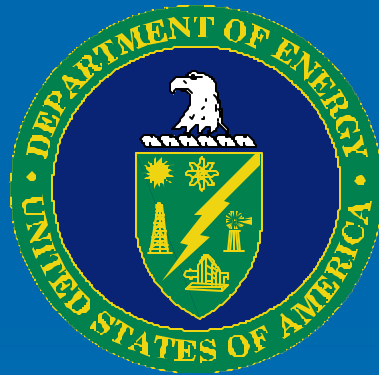


# The Impact of Federal Air Quality Standards on Domestic Natural Gas Development



Courtney Falconer

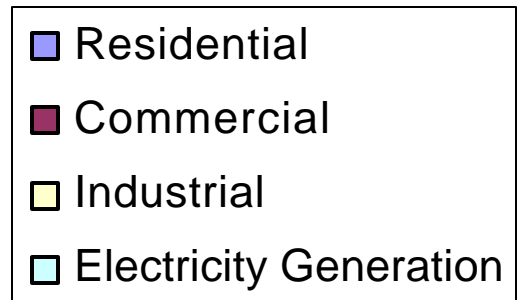
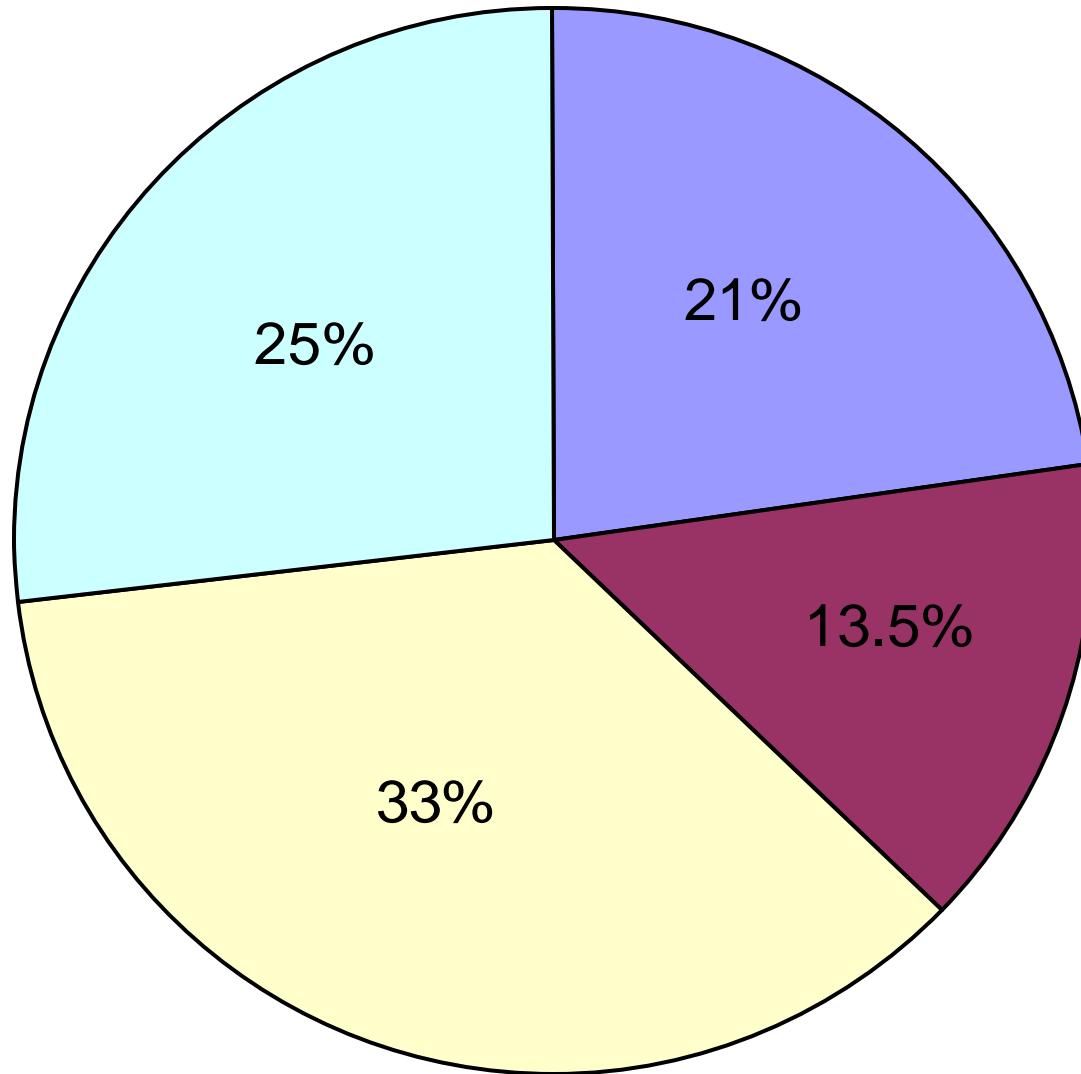
August 11, 2004

