



The Pros and Cons to Undergrounding Power Lines

Whenever a power outage is caused by external factors, or reports indicate that electrical infrastructure may have been to blame for the ignition of a wildfire, there are often calls to underground the power lines. While undergrounding may seem like an obvious solution, there is more to consider.

The benefits of undergrounding power lines are fairly obvious. Aesthetically speaking, removing power lines and poles from view, particularly in neighborhoods and scenic areas, would be an improvement. After all, electrical infrastructure isn't designed to be community art. Underground powerlines would also prevent the risk of sparking a fire. It is also true that power outages caused by line contact from a tree, Mylar balloons, animals, snow/ice load, or two lines slapping together in high winds could be eliminated by burying the electrical infrastructure.

So why aren't electric utilities scrambling to make this rather obvious fix? The answer is that there are many less obvious challenges that must also be taken into account.

First, it's not logistically feasible. It is not always possible to get the necessary equipment to the remote, steep, wilderness areas where hundreds of miles of power lines exist. Even where access is feasible, undergrounding electrical infrastructure is expensive. The cost to underground electrical infrastructure is 2-3 times more expensive than installing overhead infrastructure. The average electric bill would increase drastically, perhaps up to 10 times existing levels.

There is one more reality that also needs to be considered, and that is underground maintenance and repairs. It is much more difficult and time consuming to make repairs when something fails underground. Even though undergrounding might eliminate the causes for some outages, there will still be underground cable and equipment failures, and other issues that lead to power outages. The time it takes to repair these outages is often three to four times that of an overhead repair, and even longer if there is significant snow on the ground. The line must be located and then excavated before trouble shooting can even begin. Although the number of outages may be reduced, most power outages would last significantly longer in an underground infrastructure environment.

None of this means that undergrounding shouldn't be done, rather, it means that each underground opportunity is carefully evaluated. Liberty Utilities embarks on some of these projects every year, sometimes working with local counties (Rule 20A program), to select underground projects that can maximize benefits while minimizing cost and negative impacts. These projects are typically smaller in nature, have county government approval, and provide maximum public benefit. Although undergrounding all electrical infrastructure is not the answer, Liberty Utilities and other electric providers are working every day to provide cost effective, safe, and more reliable power service. The addition of microgrids, residential solar, small and large scale battery storage, and other electric innovations, are providing new exciting options that will improve and modernize your electric delivery system.