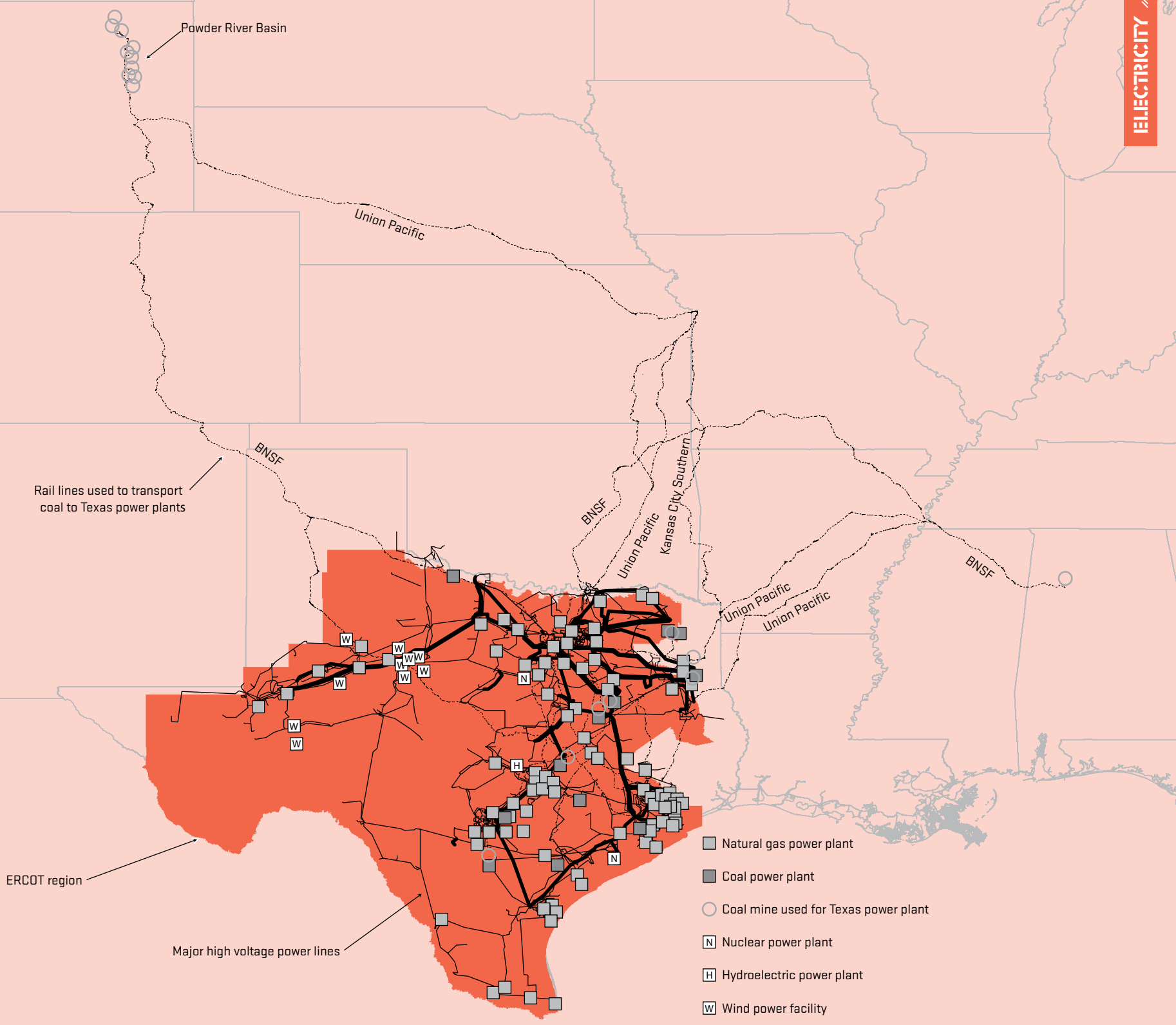


GIS DATA FROM BUREAU OF TRANSPORTATION STATISTICS NATIONAL TRANSPORTATION ATLAS DATABASE (STATES, RAIL LINES), CENSUS BUREAU (COUNTY LINES, USED TO MARK ERCOT BOUNDARIES), AND FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION (POWER LINES), POWER PLANT LOCATIONS FROM ENERGY INFORMATION ADMINISTRATION, COAL MINES FROM FEDERAL ENERGY REGULATORY COMMISSION.



## → A Grid of Our Own by CHRISTOF SPIELER

The United States and Canada are covered mostly by two power grids: the Eastern Interconnection and the Western Interconnection. But three places have separated themselves, just as they occasionally talk of seceding from their respective countries: Alaska, Quebec, and Texas. Within each of these 5 zones, power flows freely, with every generator, motor, and light bulb within the zone alternating to the same rhythm. Between zones, power travels only across a hand-

ful of controlled connections. The Texas network is managed by the Electric Reliability Council of Texas (ERCOT), a private nonprofit regulated by the state. But Texas is not as independent as the power grid might suggest. The fuel for Texas power plants can come from far afield. Half of Texas electricity comes from natural gas largely from local production since Texas is a natural gas exporter. A third of the state's electricity comes from coal. Texas has its own

coal, but it is low grade and inefficient. It's burned in power plants directly at the mine to minimize transport costs. But two thirds of Texas coal comes from elsewhere, primarily from Wyoming's Powder River Basin. The two major western railroads compete aggressively for contracts to move it. The W.A. Parish station in Fort Bend County alone needs 36,000 tons a day, carried in three 115-car trains. The rest of Texas electricity comes from two nuclear power plants (13 percent), hydro-

electricity (less than 1 percent), petroleum (less than 1 percent), and a growing share of renewable, especially wind (6 percent). The Texas power grid is already shifting as energy production changes: the Public Utilities Commission is planning new power lines to carry electricity from the wind fields of West Texas to Dallas and Houston. Texas also has room for conservation: electricity use per capita is 20 percent above the national average, and a third of that is used in homes.