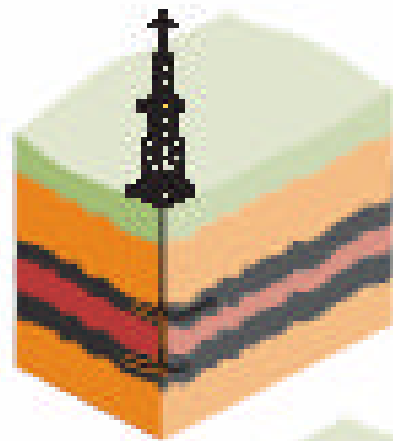
# Introduction

Natural gas is a cleaner more efficient fossil fuel than coal or oil, therefore it is projected that the demand for natural gas will increase by the year 2025 from 22 to 34 trillion cubic feet. Natural gas is important for our energy security and for a clean environment.

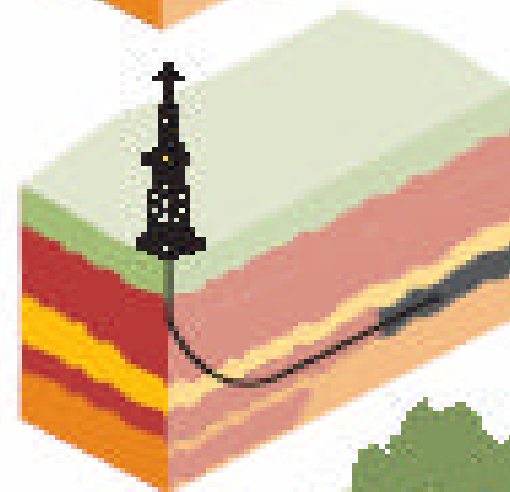


# Natural Gas Usage in the United States in 2003

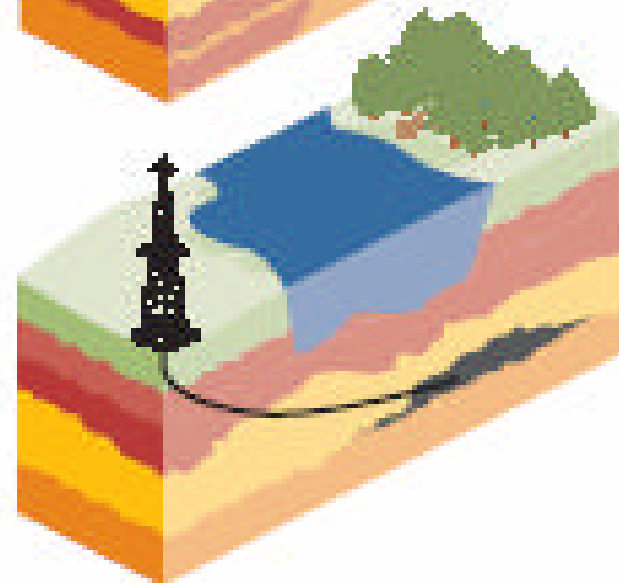




Vertical

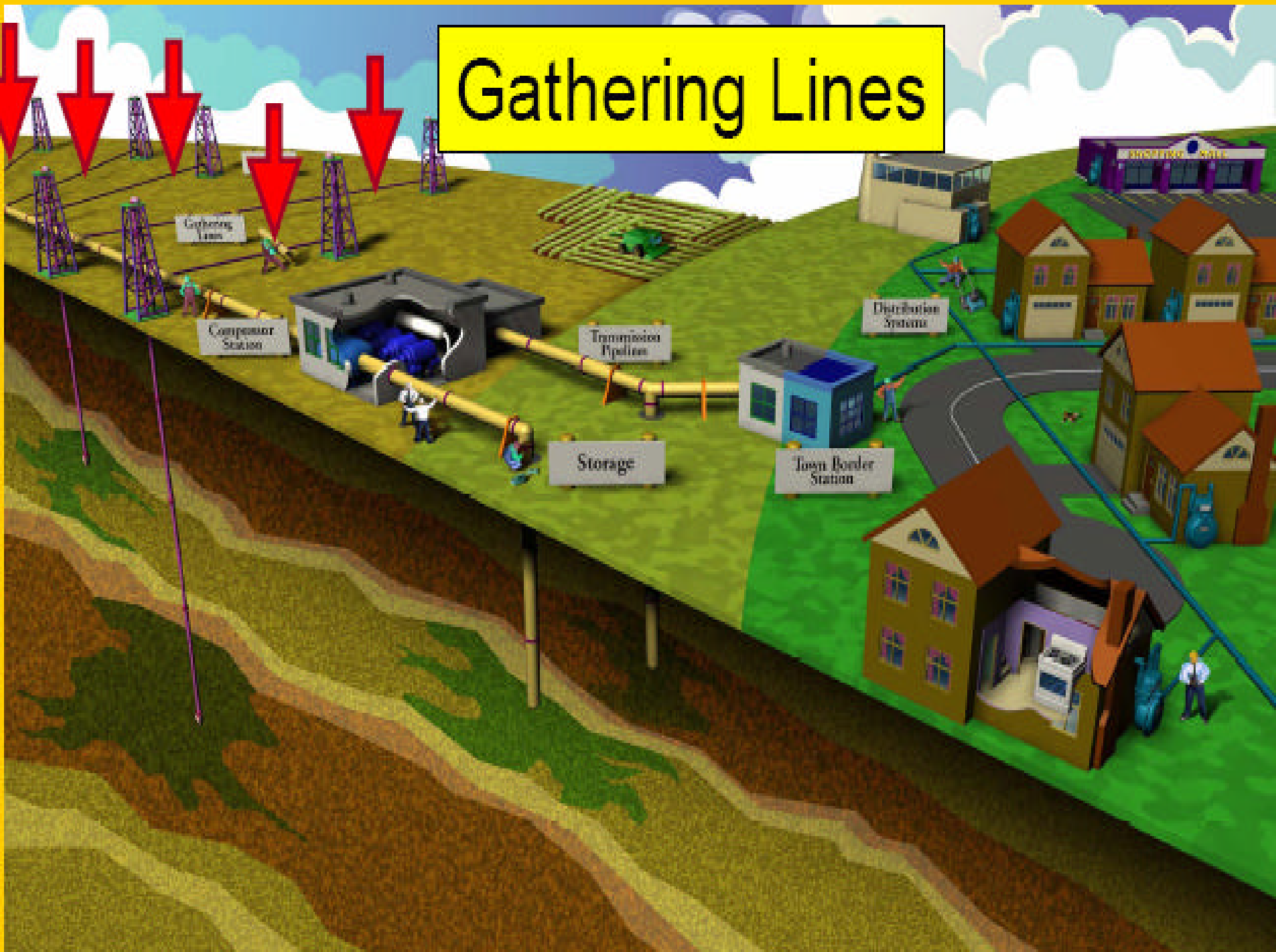


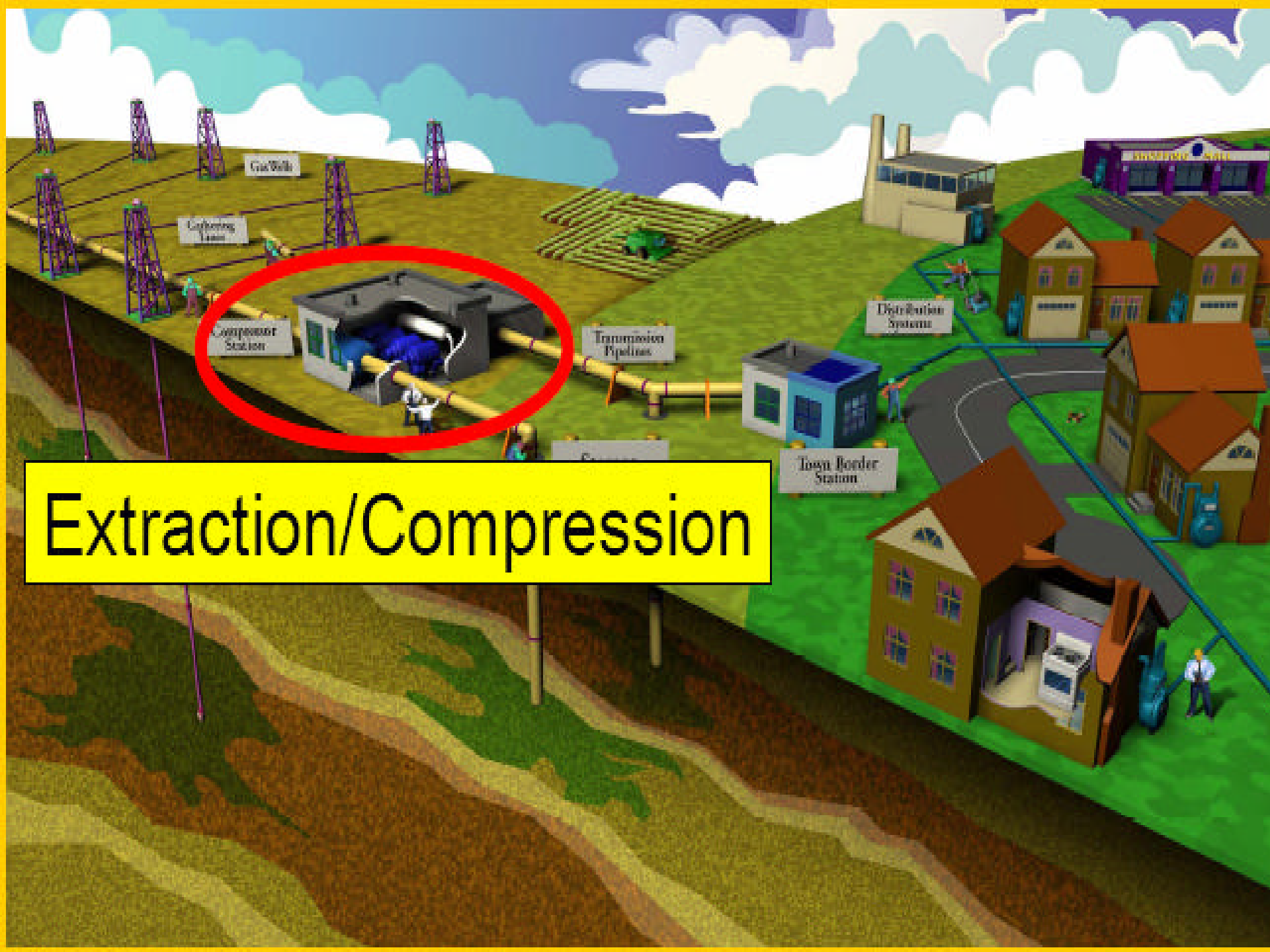
