

## Historic Production Limiters for CRT Generation – Economic Rationale

### Blue Source

#### NAP Public Comment Period

It was discussed several times in the working group meetings that the additional revenue brought on from the sale of CRTs would have a negligible impact on nitric acid production, thus limiters placed on CRT quantification that are based on historical production are not appropriate. To demonstrate this, consider the following:

- Nitric acid's market price has frequently been in the mid \$200's per ton over the last decade.
- Using the IPCC factor for N<sub>2</sub>O emissions of 0.0045 tN<sub>2</sub>O/tHNO<sub>3</sub>, CRT generation would be 1.39 tCO<sub>2</sub>e/tHNO<sub>3</sub>.
- Most recent economic analyses of the price of carbon under potential federal cap and trade put allowance values in the early years of the program between \$10 and \$15, depending on offset availability and allowance allocations (EPA, GAO, EIA, others). It should be noted that offsets will always trade at a discount to allowances given their higher level of risk. Current voluntary prices for CRTs range from as little as \$4 to upwards of \$9.
- Using the average of the above range for current carbon prices (\$6.50/ton), CRT revenue's contribution to nitric acid production would likely not exceed 3.5% of revenues from the sale of nitric acid itself. At carbon prices of \$10/mtCO<sub>2</sub>e, CRT revenue's contribution to nitric acid production might increase, but it should be noted that the same factors that drive carbon prices upward (namely federal legislation) are predicted to have similar effects on the key raw material components of nitric acid (namely natural gas). As such, the price of nitric acid would likely increase in this scenario, and it is certainly possible that carbon revenue's portion of total revenues would remain constant or even decline.
- It should also be noted that the substantial transaction costs of carbon trading (registration, verification, marketing) are not accounted for in the above scenario and could easily result in reducing CRT contribution by several percentage points.

In this way, CRT revenue is unlikely to influence the decisions of nitric acid producers, who are making production decisions based on their core markets, nitric acid and related products. Therefore, it would be inappropriate to assess production limitations on producers since the market may require production shifts in the future that are based entirely on nitric acid markets.