

Sudbury: Nickel Smelting and Refining

- Nickel Production
 - Toyota buys most of its nickel from Sudbury to produce its nickel-metal hydride batteries
 - Used in cars such as the Toyota Prius
- SO₂ Emissions
 - The smelting of nickel = large amount of SO₂ released as byproduct
 - 4 metric tons of SO₂ per metric ton of nickel produced
 - 1960 emissions
 - 2.56 million tons of SO₂
 - Accounted for 4% of global sulfur emissions
- Acid Rain and Environmental Effects
 - High levels of sulfur dioxide in the atmosphere caused a large increase of acid rain.
 - Over 7,000 lakes damaged biologically
 - 100 square mile area around smelting plants void of all vegetation
- Attempts to Change
 - 1970's
 - “Super stack” built
 - Largest smoke stack in the world
 - 1,247ft tall
 - Dealt with local SO₂ problems but dispersed emissions over much larger area.
 - Caused a large increase in acid rain over the northeastern part of the United States and Canada
 - 1980's-present
 - Estimated 90% reduction of emissions since 1980
 - Present day emissions- 256,000 tons SO₂

