Megawatt:**

The standard term of measurement for bulk electricity. One megawatt is 1 million watts. One million watts delivered continuously 24 hours a day for a year (8,760 hours) is called an average megawatt.

**Peak Demand:**

The largest instance of power usage in a given time frame.

**Renewable Portfolio Standard:**

A renewable portfolio standard ("RPS") is a regulation that requires the increased production of energy from renewable sources, such as wind, solar, geothermal, and biomethane.

**Resource Adequacy:**

Ensuring there are sufficient resources when and where they are needed to serve the demands of electrical load in "real time" (i.e., instantaneously).

**Resource Portfolio:**

All of the sources of electricity provided by the utility.

**Transmission:**

An interconnected group of lines and associated equipment for the movement or transfer of bulk energy products from where they are generated to distribution lines that carry the electricity to consumers.