# International trends for coal

How are leading jurisdictions phasing out coal in a manner that addresses the health, environmental, and economic implications of the technology?

> Taylor Kuykendall Coal Reporter



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## The downward spiral of coal is the result of multiple factors. No one factor is killing coal, nor will one revive it.

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The US coal market is but a fraction of what it once was only a few years ago

## The future is highly uncertain Much of the industry is bankrupt Public opinion largely against coal

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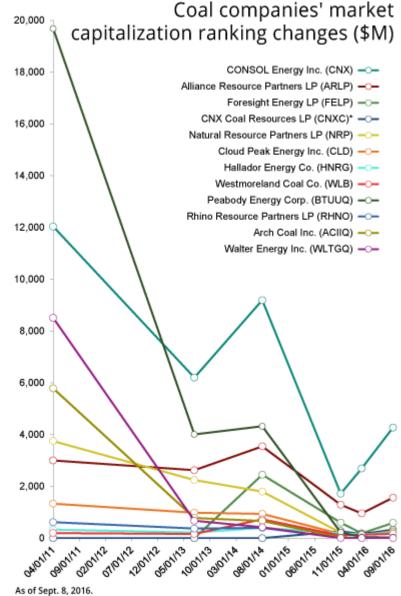
#### A market decimated...

The market value of all public coal companies in the US have been destroyed.

Only one has experienced any recent stability despite a recent turnaround in coal prices.

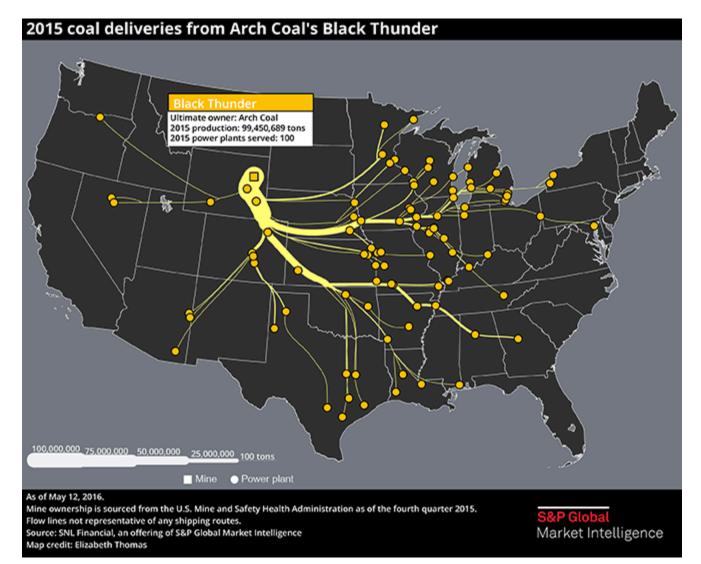
That company is CONSOL Energy, a company that has essentially eschewed coal for the exploration and production of natural gas.



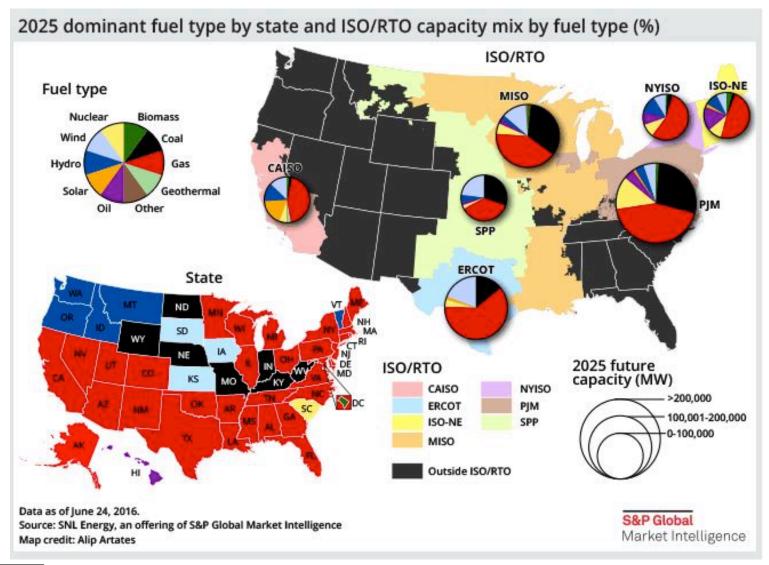


As of Sept. 8, 2016. \* Owned by CNX with a 55.40% stake. NA = not available Source: SNL Energy, an offering of S&P Global Market Intelligence Credit: Cat Weeks

