

Transitioning Vectren Beyond Coal to Clean Renewable Energy

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Vectren's Coal Plants Aren't Competitive Today

Brown, Culley, and Warrick units are not competitive in today's electric market.

Wind and solar prices have steadily declined and continue to expand in MISO. Energy efficiency has helped keep power prices relatively low (though much more should be done).

Natural gas prices have dropped significantly in recent years relative to coal prices. United States Energy Information Administration and other forecasts show gas prices remaining relatively low through the early 2020s.



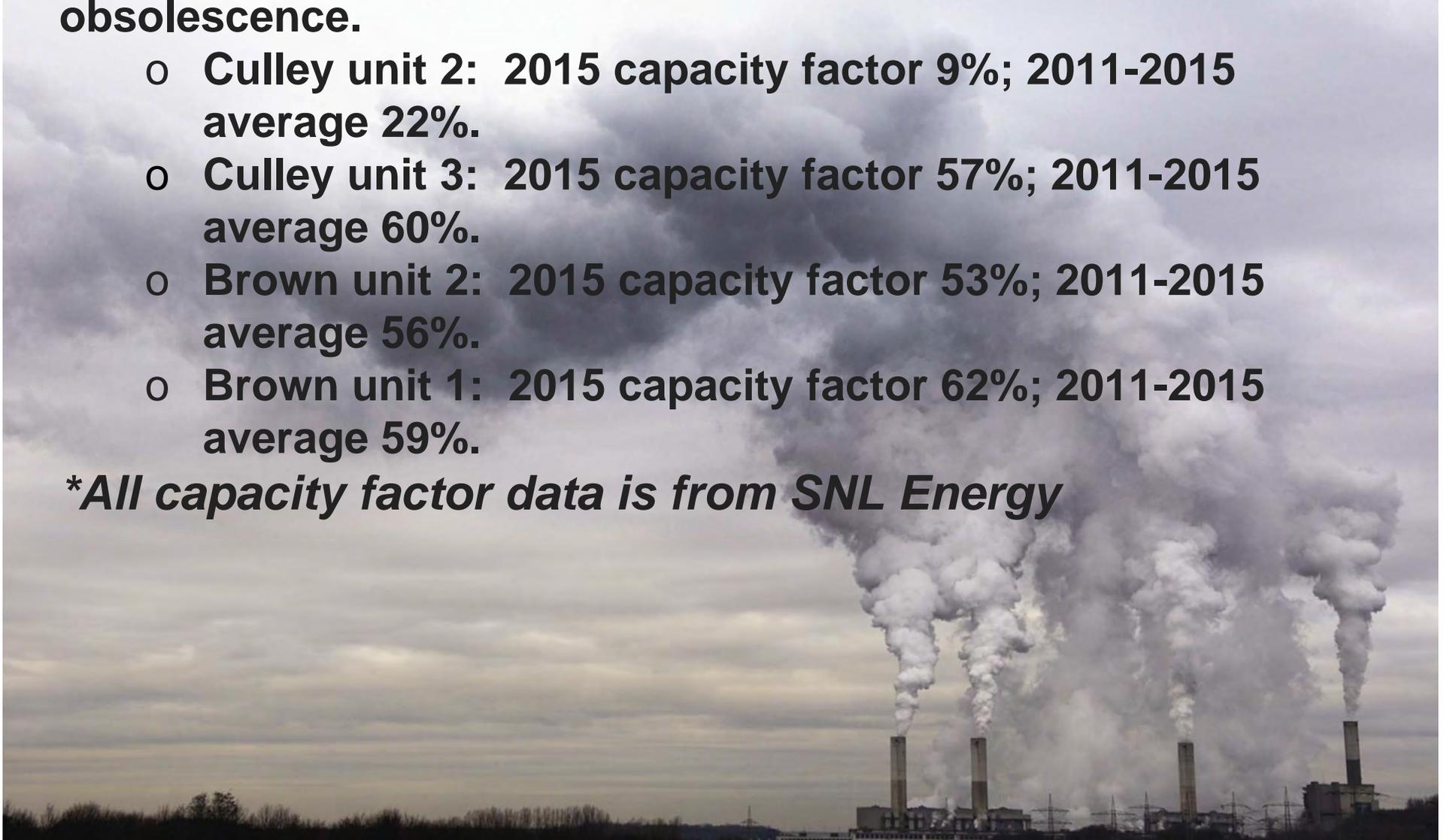


Vectren's Coal Plants Aren't Competitive Today

Vectren's coal units are costly and trending toward obsolescence.

- Culley unit 2: 2015 capacity factor 9%; 2011-2015 average 22%.
- Culley unit 3: 2015 capacity factor 57%; 2011-2015 average 60%.
- Brown unit 2: 2015 capacity factor 53%; 2011-2015 average 56%.
- Brown unit 1: 2015 capacity factor 62%; 2011-2015 average 59%.

