



## Trapper Mine, C-07519 and C-079641, Environmental Assessment

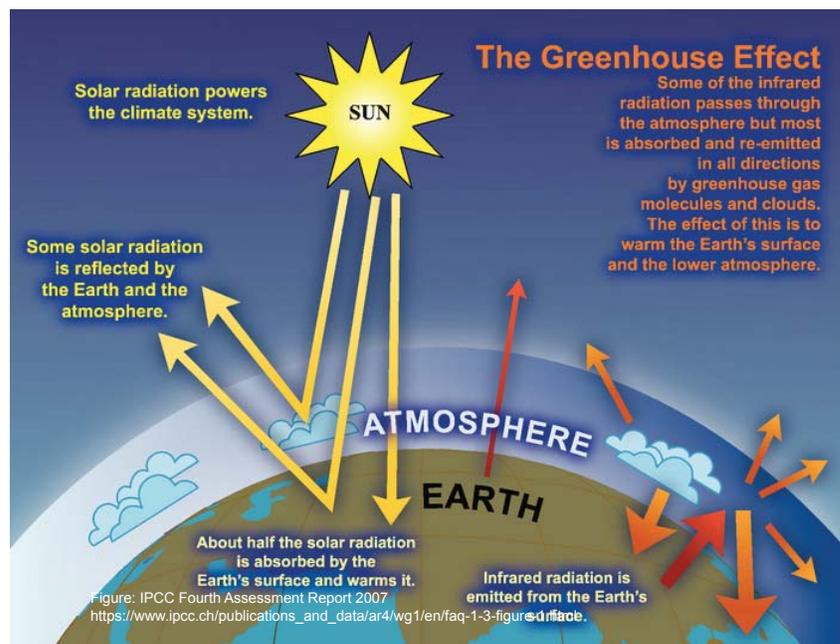
# CLIMATE CHANGE & COAL COMBUSTION

## Background

- Earth's climate varies naturally over time due to changes in solar energy, reflectivity of the earth's surface, volcanic eruptions, and changes in the greenhouse effect. About half of the sun's energy is absorbed by the earth and some is radiated back into the atmosphere as infrared radiation.
- Some atmospheric gases, such as water vapor and carbon dioxide (CO<sub>2</sub>), absorb infrared radiation and act to retain heat/energy that works to keep the earth warm by a mechanism called the "greenhouse effect."
- Both natural processes and human activities generate greenhouse gases (GHGs).

## GHG Regulatory Setting

- Secretary of the Interior Order 3289, issued in 2010, requires agencies to consider and analyze potential climate change impacts for major decisions regarding potential uses of resources.
- GHGs are a regulated air pollutant under the Clean Air Act (CAA). Regulated GHGs include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides.
- GHG emissions are estimated as CO<sub>2</sub>e (carbon dioxide equivalent).



## Direct Mining-related GHG Sources and Emissions

- Drilling of coal and overburden (combustion of diesel fuel in drill rigs).
- Blasting (combustion of diesel fuel that is mixed with explosive material).
- Vehicle fleet and mining equipment (combustion of diesel fuel).
- Fugitive emissions of methane from coal seams.

## Coal Combustion Indirect Emissions

- Coal combustion emissions are regulated through the CAA air quality permit for the combustion source (e.g., Craig Generating Station) rather than through the coal mining permit process.
- This Environmental Assessment will evaluate emissions from combustion of mined coal and also placement of Craig Generating Station coal combustion residuals within the Trapper Mine as indirect effects of the mining activities.