

VERTICALLY INTEGRATED UTILITIES

GENERAL

AEP's vertically integrated utility operations are engaged in the generation, transmission and distribution of electricity for sale to retail and wholesale customers through assets owned and operated by AEGCo, APCo, I&M, KGPCo, KPCo, PSO, SWEPco and WPCo. AEPSC, as agent for AEP's public utility subsidiaries, performs marketing, generation dispatch, fuel procurement and power-related risk management and trading activities on behalf of each of these subsidiaries.

ELECTRIC GENERATION

Facilities

As of December 31, 2018, AEP's vertically integrated public utility subsidiaries owned or leased approximately 23,000 MWs of domestic generation. See Item 2 - Properties for more information regarding the generation capacity of vertically integrated public utility subsidiaries.

Fuel Supply

The following table shows the owned and leased generation sources by type (including wind purchase agreements), on an actual net generation (MWhs) basis, used by the Vertically Integrated Utilities:

	2018	2017	2016
Coal and Lignite	58%	61%	61%
Nuclear	18%	18%	16%
Natural Gas	14%	11%	13%
Renewables	10%	10%	10%

A price increase/decrease in one or more fuel sources relative to other fuels, as well as the addition of renewable resources, may result in the decreased/increased use of other fuels. AEP's overall 2018 fossil fuel costs for the Vertically Integrated Utilities remained flat on a dollar per MMBtu basis from 2017.

Coal and Lignite

AEP's Vertically Integrated Utilities procure coal and lignite under a combination of purchasing arrangements including long-term contracts, affiliate operations and spot agreements with various producers, marketers and coal trading firms. Coal consumption in 2018 decreased approximately 2% from 2017.

Management believes that the Vertically Integrated Utilities will be able to secure and transport coal and lignite of adequate quality and in adequate quantities to operate their coal and lignite-fired units. Through subsidiaries, AEP owns, leases or controls more than 3,664 railcars, 468 barges, 9 towboats and a coal handling terminal with approximately 18 million tons of annual capacity to move and store coal for use in AEP generating facilities.

Spot market prices for coal started to strengthen in the second half of 2018. The increased spot coal prices reflect tighter supplies and increased demand for export coal. As of December 31, 2018, approximately half of the coal purchased by AEP's subsidiaries was procured through term contracts. As those contracts expire or re-open for price adjustments, needed tonnage is replaced at current market prices as necessary. The price impact of this process is reflected in subsequent periods. The price paid for coal delivered in 2018 decreased approximately 2% from 2017.