Horizontal



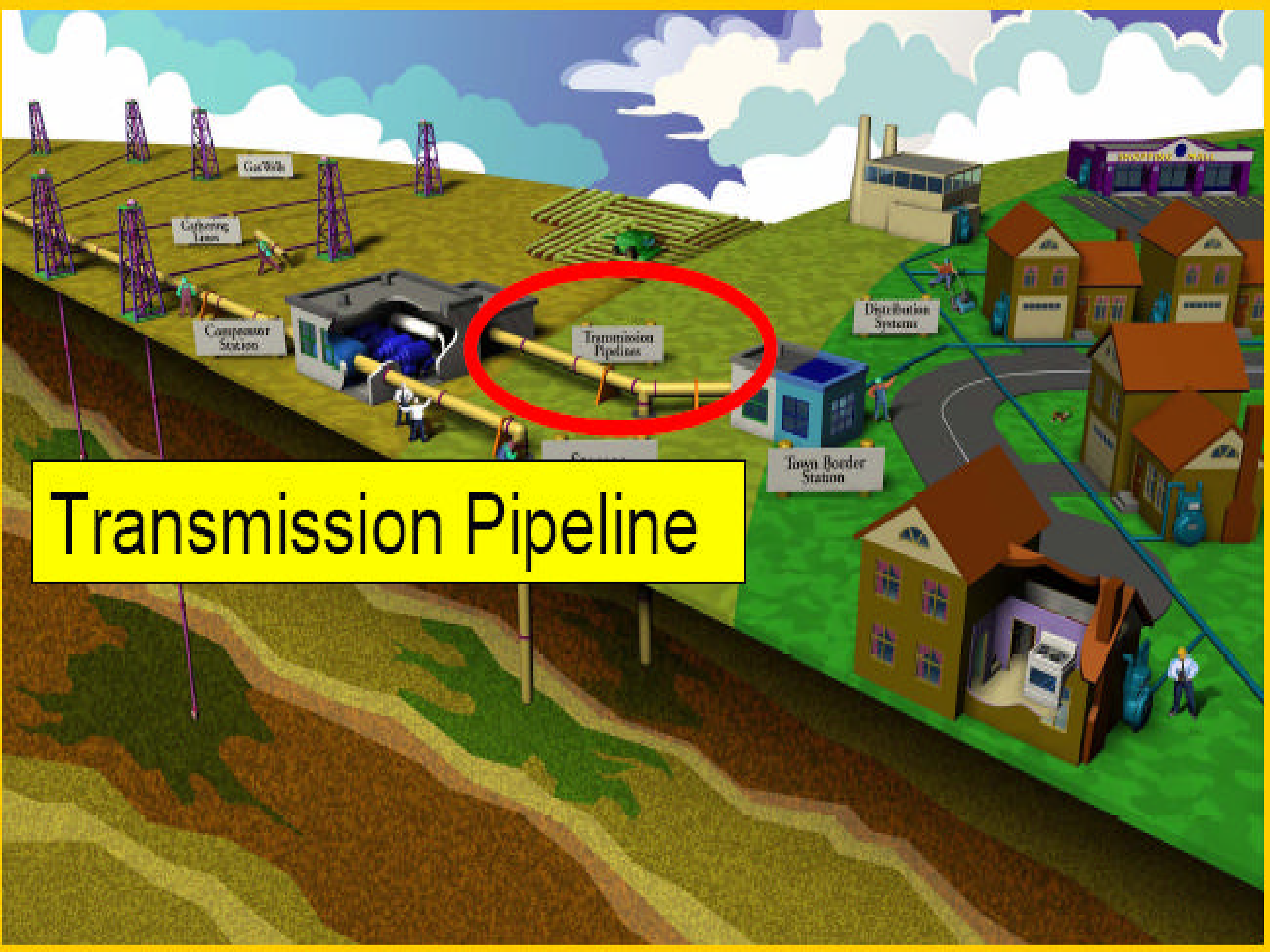
Directional

# Gathering Lines



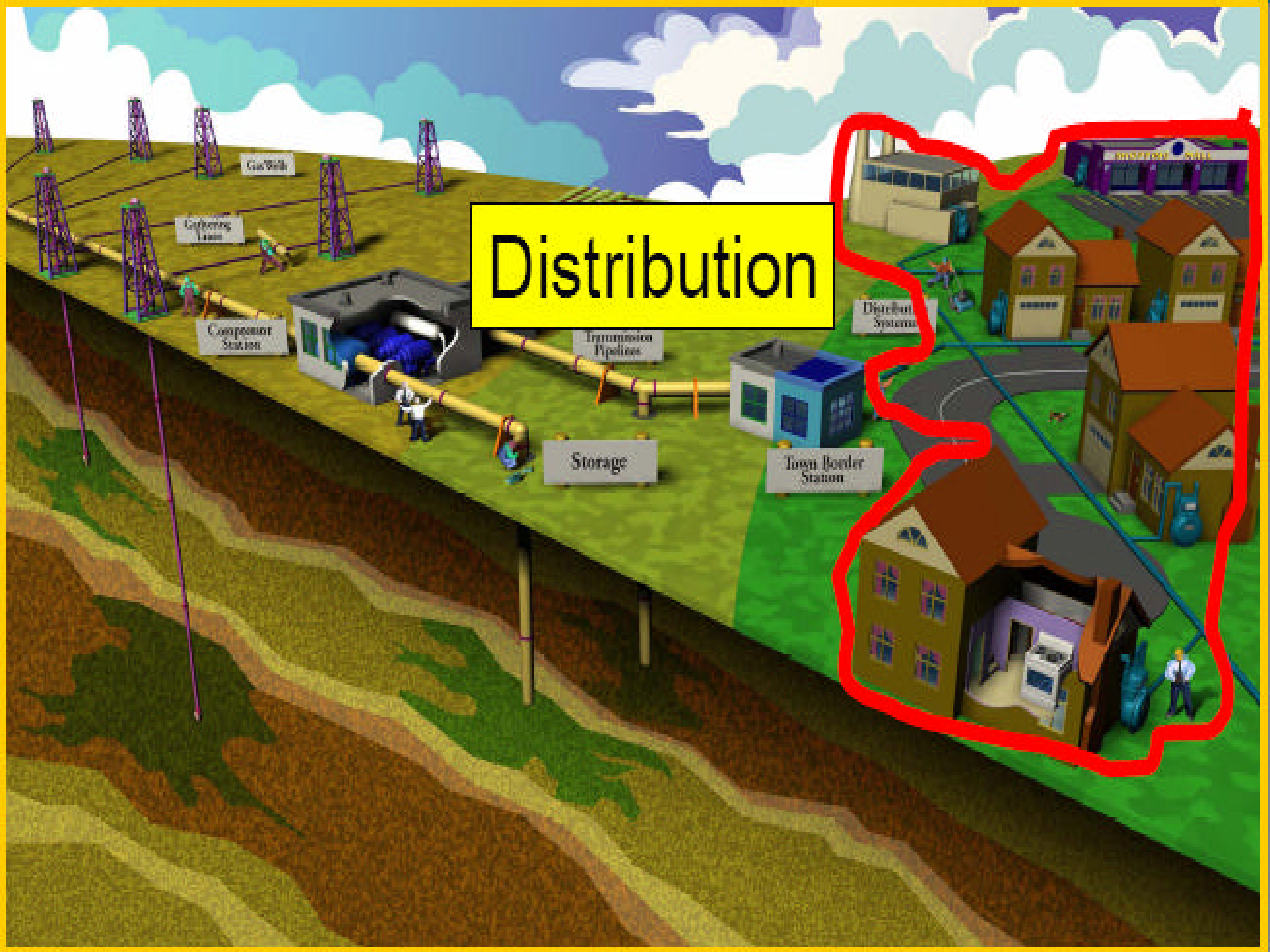


# Extraction/Compression

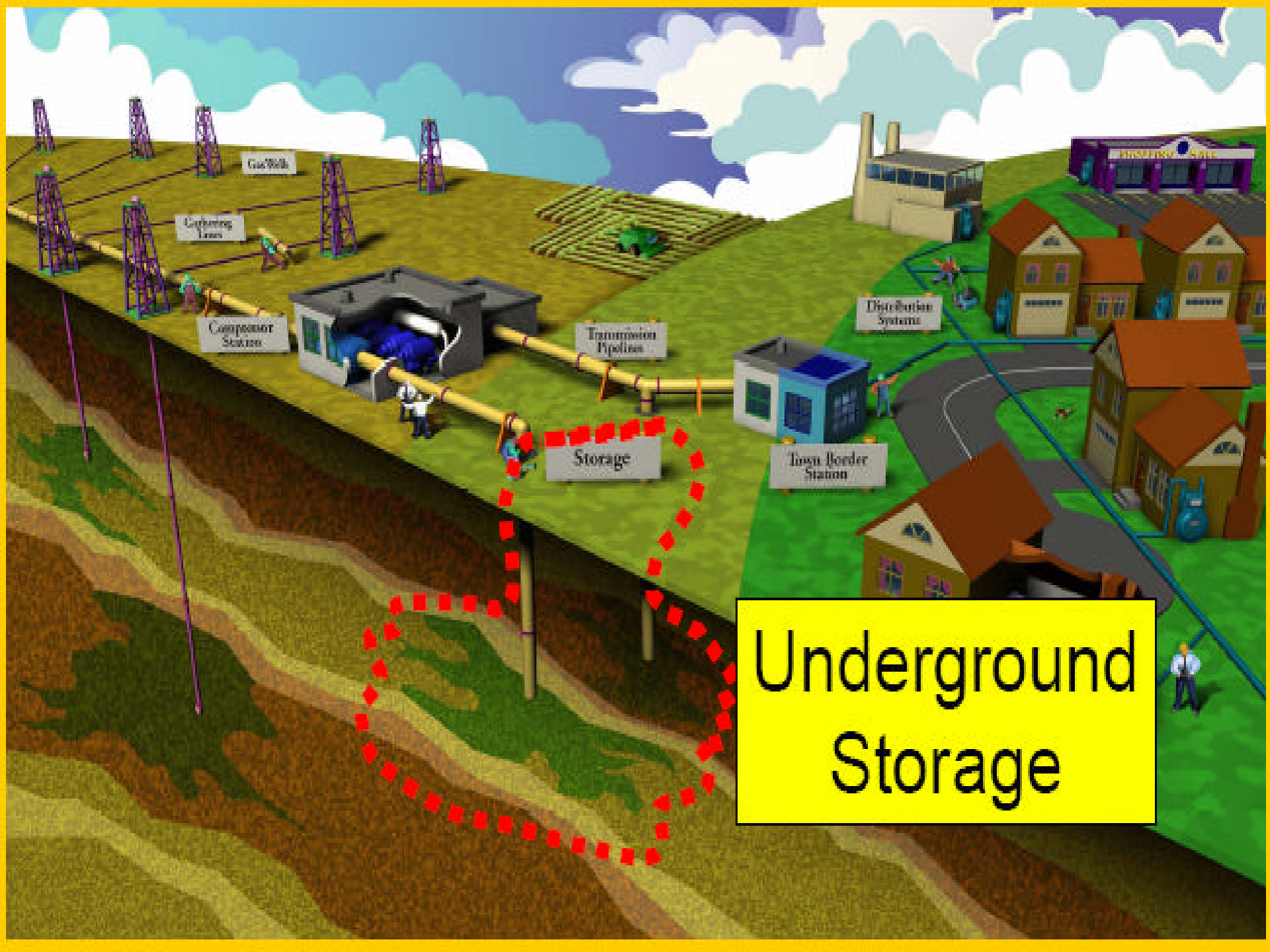


Transmission Pipeline

# Distribution







Gas Wells

Gathering Lines

Compressor Station

