

Moving power lines underground

We'll help you understand the process and costs so you can make an informed decision.



If you are considering moving overhead power lines underground, here is how PGE can help

Moving power lines underground is an exciting project that can have significant benefits for your community for decades to come. It's also a complex and lengthy process that we can help you navigate with confidence. Basic considerations and steps for the project are outlined here and we look forward to collaborating with you on the best approach for your city or county's unique needs.

Benefits of undergrounding

Natural beauty

- Removing overhead lines can beautify your community, making it even more appealing to people and businesses looking to relocate.
- The aesthetic upgrade may improve your constituents' property values.

Reliability and security

- Underground lines tend to be more reliable during storms, especially in tree-heavy areas and regions that tend to have more wind and ice in winter.
- Underground lines are less susceptible to acts of vandalism.
- Higher reliability can have a positive economic impact by reducing outage time for businesses.

Safety

- Underground lines mean less risk to the public from downed lines or traffic accidents where someone hits a pole.
- They're also safer for pets and wildlife, and less susceptible to wildlife-related outages.
- They lower the risk of wildfires sparked by downed lines.

Questions? Reach out to your PGE representative for more information.

Considerations

Cost and timeline

- The undergrounding process can take two to three years from start to finish.
- There are significant costs involved, both for your municipality and for your constituents who are PGE customers, including:
 - *Project design*
 - *Construction of the underground system and decommissioning overhead lines*
 - *Older electrical infrastructure may need to be updated to meet the current National Electrical Code*
 - *Converting individual homes and businesses from overhead to underground service*
 - *Updating wiring and service panels at those homes and businesses to meet current code*
- These costs must either be covered by the municipality or paid by PGE initially, then charged back to customers as an additional line item on their monthly electric bills.
- Unforeseen circumstances can occur when digging underground — such as relocating or removing city-owned facilities, property and equipment — thereby increasing costs and extending the timeline.

Repair and maintenance

- Underground lines are still susceptible to flooding, lightning and digging accidents, as well as equipment issues.
- When outages occur, it often takes longer to locate problems and make repairs because underground lines aren't as accessible. This could increase the cost of repairs.
- For future repairs, PGE needs access to equipment. Rights of way need to be kept clear of fences or other objects that may block access and any trees or shrubs need to be planted with the equipment in mind.

Step 1



INITIAL REQUEST

City or county starts the process by meeting with PGE

A representative from PGE meets with the municipality to look at the site and discuss the project.

Step 2



PRELIMINARY ESTIMATE

PGE creates a preliminary plan and estimate

This estimate includes a description of the underground system. Depending on the scope of work and other factors, this step can take one to six months.

Step 3



COMMITMENT AND PAYMENT PLANNING

City or county passes ordinance

Once the municipality reviews and approves the preliminary project description and estimate, it then passes an ordinance that officially declares the decision to move utility lines underground and sends PGE a letter of commitment.

The municipality decides whether to pay for the conversion or, pending OPUC approval, pass the costs to PGE customers via their electric bills.*

Before work can proceed, affected property owners must provide written consent agreeing to pay for the upgrades on private property necessary to accept underground service.

* In this case PGE pays for all the work up front, then follows Oregon rules and regulations to collect conversion costs from customers via a line charge on their electric bills.

Step 4



FINAL DESIGN AND ESTIMATE

PGE prepares final design and estimate

After the municipality pays PGE for estimated design costs or issues a written order to underground at customer expense via PGE bills, PGE creates a detailed design and final estimate for conversion. This step takes six to 18 months.

Step 5



CONSTRUCTION OF UNDERGROUND SYSTEM

Construction begins

A third-party contractor follows the PGE design to complete all excavating, underground vaults, conduits, etc.

Step 6



INDIVIDUAL CUSTOMER UPGRADES

Customers in area prepare for underground service

All homes and businesses in the undergrounding area pay an independent electrical contractor to convert their property to underground service (trenching, conduit and new meter base). Such customers will also need to update, at their own cost, any existing wiring and service panels that do not meet current National Electrical Code.

Step 7



LINES INSTALLED UNDERGROUND

PGE installs new underground system, removes overhead equipment

PGE installs new power lines in the underground conduit, installs new transformers and connections, and removes overhead lines and equipment. Telephone and cable lines are moved underground by the respective utility companies at the same time (the municipality is responsible for coordinating with other utilities). This step can take weeks to months, depending on the size and complexity of the project.

Step 8



FINAL PAYMENT OR CUSTOMER BILLING

City or county pays PGE for construction costs

Prior to conversion, the municipality pays PGE:

- The cost of retiring the overhead lines and equipment.
- The cost to modify existing electrical facilities to accommodate the underground conversion.