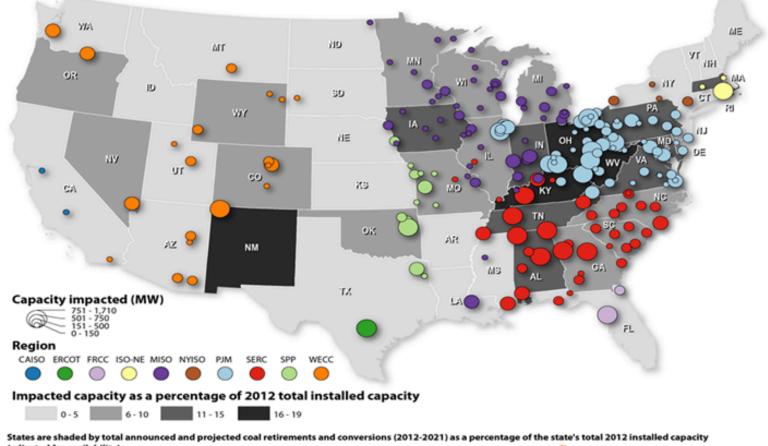
#### Example of coal flow from one bankrupt mine



#### **Coal only to dominate few states**



#### **Coal retirements scheduled across the US**

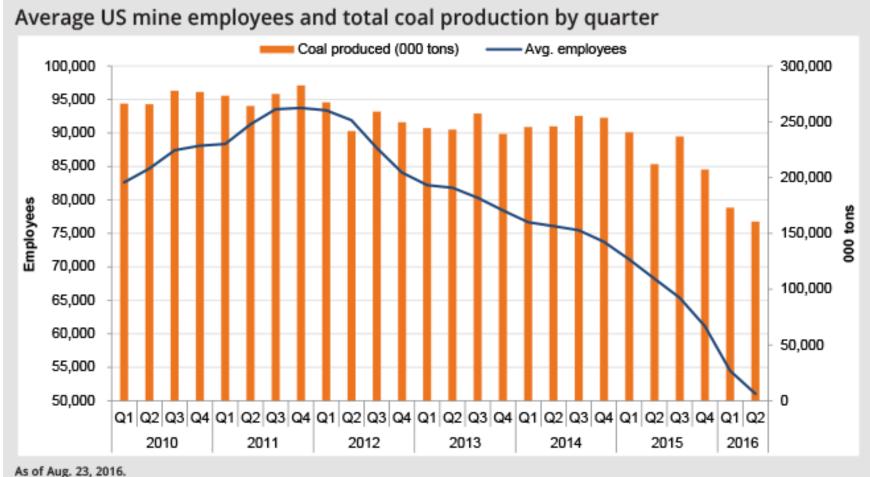




(adjusted for availability) As of July 28, 2015 Source: SNL Energy Map credit: Whit Varner