**All capacity factor data is from SNL Energy*





Vectren's Coal Plants Face Increasing Costs

Bad today, the economic position of Vectren's coal plants will further deteriorate in the near future as costs increase.



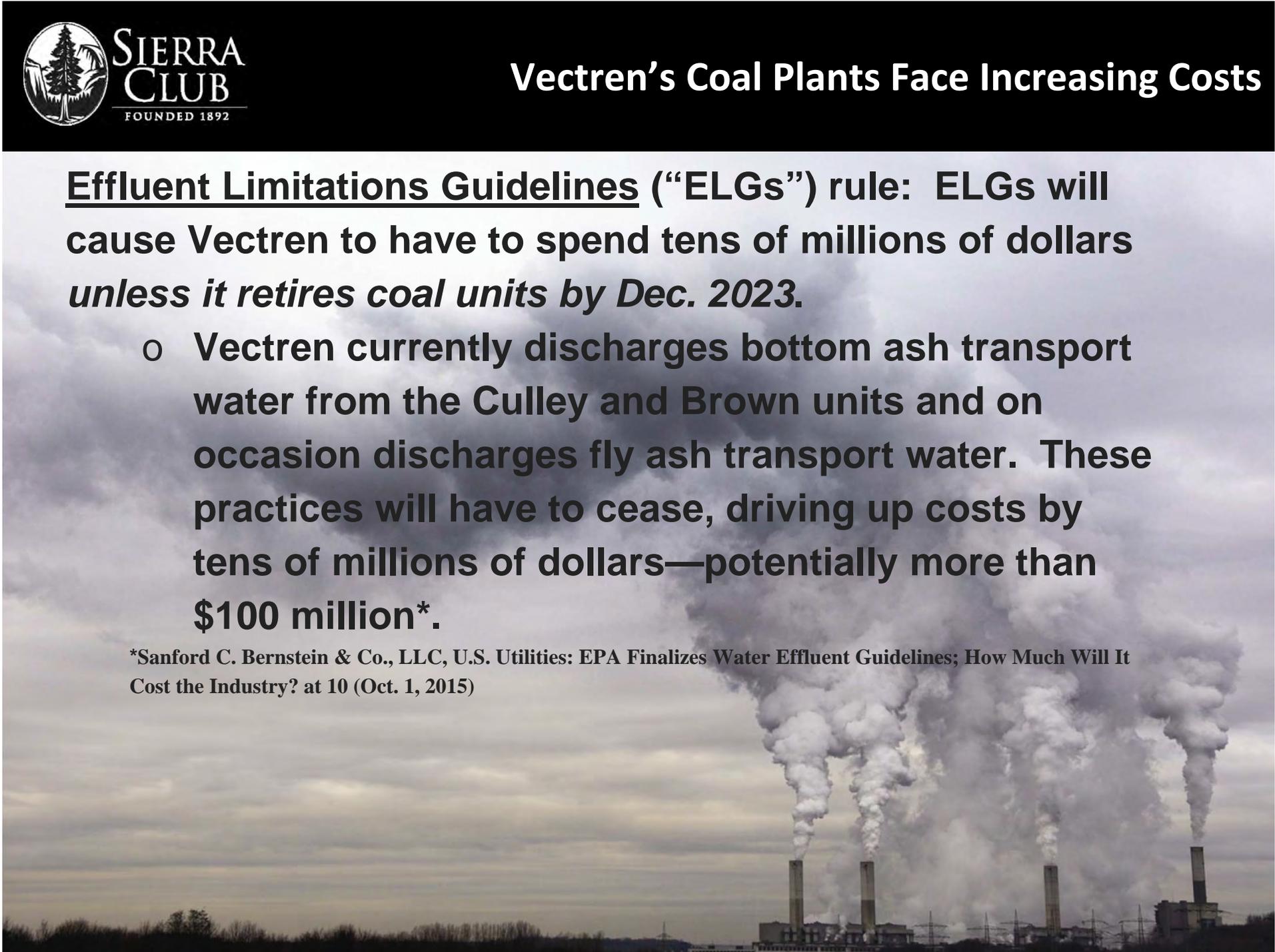


Vectren's Coal Plants Face Increasing Costs

Effluent Limitations Guidelines (“ELGs”) rule: ELGs will cause Vectren to have to spend tens of millions of dollars *unless it retires coal units by Dec. 2023.*

- o Vectren currently discharges bottom ash transport water from the Culley and Brown units and on occasion discharges fly ash transport water. These practices will have to cease, driving up costs by tens of millions of dollars—potentially more than **\$100 million***.

