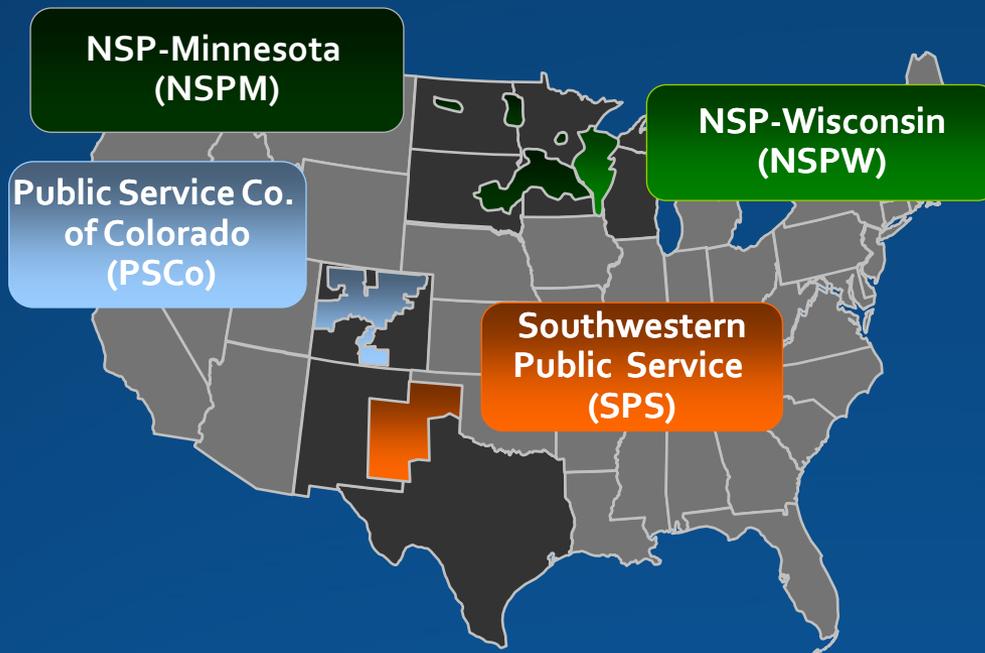


Competing demands for water: water management in the energy sector

**SWRR Sustainable Water Resources Roundtable
July 19, 2016**

**Richard Belt, P.E., P.H.
Xcel Energy**

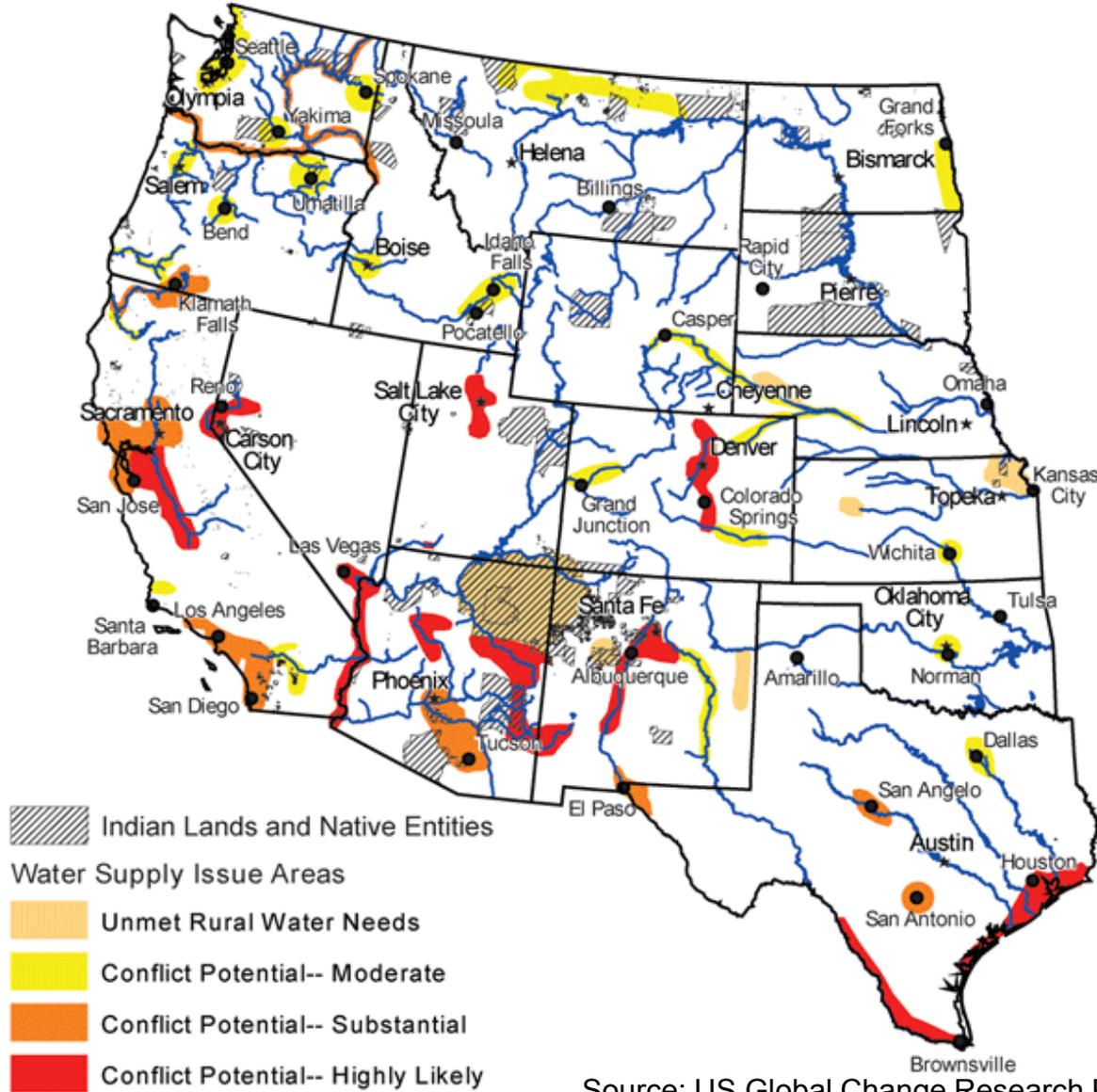
Xcel Energy in Colorado



Public Service Co. of Colorado

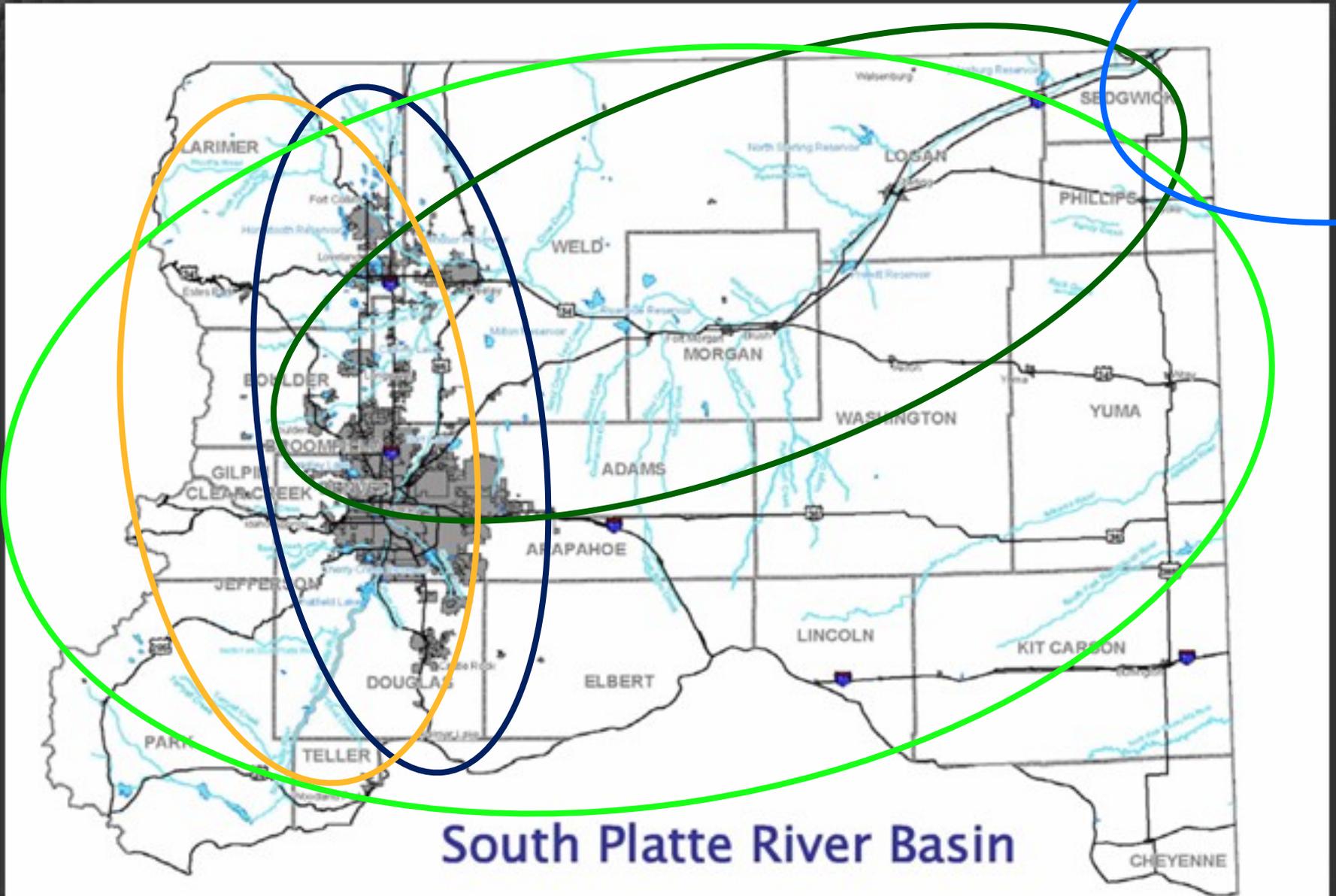
- 1.4 million electric customers
- 1.3 million natural gas customers
- 3,800 CO employees
- \$4.2 billion in revenues
- \$477 million taxes & franchises
- \$727 million local spending
- 2,365 MW wind with additional 250 MW planned (#1 nationwide provider)
- 87 MW large solar with additional 170 MW planned
- Dow Jones Sustainability Index – 100% in water-related risk management

