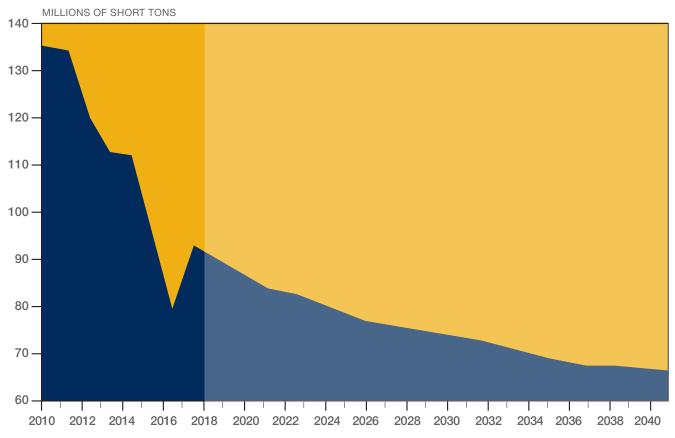
## WEST VIRGINIA COAL PRODUCTION FORECAST BY REGION



Sources: Energy Information Administration, WVU BBER Coal Production Forecast

RECENT MARKET TRENDS: After seeing statewide production fall by nearly in half between 2008 and 2016, West Virginia's coal industry has rebounded over the past several quarters as output increased nearly 27 percent between mid-2016 and mid-2018. Export demand has accounted for nearly all of the improvement in production over the past two years or so due to significant increases in coal shipments to India, Brazil, Ukraine and a few other countries. This has enabled Southern West Virginia to account for a majority of growth in statewide coal output in recent quarters. By contrast, domestic demand has remained negative, but more so for mines in Northern West Virginia, as the U.S. electric power sector transitions away from coal-fired generation over to natural gas.

**SHORT-TERM FORECAST:** The baseline forecast calls for coal production to total approximately 91 million short tons in 2018, which represents a slight drop versus 2017 levels. Overall state output is expected to decline 3 percent annually over the next two years, leaving mined coal tonnage at just over 85 million by the end of the decade. Weakening export activity will likely drive most of the anticipated drop

in production through 2020, but the retirement and/or conversion of several gigawatts worth of coal-fired generating capacity that sources coal from West Virginia mines will also account for some of this decline.

**LONG-TERM FORECAST:** Coal production will continue to decline over the remainder of the outlook period, though most of the declines are expected to end by the early 2030s. Output is expected to fall by more than 12 million short tons between 2020 and 2030, with an additional loss of 7 million tons by 2040. Domestic shipments of thermal coal are expected to wane over the next decade as aging coal-fired generation capacity deals with rising maintenance costs and lack of competitiveness against natural gas, and in some markets, renewables. Both of the state's producing regions will be affected by this trend, but Northern West Virginia will be affected to a greater extent. Southern West Virginia's production should be buoyed by what is expected to be fairly stable levels of export demand, but output is likely to trend lower during the outlook as a growing portion of the region's reserves become unprofitable to recover.