*Sanford C. Bernstein & Co., LLC, U.S. Utilities: EPA Finalizes Water Effluent Guidelines; How Much Will It Cost the Industry? at 10 (Oct. 1, 2015)



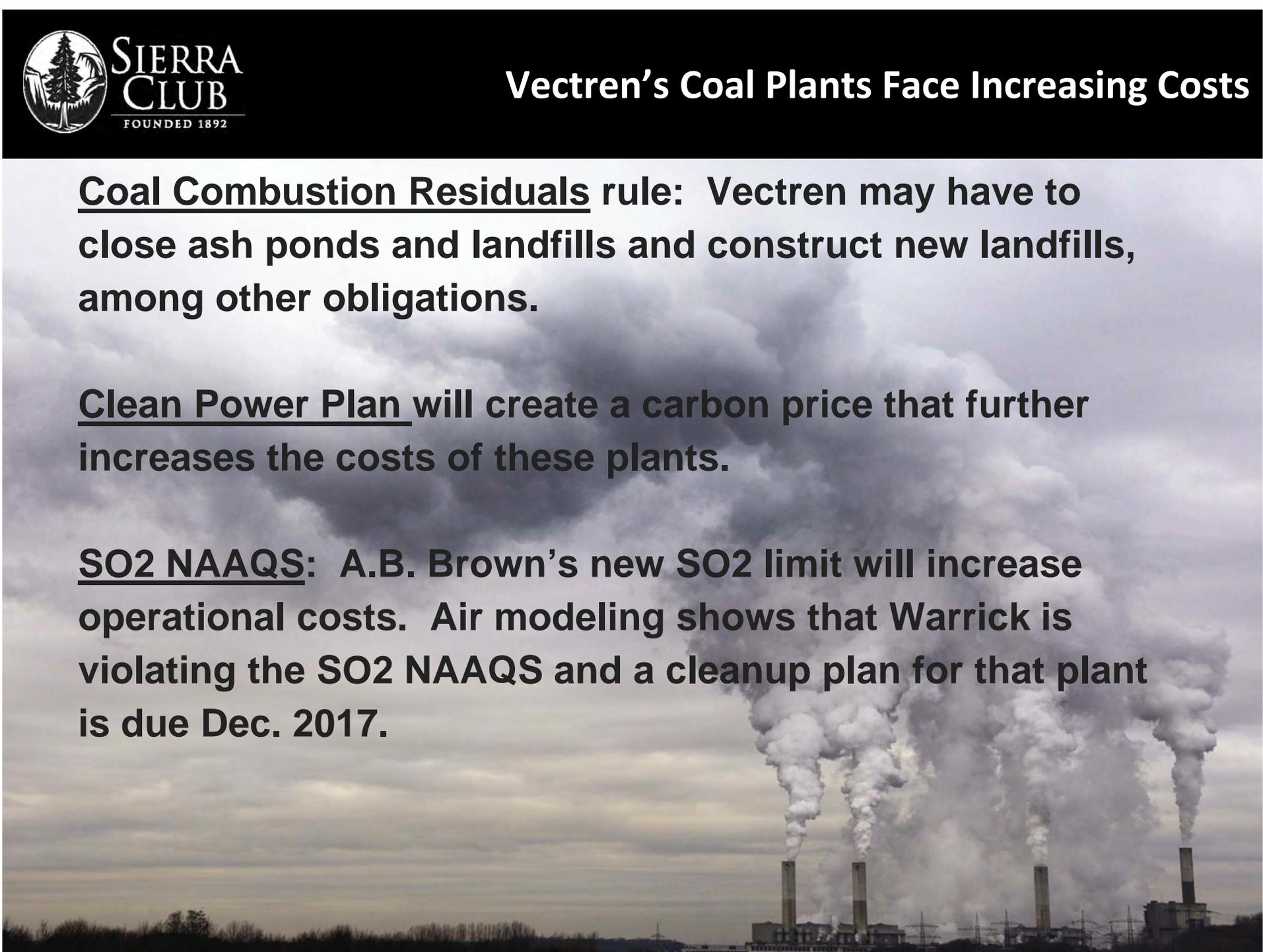


Vectren's Coal Plants Face Increasing Costs

Coal Combustion Residuals rule: Vectren may have to close ash ponds and landfills and construct new landfills, among other obligations.

Clean Power Plan will create a carbon price that further increases the costs of these plants.

SO2 NAAQS: A.B. Brown's new SO2 limit will increase operational costs. Air modeling shows that Warrick is violating the SO2 NAAQS and a cleanup plan for that plant is due Dec. 2017.





Need to Move Beyond Coal In This IRP

Vectren produced 97 percent of its electricity from coal in 2015 and consistently has the highest retail electricity costs in the state.

Investing more customer money in these plants – to comply with the ELG rule, for example – will only create greater stranded costs when they retire.