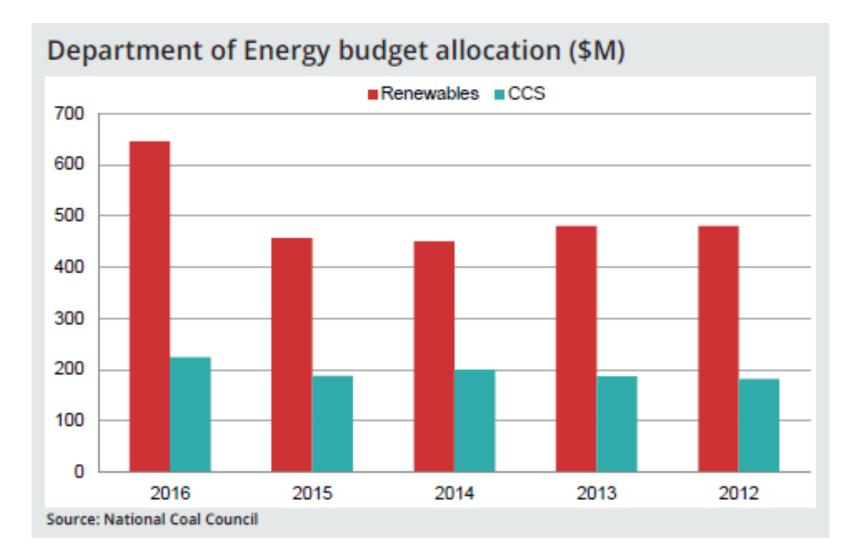


#### Lost jobs and production response

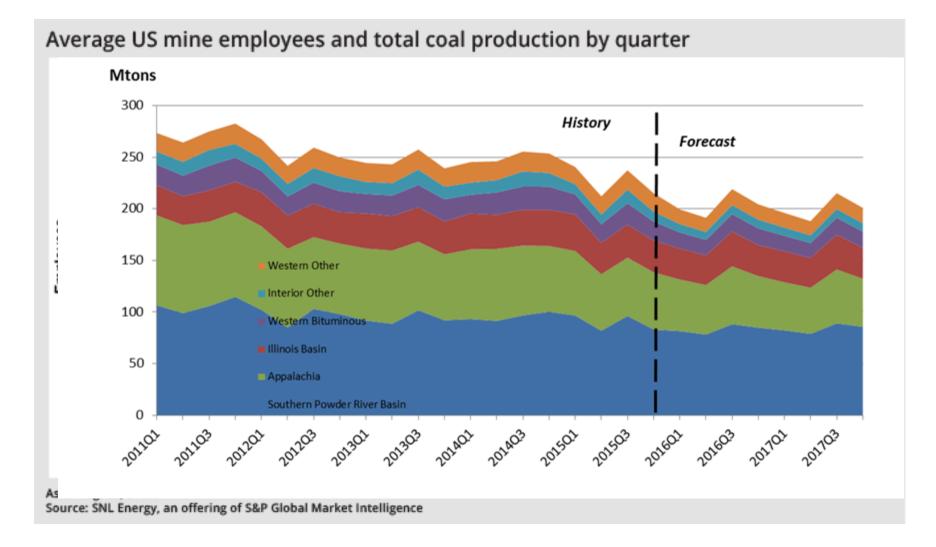


Source: SNL Energy, an offering of S&P Global Market Intelligence

#### **Coal tech currently not as well-funded**



#### **Near-term forecast**



### **EIA projections for long-term**

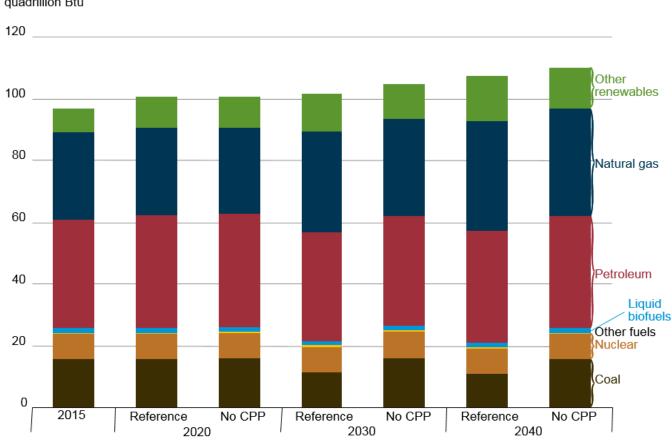
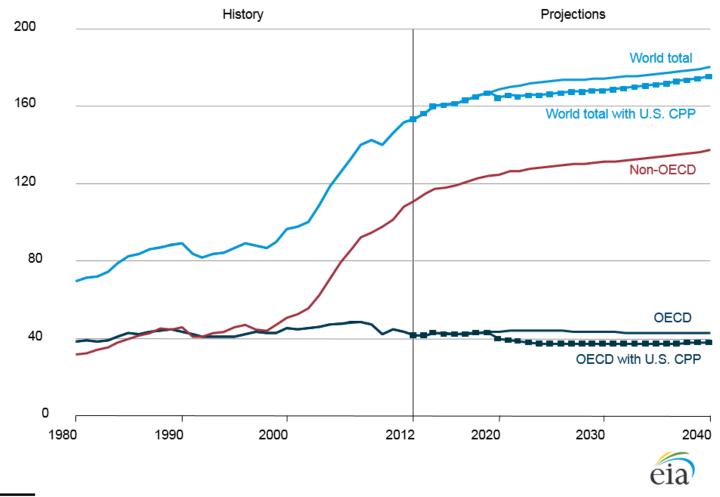