Competition!



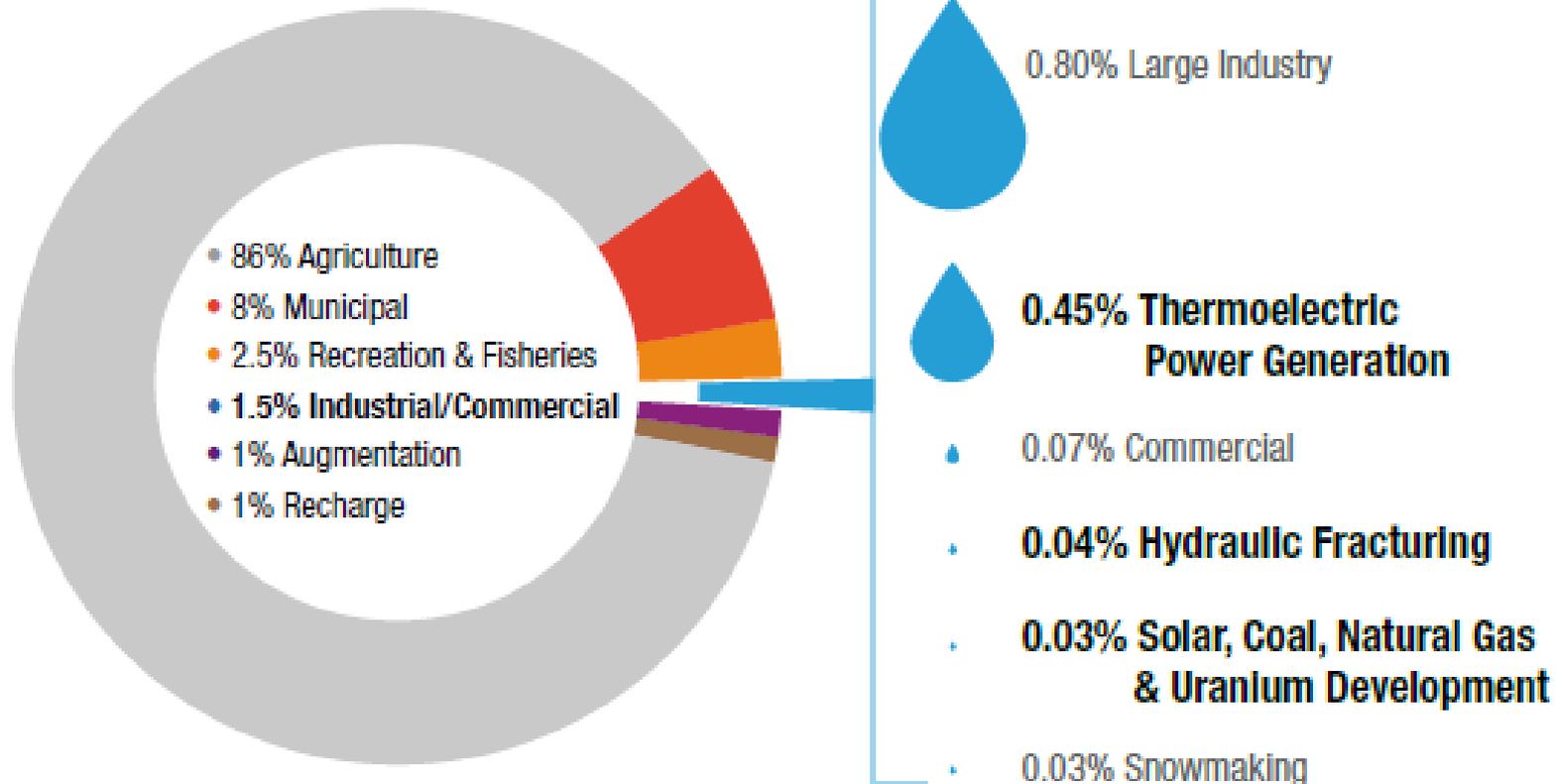
Source: US Global Change Research Program