Southern Indiana is unfairly burdened by pollution from 13 coal plants within an hours' drive of Evansville. Our region regularly tops lists of most polluted places to live.



Vectren's load growth is flat at best.

- **SABIC's cogeneration project significantly impacts demand.**
- **Toyota has pledged to eliminate carbon emissions in all operations by 2050.**
- **AstraZeneca has pledged to go 100 percent renewable by 2020.**

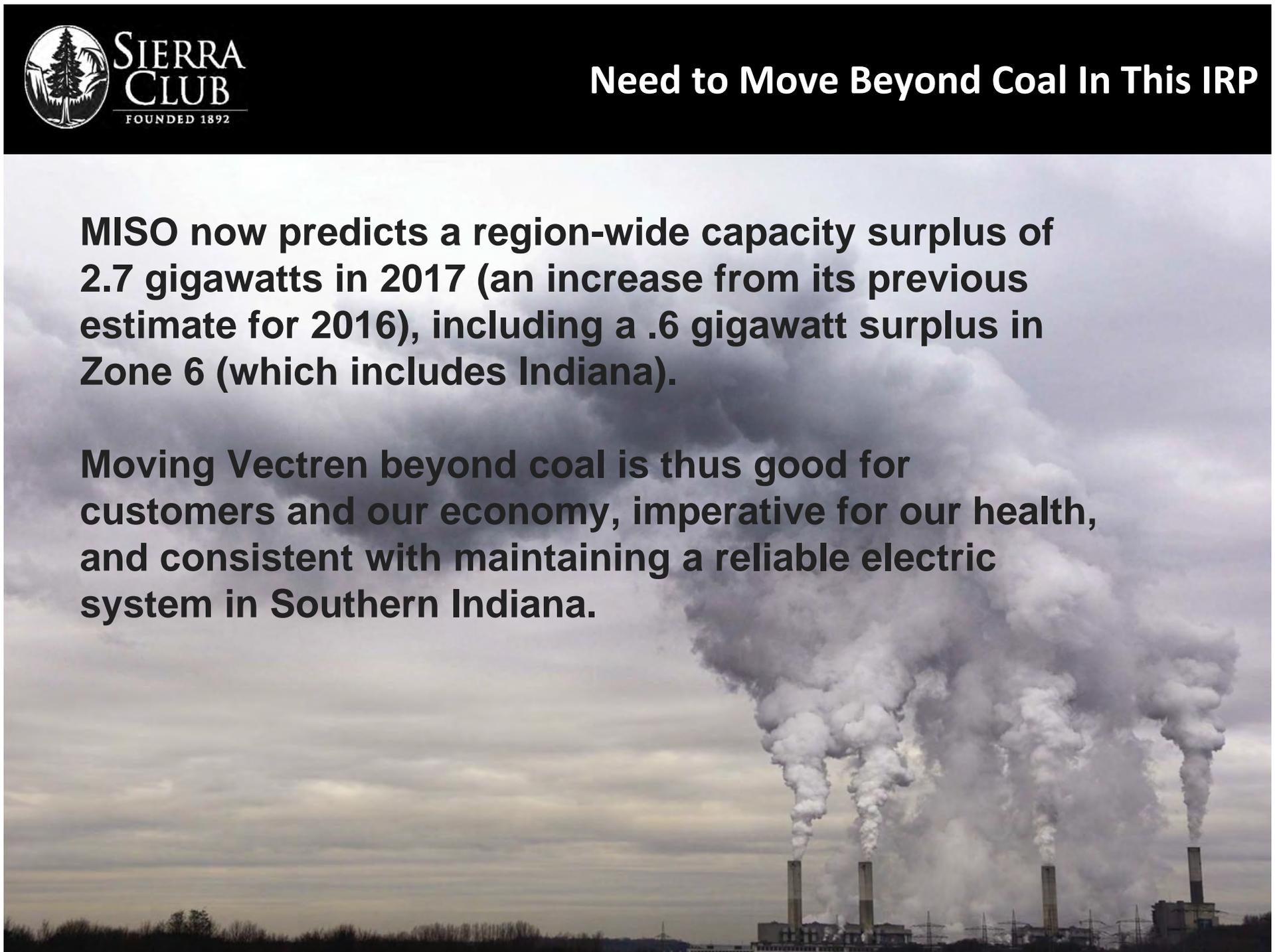




Need to Move Beyond Coal In This IRP

MISO now predicts a region-wide capacity surplus of 2.7 gigawatts in 2017 (an increase from its previous estimate for 2016), including a .6 gigawatt surplus in Zone 6 (which includes Indiana).

Moving Vectren beyond coal is thus good for customers and our economy, imperative for our health, and consistent with maintaining a reliable electric system in Southern Indiana.





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