



# Load forecast shows continued system growth

By Andrea Blowers

The load forecast is one of Basin Electric's building blocks used to determine the cooperative's generation and transmission needs for the membership. It also helps define the long-term financial needs and rates of the cooperative.

It's a business planning tool. Because of that, its content is constantly evolving. Basin Electric's forecast analysts complete a new 15-year forecast every two years as required by the Rural Utilities Service, and the load forecast levels are continually monitored.



Jay Lundstrom, Basin Electric forecast analyst, presented the recently completed 2011 load forecast covering the 2011-2025 period to the board of directors at their June meeting. Lundstrom says compared to the 2009 load forecast, the results are

fairly similar, though the significant difference shows growth patterns shifting in the energy development sector. Coal bed methane development has begun to decrease, whereas oil development continues to surge.

Overall, Lundstrom says, there's still a growing demand for electricity by Basin Electric's members, despite the weak economy. "Growth over the entire period is approximately 3 percent for the total membership. The megawatt growth for the forecasted period is approximately 1,850 megawatts," he says.

"We're forecasting healthy growth to continue in the residential sector throughout the system," Lundstrom says. The other sectors such as irrigation, bio-diesel, ethanol and large and small commercial are generally leveling out. The biggest change to the forecast is the shift from coal bed methane development in Wyoming to oil and oil-related development in the Williston Basin in western North Dakota and eastern Montana, he says.

"Natural gas prices have had a huge impact on our expected load growth in Wyoming. It's not that there isn't natural gas that could be taken out of the ground; there are cheaper ways to get it. Shale gas in the eastern part of the country can produce natural gas more economically than in Wyoming," Lundstrom says.

One of the key drivers in oil-related development is price. A weaker U.S. dollar has inflated the price of oil in the United States. It's currently around \$90-\$100 barrel. World oil prices are at \$70-\$80 barrel. "That just makes it more economical for companies to develop oil inside the country, versus buying it on the market," he says.

"If the strength of the U.S. dollar remains where it is, domestic oil development will likely continue at its current speed and may increase," he says. "But, if the strength of the dollar improves, that could potentially slow oil development, which would impact the forecast."

Price isn't the only factor. There are other key issues that could affect oil development. Concerns about hydraulic fracturing or fracking is one of those issues. Fracking is the process of pumping liquids down a well into subsurface rock units under pressures high enough to fracture the rock. This creates a network of interconnected fractures that serve as pore spaces for the movement of oil. With the introduction of fracking in the Williston Basin's Bakken Formation, the opportunities for oil recovery are ever expanding. "Fracking in the Bakken reaches levels 8,000-10,000 feet below the surface. In other parts of the country, fracking is being done at 400, 800, 1,000 feet below the surface, which concerns communities in the eastern U.S. because of the potential impact on drinking water," Lundstrom says.

Fracking legislation has been introduced and considered, but no decisions have been made to date. The direction the country ultimately chooses to go with fracking could significantly impact oil and gas production in the membership service territory.



Another issue, which could impact oil development, is infrastructure – transmission, pipeline and socioeconomic. "There are about 176 rigs operating in the Williston Basin right now, with forecasts up to 225 rigs by the end of the year," says Dave

Raatz, Basin Electric manager of marketing and power supply planning. Serving those rigs and the resulting oil- and

gas-related power demand, compounded with the requirements of the growing communities, is no small feat for member co-ops and Basin Electric.

Raatz says transmission and distribution system limitations are an obvious concern. "It takes many years to expand the high-voltage transmission system. The distribution systems are continually being expanded," he says. "Our load forecast is

generally a non-constrained type of forecast. We're assuming there won't be transmission and distribution system limitations; we're assuming the infrastructure will be there to support all the load growth."

In addition to the developing oil-related load, the single largest load in the forecast is the TransCanada Keystone Pipeline System, which would run along the western and central sections

of Basin Electric's service area. Construction is expected to begin in 2012. This new load will have 11 pumping stations served by Basin Electric member cooperatives and is expected to result in about 120-megawatts of load. (See sidebar.)

Raatz says many assumptions are made in the development of the load forecast. "We need to monitor the load growth expectations very carefully, so we can keep cooperative system electric rates as low as possible." The load forecast defines Basin Electric's resource and transmission development, and ultimately defines members' future rate levels.

“Growth over the entire period is approximately 3 percent for the total membership. The megawatt growth for the forecasted period is approximately 1,850 megawatts.”

*Jay Lundstrom, Basin Electric*

## TransCanada planning Keystone expansion

Source: [www.transcanada.com/keystone](http://www.transcanada.com/keystone)

The proposed Keystone Gulf Coast Expansion Project is a 1,661-mile, 36-inch crude oil pipeline that would begin at Hardisty, Alberta, Canada and extend southeast through Saskatchewan, Montana, South Dakota and Nebraska. It will incorporate the 298-mile portion of the Keystone Phase II through Nebraska and Kansas to serve markets in Cushing, OK, before continuing through Oklahoma to a delivery point near existing terminals near Nederland, TX, to serve the Port Arthur, TX, marketplace.