

Divide County Shale Projections

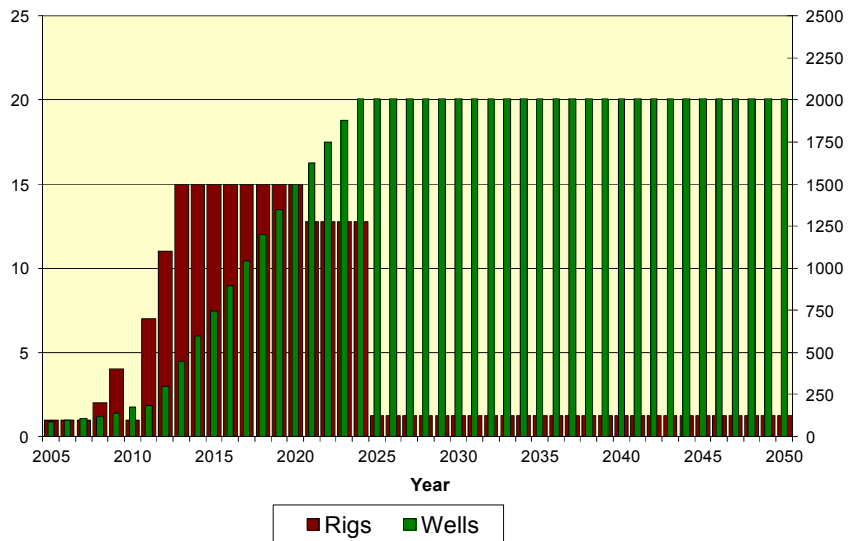
About this information

This handout summarizes county webinars containing the most recent development projections prepared by Lynn Helms of the ND Dept. of Mineral Resources. It also shows population, workforce, housing, and population projections by Dean Bangsund and Nancy Hodur with North Dakota State University. See <http://www.visionwestnd.com/webinars.asp> for the webinar and related materials.

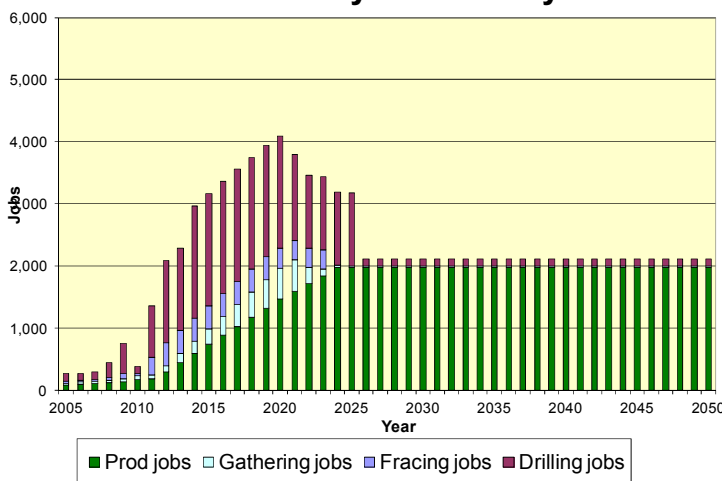
Divide County Energy Development

Lynn Helms has developed models of Bakken development that are consistent with the geology and what is known of the oil content of the formation and uses current industry standards of employment per rig and well. Drilling is expected to ramp up in Divide County to 15 rigs through 2020 and 12.75 through 2024. Wells are expected to peak at 2,007 in 2024.

Divide County Rigs and Wells



Divide County Oil Industry Jobs

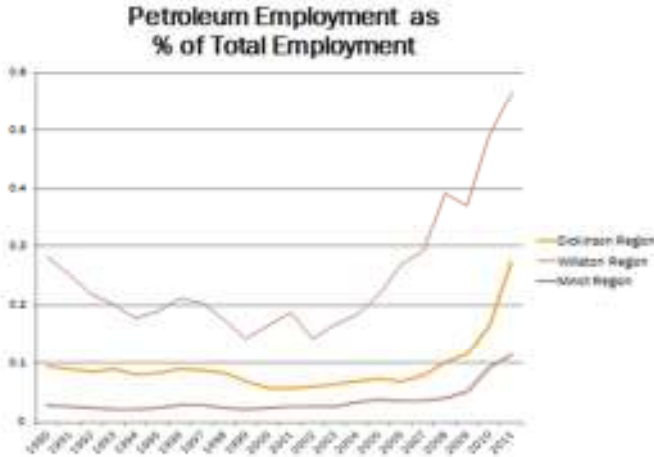


Jobs are based on current levels of 120 jobs per rig, 12 wells drilled per rig per year, 40 wells per frac crew per year, and 1 worker per producing well. Note that over one-third of the drilling jobs are for trucking water, pipe, and materials. These jobs may be lost over time as pipeline and other distribution/collection systems are finished.