Who are the competitors?



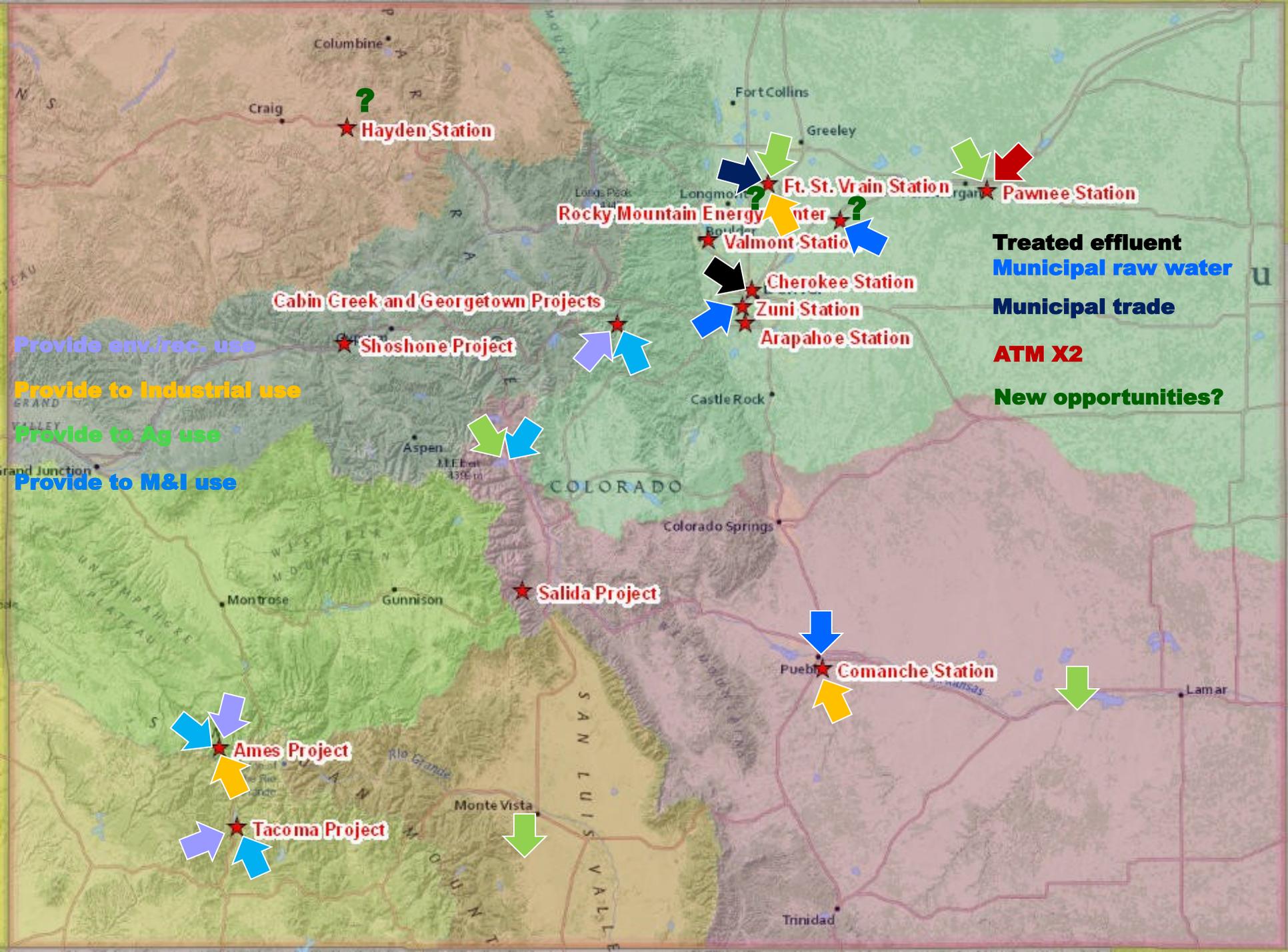
All users are not equal!

