FLARING

What is flaring?

Flaring is the burning of gases that cannot be processes or sold. It disposes of gases and release emissions into the atmosphere. In the petroleum industry, flaring also disposes of sour gas containing hydrogen sulphide (H_2S) and waste gas containing contaminants such as H_2S and carbon dioxide (CO_2). CO_2 is a greenhouse gas that contributes to climate change.

Flaring is an important safety measure and was intended to be used during emergencies, equipment failures or other "upsets" in the petroleum process. Flaring is primarily a safety measure; to prevent the accumulation of gases that would pose a hazard to workers and nearby residents. However, the refineries use flaring as a cheap method to get rid of their waste gases.

An efficiently burning flare does not produce visible smoke. Black smoke indicates incomplete combustion, caused by wind, water, impurities in the fuel, or poor mixing with air.

Why Flaring should be reduced?

Incomplete combustion can produce: carbon monoxide, unburned hydrocarbons; particulate matter (ash and soot); Volatile Organic Compounds (VOC's) such as benzene, toluene and xylene; Other organic compounds known as polycyclic aromatic hydrocarbons (PAH) as well as sulphur compounds such as carbon disulphide (C_2 S) and carbonyl sulphide (COS).

Benzene is a known human cancer-causing agent. Carbon monoxide affects people with heart disease and can affect the central nervous system. Xylene and Toluene are developmental toxins and also affects the central nervous system. Larger particulates deposit in the upper respiratory tract, while smaller inhalable particulates travel deeper into the lungs and are retained for longer periods of time. People with asthma or chronic lung disease are especially sensitive to ash and soot. Carbon disulphide is classified as a poison as it affects the brain can lead to paralysis if this pollutant is breathed in for a long period of time.

Nitrogen and sulphur oxides from flaring combine with water in the atmosphere to form acids. These emissions change the nature of the soil when deposited onto the ground. By reducing the amount of flaring, the petroleum industries reduce their emissions into the environment.