Transmission Pipeline

Storage

Town Border Station

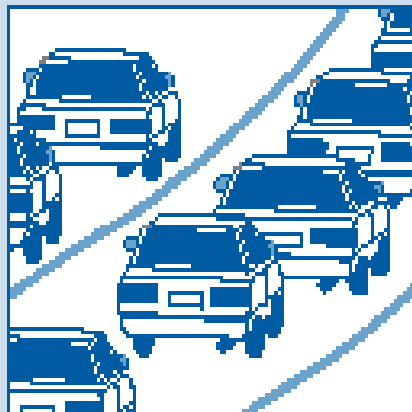
Distribution System

Underground Storage

## SOURCES OF AIR TOXICS

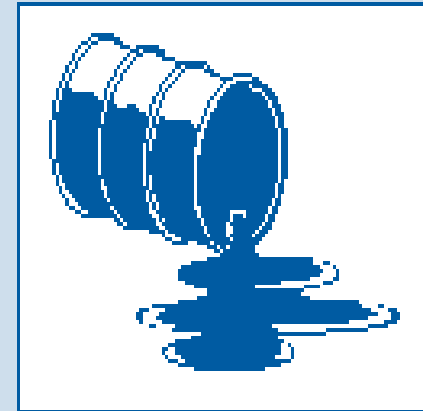


*Routine Emissions From Stationary Sources*

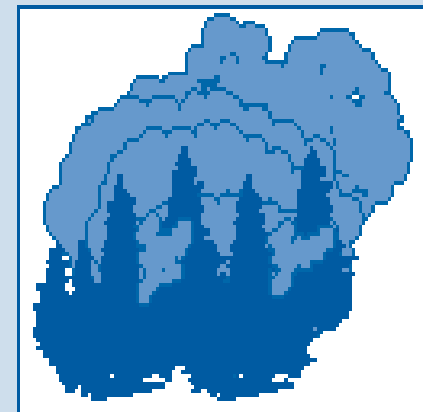


