

**Past, Present, and Future of Energy in Washington**

**Podcast Discussion Guide**

**Target audience:** Middle school, 6th- 8th grade

**Podcast length:** ~25 minutes

**What is this podcast?** This podcast episode is a one-time, special episode about the past, present, and future of energy in Washington state. Brought to you on behalf of the [Snohomish County Public Utility District](https://www.snopud.com/) (PUD), the episode examines renewable and nonrenewable energy sources and explores what the PUD is doing to build a sustainable energy future.

**How to use this discussion guide.** The podcast takes students on a whimsical journey through time to learn about renewable and nonrenewable sources of energy in Washington state. By providing historical context, students are invited to think critically about how and why our local energy sources have evolved over time. This guide features classroom connections and discussion questions.

**This podcast can accompany lessons or classroom discussions about:**

* Historical context of energy sources in Washington state and Snohomish County
  + Classroom connection: students dive into the history of energy through reading about the [history of the Snohomish County PUD](https://www.snopud.com/AboutUs/history.ashx?p=1246#:~:text=1%2C%20or%20the%20%E2%80%9CPUD%2C,movement%20in%20the%20Pacific%20Northwest.) and the [Public Power Movement](https://www.snopud.com/AboutUs/history/pubpower.ashx?p=1349).
  + Discussion questions:
    - The podcast covers the history of several different power sources in Washington over the past 100 years. Can you name one of the sources? *Possible answers: Coal, oil, nuclear, hydropower, solar, wind, or biomass.*
    - If you chose oil, coal, or nuclear power, can you explain how it was utilized as a source of energy?

*Possible answers: Coal: burned to heat water, create steam and power steam engines, oil: refined into gasoline for motor vehicles, nuclear: fission of uranium atoms in the nuclear reactor releases energy that heats water, creating steam that turns turbines connected to a generator.*

* + - How would your life be different without access to electricity? Why do you think we pay for electricity? *Possible answers: Will be based on students’ lived experiences and understanding of public utilities (the Public Power Movement could inform their answers.)*
    - What was the Public Power Movement and who were the stakeholders? *Possible answers: The Public Power movement took place in the late 1800s and early 1900s. People decided that power should be a public utility with fair rates that is owned by the public – stakeholders included citizens in urban areas, farmers, electric companies, and state legislature.*
* Renewable and nonrenewable energy sources
  + Classroom connection: students outline [local renewable](https://www.snopud.com/PowerSupply/renewpower.ashx?p=1685) and nonrenewable energy sources. The podcast covers good examples of both. Student can also take a [virtual tour of the Woods Creek Hydro Project](https://www.snopud.com/?p=1198) before discussing the questions below.
  + Discussion questions:
    - What kinds of renewable [energy sources are used in Snohomish County](https://www.snopud.com/PowerSupply.ashx?p=1105)? Why?

*Possible answers: Hydropower, wind power, solar, and biomass. These are natural resources available in Snohomish County.*

* + - What are the advantages and disadvantages of solar, wind and biomass as renewable energy sources?

*Possible answers: see Comparing Energy Sources PDF file.*

* + - Currently, Washington uses hydropower to generate the bulk of our electricity. Why is our state uniquely suited to utilize hydropower as an energy source?

*Possible answers: Water is an abundant natural (and renewable) resource in Washington state.*

* + - What are the advantages and challenges of hydropower?

*Possible answers: see Comparing Energy Sources PDF file.*