Water Withdrawals in Colorado



Source: Colorado Division of Water Resources Cumulative Yearly Statistics 1996-2008

Source: Colorado Foundation for Water Education, Headwaters Magazine



Hayden Station

Rocky Mountain Energy Center

Valmont Station

Cherokee Station

Zuni Station

Arapahoe Station

Cabin Creek and Georgetown Projects

Shoshone Project

Salida Project

Comanche Station

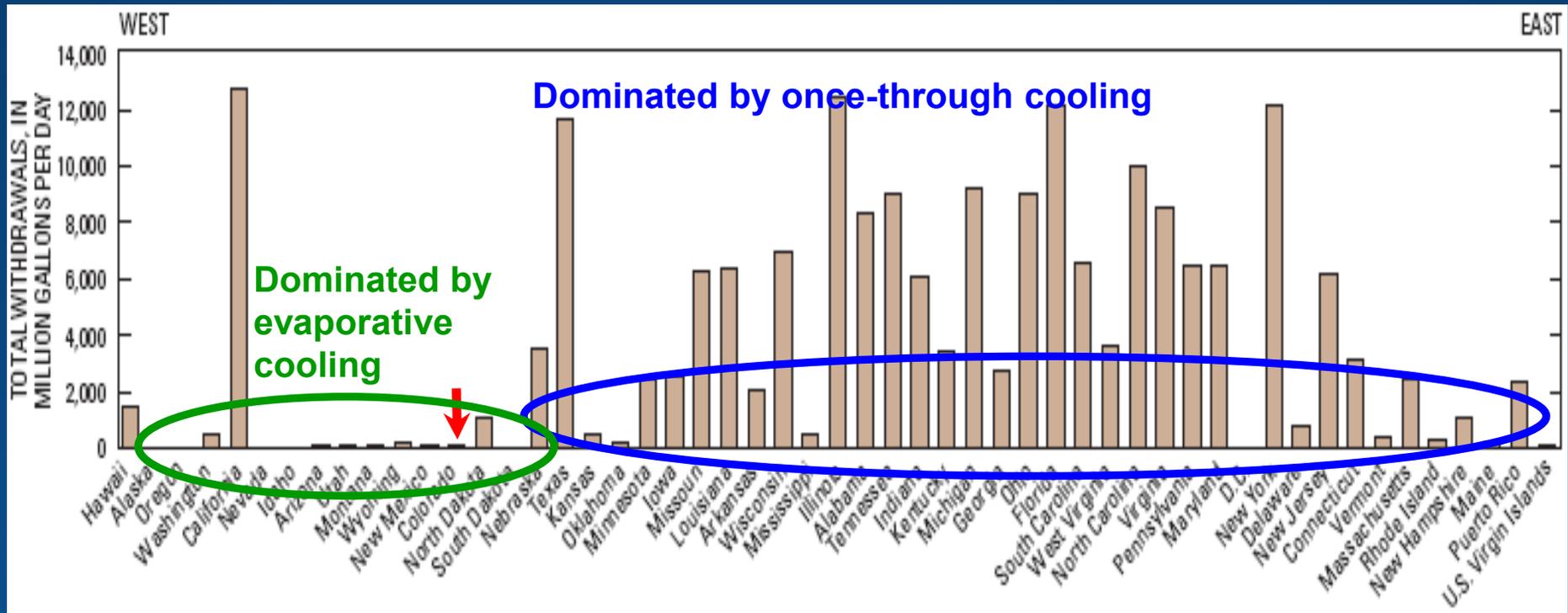
Ames Project

Tacoma Project

- Treated effluent
- Municipal raw water
- Municipal trade
- ATM X2
- New opportunities?

