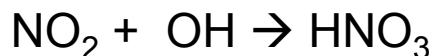
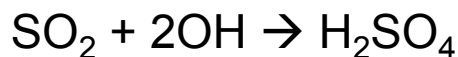


Quiz #4

Acid-rain legislation proposed in California would have imposed a tax of \$10/t of emitted SO₂ and NO₂. This fee system was criticized by industry as unfair.

If SO₂ is taxed at \$10/t, what is a fair tax for NO₂? What key assumptions do you make?



H = 1, N = 14, O = 16, S = 32 g/mole

Quiz #4 Solution

Molecular weight of CH₄ = 16 g/mole, residence time $\tau \approx 12$ y, preindustrial concentration $c = 700$ ppbv. Natural flow into atmosphere:

$$\left[\frac{\$10}{t_{\text{SO}_2}} \right] \left[\frac{64 \text{ g}_{\text{SO}_2}}{\text{mole}_{\text{SO}_2}} \right] \left[\frac{\text{mole}_{\text{SO}_2}}{2 \text{ mole}_{\text{H}^+}} \right] \left[\frac{1 \text{ mole}_{\text{H}^+}}{\text{mole}_{\text{NO}_2}} \right] \left[\frac{\text{mole}_{\text{NO}_2}}{46 \text{ g}_{\text{NO}_2}} \right] = \frac{\$7}{t_{\text{NO}_2}}$$