*Mobile Sources*

Each year, millions of tons of toxic pollutants are released into the air from both natural and manmade sources.



*Accidental Releases*



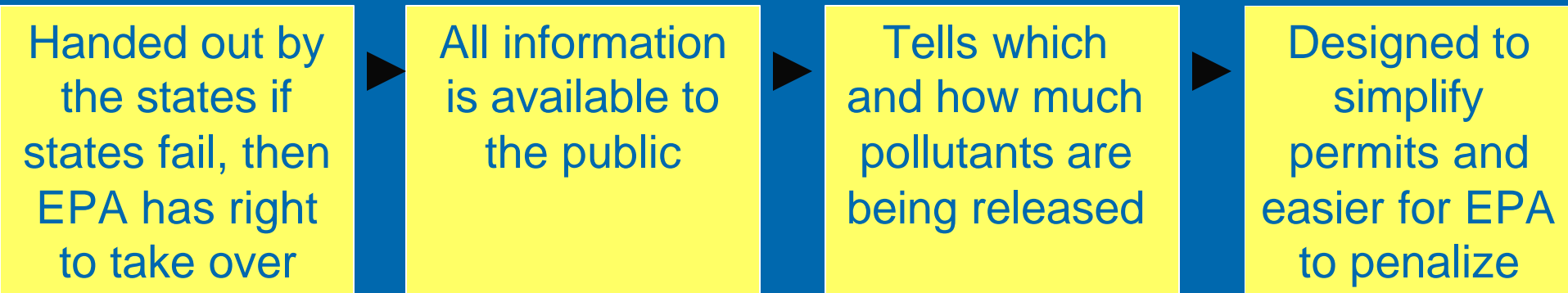
*Forest Fires*

# Criteria Air Pollutants

- Ozone ( $O_3$ )
- Nitrogen Dioxide ( $NO_2$ )
- Carbon Monoxide (CO)
- Sulfur Dioxide ( $SO_2$ )
- Particulate Matter (PM)
- Lead (Pb)
- Volatile Organic Compounds (VOC's)

# Permitting and Air Regulations

## Title V - CAA



## Early Action Compact



# Effects of Air Regulations on Gas and Oil Industry

- In order to comply with regulations, producers have to install expensive equipment
- May cause smaller, independent producers to close in well, resulting in less domestic production





## Big Bend National Park, TX

Left: Good Ozone Day

Below: Moderate to Severe Ozone Day

