

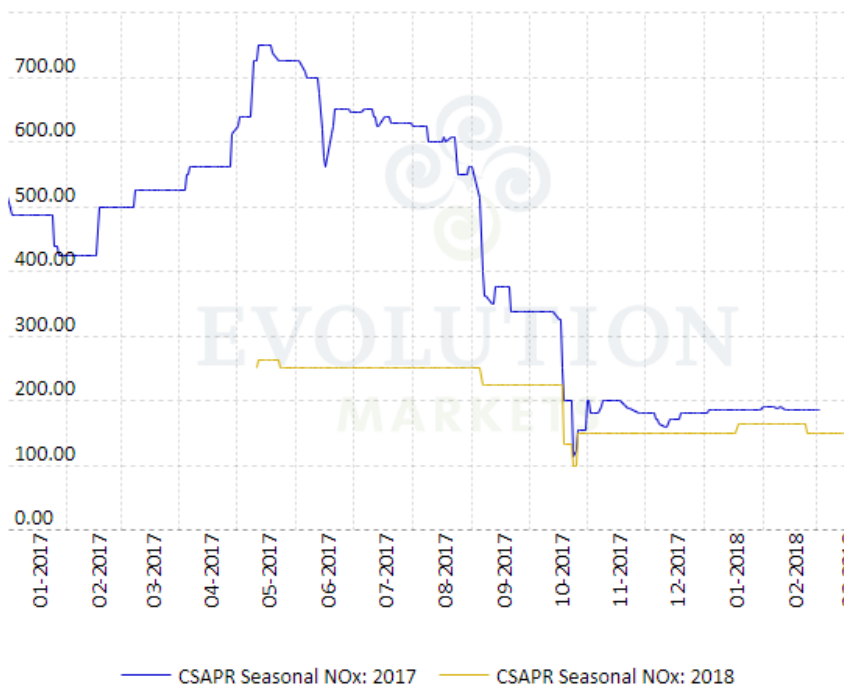


## Cross State Air Pollution Rule

### Market Status

The EPA finalized an [update](#) to the Cross-State Air Pollution Rule (CSAPR) Seasonal NOx Program in September 2016. Starting in May 2017, the final rule covers 22 states and includes an allowance trading program implemented by participating states. The rule also allows Georgia to voluntarily opt in to the 22 state trading program.

CSAPR Seasonal NOx compliance true up for 2017 ended on March 1, 2018, and a look back at trading activity shows that prices were quite volatile compared to Vintage 2018 prices. This was the first Ozone Season under the new CSAPR rule in which seasonal NOx allocations were reduced by 48%, and it is understandable that prices would be unsettled. Vintage 2017 allowances began 2017 in the mid-\$400 range and peaked in early May close to \$750. Prices eventually settled around \$200 by the time the season was over in October. In contrast, Vintage 2018 prices remained relatively stable throughout the year, hovering above \$200 for most of the year and then settling in around \$150.



The CSAPR Ozone Allocation for 2017 was 316,000 allowances. Combined with a bank of 99,700 allowances, the available allowances for compliance in 2017 was approximately 416,000. Actual 2017 Ozone NOx emissions came in around 295,500, almost 30% less than 2016 emissions. This leaves an approximate bank of 121,500 allowances, which added to the CSAPR 2018 Ozone Allocation of approximately 304,000, leaves a total of 425,000 Allowances available for compliance in 2018.

### Future Outlook

At first look, the total number of allowances for compliance in 2018 is similar to what it was at the beginning of 2017. However, prices were much higher at the beginning of 2017 compared to where they are now. How will 2018 be different than 2017? One can assume

that in the beginning of 2017, with prices around \$500, many if not all generating facilities planned on running their pollution control equipment at maximum output since the marginal cost to control is approximately

\$300/ton. With starting prices of 2018 Ozone Season NOx between \$150 and \$175, controls are not a given and could lead to some decisions not to run some pollution controls at maximum output. This would, in turn, lead to higher emissions. In addition, the last two summers have been considered below average for temperature, so an average or above average summer could contribute to greater emissions and higher Ozone Season NOx prices than where we started the year. It should be noted that since emission reductions from 2016 to 2017 were approximately 30%, the starting point or baseline for 2018 emissions is at a lower level than where we were in 2017. Also, further emissions reductions in 2018 may occur through fuel switching or retirements of higher emitting units. While there are many factors that affect the Ozone Season emission prices, summer weather has historically been the key fundamental factor to watch. And, the potential for increased price volatility is enhanced as there is not a large bank of allowances to smooth out a sudden spike in demand, if one occurs.