

Energy & Telecommunications

Snapshot of Trends & Issues

ELECTRICITY

- Cowlitz PUD gets the lion's share of its energy from hydropower through a contract with BPA. Other sources, in descending order, are: nuclear, wind, coal, natural gas, biomass, waste and petroleum.
- By 2018, the District will need to acquire a new resource to stay in load/resource balance during critical hydrological conditions when hydropower resources are limited.
- By 2022 the PUD will need additional sources of renewable energy to meet state requirements.
- By 2034 the District will experience an energy deficit of 35 aMW overall, and a 70 aMW deficit during peak demand periods (extreme cold weather).
- Declining energy sources over the 20-year horizon include coal and nuclear resources; hydropower is expected to stay constant; and increasing demands will be met by combined cycle natural gas plants, wind and other renewable resources. The Renewable Portfolio Standard embedded in state law is expected to drive expansion over the next decade, with combined cycle natural gas plants making up the majority of resource expansion after 2020.
- Cowlitz PUD will rely on market purchases to meet future energy needs and deficits in renewable energy credits, as this approach is projected to remain below the cost of acquiring a new resource, over the short-run.

NATURAL GAS

- Natural gas power plants are expected to replace coal plants in Oregon and Washington that are scheduled for retirement. Low gas prices have attracted new manufacturing to the U.S., including a recent proposal to construct two methanol plants at Columbia River ports and a third in Tacoma.
- Regional projections indicate demand for gas in the I-5 corridor will exceed capacity by 2020 or earlier, if significant users come on-line.
- The resource supply is expected to be adequate to meet growing demand in the Pacific Northwest and North America. Major transmission facilities are proposed but face regulatory and financial uncertainties. Economic recovery, carbon legislation, building code changes, direct use campaigns, soft conservation and long-term weather conditions will create fluctuations and uncertainty.
- Significant reductions in resource costs have improved long-term prospects for this energy source.
- Load growth across the system is expected to fluctuate between 1.4% and 1.7% annually through 2032, with variation due to short-term economic conditions. The greatest growth will be in residential use and commercial use, as a result of increased customers, while a slight decline is expected in industrial consumption. Reduced industrial demand is attributed to economic shifts away from manufacturing to the service sector; consolidation and mergers in industries which reduce customer counts; and industrial transitions to unbundled services.
- Cascade Natural Gas recently entered a period where it needs to acquire additional resources to meet the demand for its product. Despite energy conservation programs, Cascade will need to

acquire additional capacity or enter into supply arrangements to meet anticipated peak day requirements, primarily due to residential and commercial demand and the time lag in construction of proposed pipeline projects.

- LNG does not appear to be a valid alternative supply, despite recent proposals to construct additional plants in the region, as these are focused on export or would require significant infrastructure investment for distribution to end users.

BROADBAND

- Federal regulators have created a “reverse action” that is aimed at freeing up broadband spectrum and expanding flexible licenses suitable for mobile broadband services.
- The intersection of broadband advance technology and health are being explored to improve health care across the U.S.
- The 2016 Broadband Progress Report found that 34 million Americans still lack access to broadband meeting benchmark speeds of 25 Mbps (Megabytes per second) for downloads and 3 Mbps for uploads. Disparities are greatest among rural and tribal residents. Only 4% of urban American’s lack access to 25/3 Mbps broadband. Only 59% of schools meet the minimum standard of 100 Mbps per 1,000 users and even fewer meet the longer-term goal of 1 Gbps (Gigabytes per second)/1,000 users. No satellite broadband service met the benchmark standard of 25/3 Mbps.
- Today’s communications landscape requires access to both fixed and mobile broadband services. Mobile speed benchmarks have not yet been established.
- Longview has 758 persons without access to broadband. This gap is similar gap to that for the State, and lower than the gap for the U.S. The city’s LOS (Level of Service) is above national averages in download and upload speeds up to 1 Gbps via wirelines. Service for wireless is acceptable/above national averages for downloads up to 10 Mbps and uploads up to 3 Mbps.

TELEPHONE

- Increasing demand poses a major challenge to ensure that America’s wireless networks have the capacity to support critical economic, public safety, health care and other activities.
- Smartphone use has continued to increase over the last 3 years, although demand flattened in 2015. Over the past 3 years, smartphone use expanded from 51% to 77% of all mobile phone users.
- Cellphones are using more broadband spectrum as users consume more data with texting (97%), surfing (89%), email (88%), getting directions (67%), and listening to music (64%).
- In 2015, the Open Internet Order set the stage to prevent blocking, throttling and paid prioritization for fixed and mobile internet service providers.
- Over the past 5 years, the population served by both landlines and wireless phone service has plummeted; the share of households served only with landlines was small and has fallen by half; households served by wireless-only have almost doubled; homes without any phone service have doubled their share, though these numbers are relatively small. Households with children are more likely to have wireless-only service.

CABLE

- Cable providers now offer an array of bundled services of wireless internet, fiber optic connectivity, VoIP, HDTV, wireless, 2-way systems, and home security monitoring.