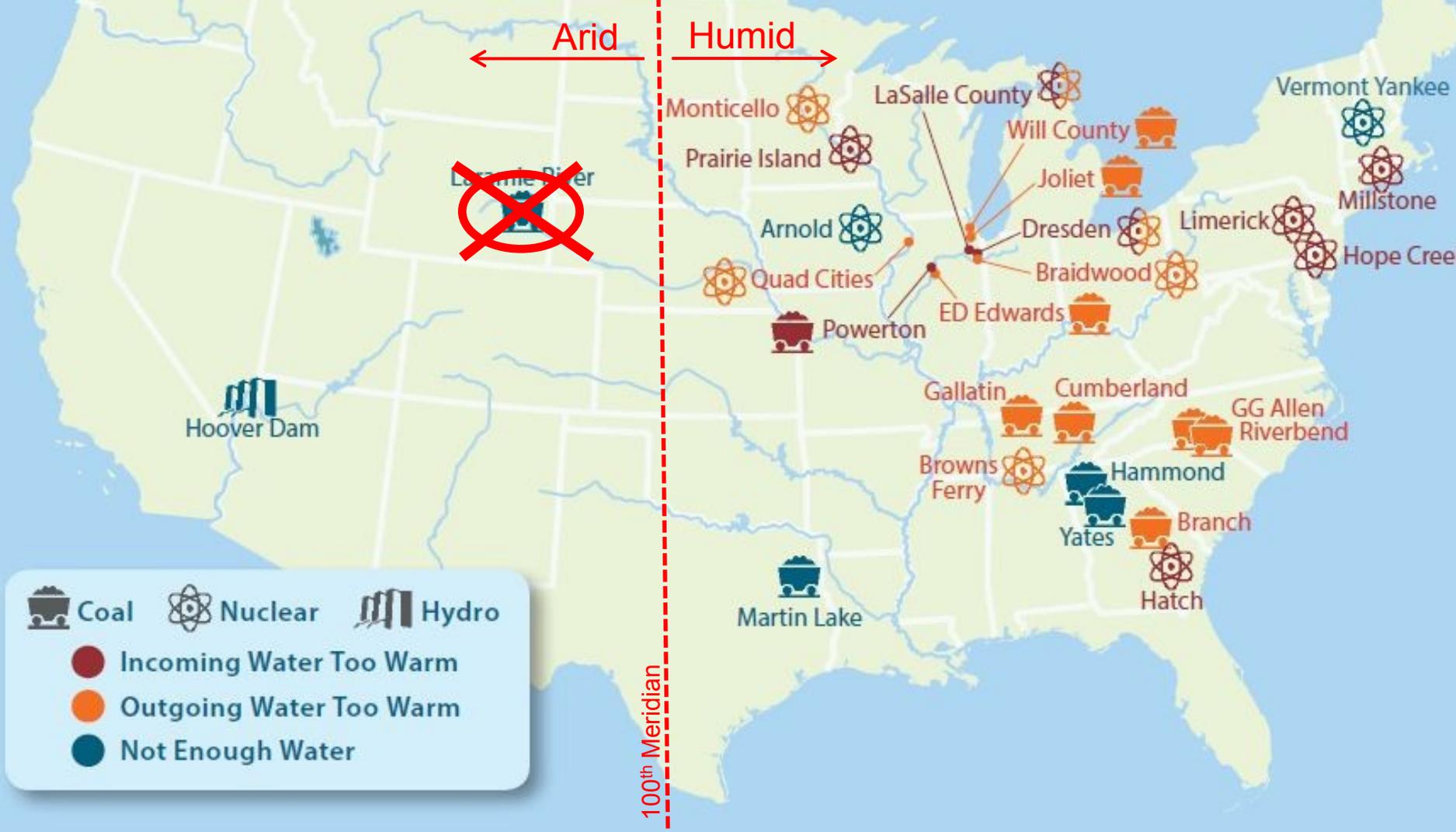
- Provide env./rec. use
- Provide to Industrial use
- Provide to Ag use
- Provide to M&I use

Location, type of use & institutions are critical!



Source: US Geological Survey; <http://ga.water.usgs.gov/edu/wupt.html>

Winners and losers?



Source: Rogers, J., K. Averyt, S. Clemmer, M. Davis, F. Flores-Lopez, P. Frumhoff, D. Kenney, J. Macknick, N. Madden, J. Meldrum, J. Overpeck, S. Sattler, E. Spanger-Siegrfried, and D. Yates. 2013. *Water-smart power: Strengthening the U.S. electricity system in a warming world*. Cambridge, MA: Union of Concerned Scientists.

The top of the slide features several overlapping, wavy lines in shades of blue and green, creating a dynamic, flowing effect against the dark blue background.

Thanks!