Figure MT-9. Primary energy use by fuel in two cases, 2015, 2020, 2030, and 2040 quadrillion Btu



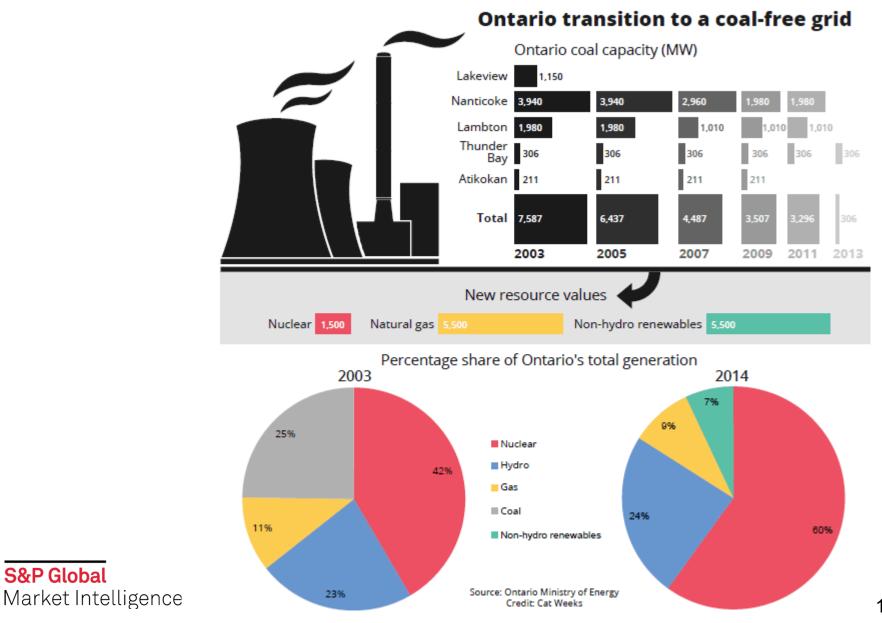
#### **EIA** international coal outlook

Figure 4-1. World coal consumption by region, 1980–2040 quadrillion Btu



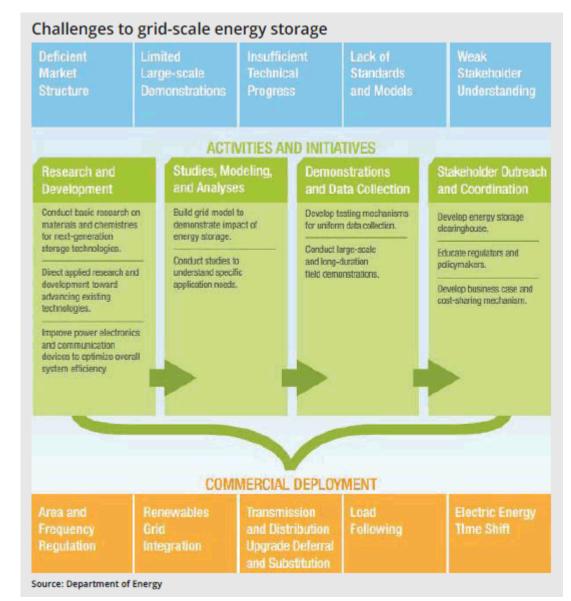
#### **Ontario as an example**

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#### Infrastructure challenges of a coal phase out



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## Thank you



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