These gathering system jobs are shown in light blue and mostly end by 2024. Drilling & fracing jobs decline sharply in 2026, but some remain til 2045. Oilfield service, or production jobs in green, increase slowly to

plateau at 2,000 in 2024.

Technology change, improvements in collection/distribution systems, oil price shifts, improvements in use of natural gas, shifts in permanent vs temporary workers, and crowding out effects make these projections highly dynamic and subject to change.

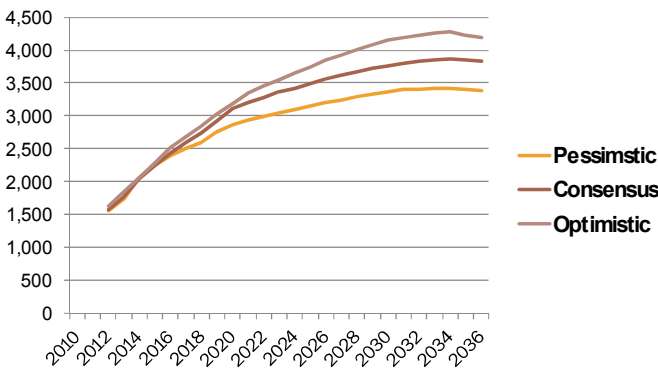


Projections

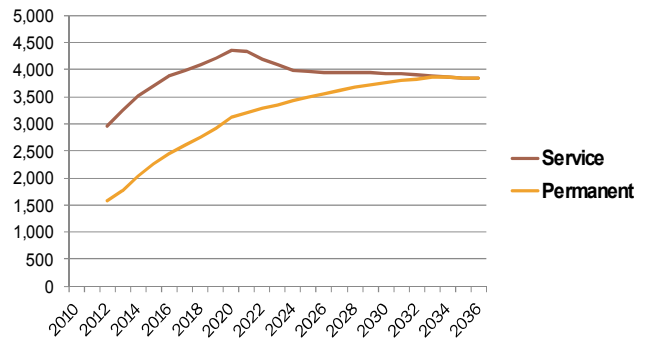
The graph on the left makes an important point about variations in the dependency of regions on the oil industry. All regions have seen an uptick in energy jobs, but Minot has only 11% oil jobs, while Dickinson has 27%, and Williston 57%. Williston is vulnerable to the crowding out of other industries by high-paying oil jobs. This also limits the ability of a region to offer the goods and services that increase secondary employment multipliers.

The next two graphs show the demand for housing in Divide County, which rises from 1,600 to roughly 3,800 in permanent housing by 2036 in the consensus scenario. The second graph shows the temporary bulge in housing for transient workers required during the drilling phase, amounting to some 1,500 workers in 2012 and declining to near zero by 2032. Housing and population growth rates of 8% til 2020 are extremely high and will challenge any local government.

Divide County Permanent Housing



Divide County Consensus Scenario



Conclusions. This boom is not like the 1980s spike, but a protracted increase in employment and population that will change the region for decades. These projections are not the last word, but the first comprehensive scenarios for the future given by the most knowledgeable local experts. The purpose of this handout and webinar is to spark a conversation among local leaders. It is up to you to decide how much of the growth your community desires and how to sustain your quality of life during the development of the Bakken.

	2012	2020	2036
Permanent Housing	1,574	3,117	3,838
% Ave Annual Growth		2012-2020 8.3%	2020-2036 1.3%
Permanent Population	2,981	5,650	6,955
% Ave Annual Growth		2012-2020 7.7%	2020-2036 1.3%

Sponsors

The Bush Foundation via the Western North Dakota Energy Project, Vision West ND, with help from a US HUD Sustainability grant, the ND Dept. of Mineral Resources and the Dept. of Agribusiness and Applied Economics at NDSU. Lead partner for the Western North Dakota Energy Project is the Strom Center at Dickinson State University. *Questions about this series should be sent to Deb Nelson at deb@dlnconsulting.com or Don Macke at don@e2mail.org.*