



# Saudi Aramco Carbon Management Strategy

## *UTMN CO<sub>2</sub>-EOR Demonstration Project*

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# Corporate Objectives and Values

## ○ Objectives:

- Maximize profitability.
- Remain a reliable supplier of oil and gas.
- Efficiently meet the Kingdom's energy demand.
- Contribute to the development of the Kingdom's economy.
- Enhance research and technology.
- Intensify the focus on safety and protection of the environment.
- Prepare the work force for the future.

## ○ Values



Excellence



Safety



Accountability

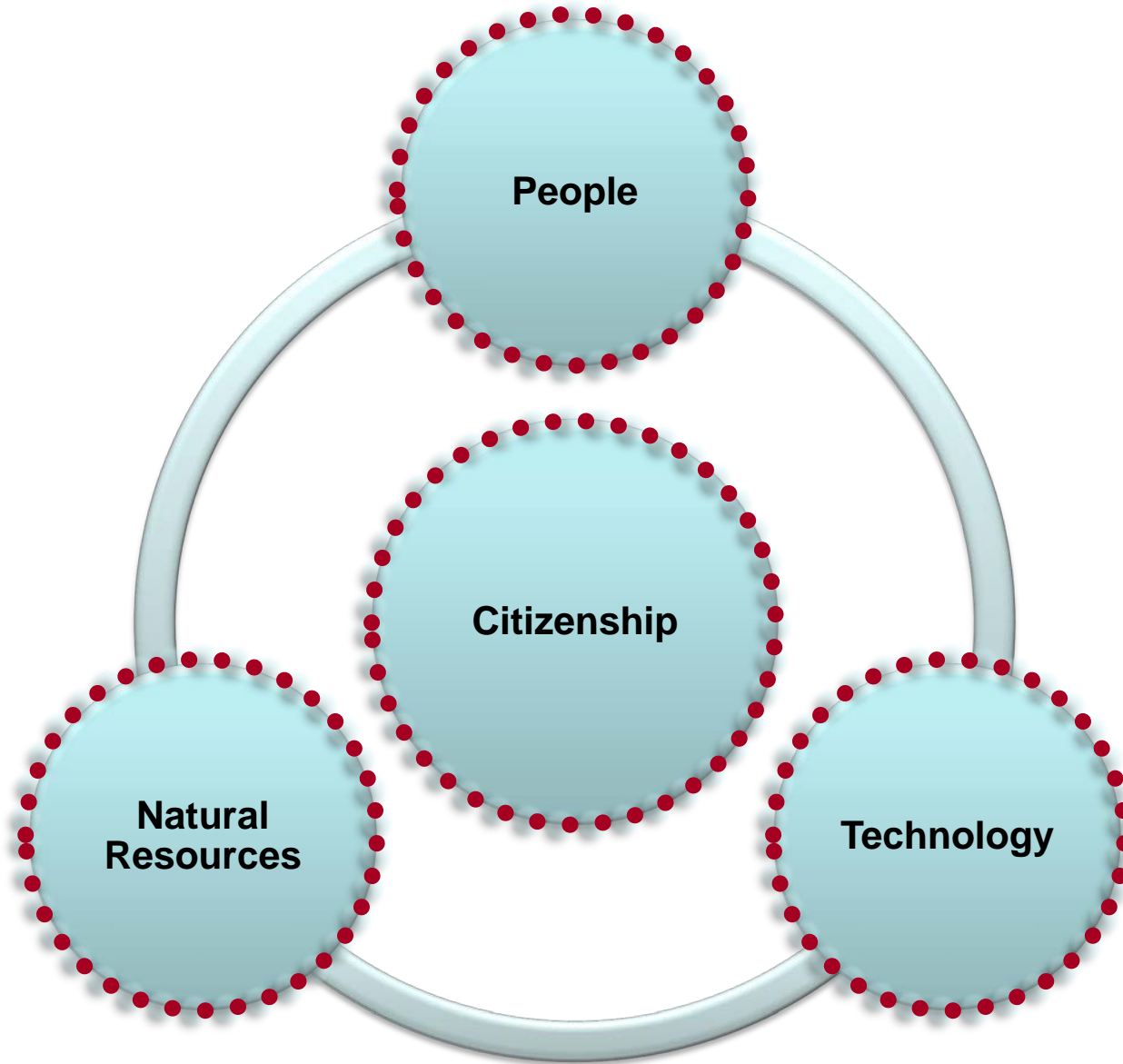


Integrity

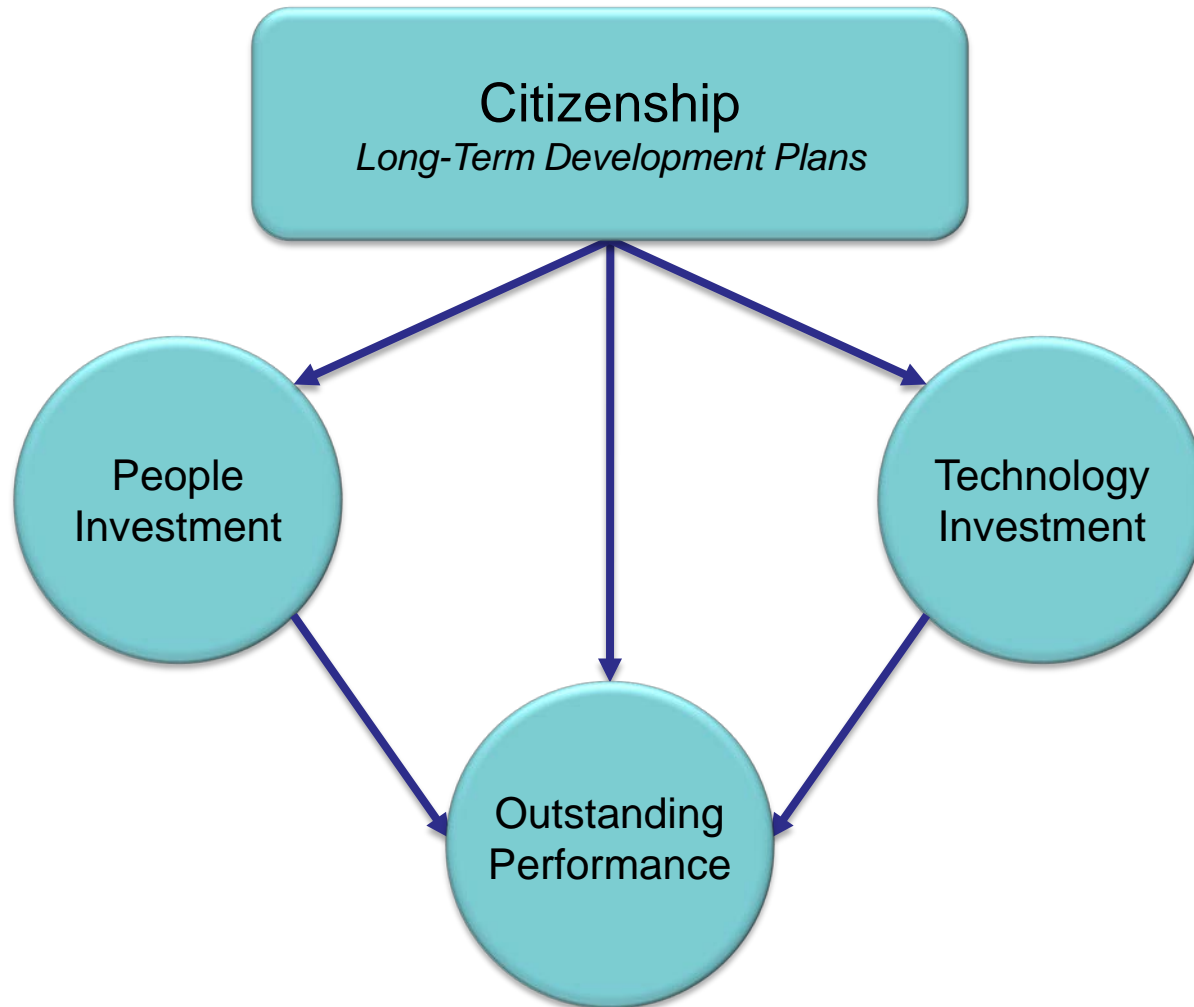


Citizenship

# Overall Strategy



# Long-Term Focus



# Environmental Stewardship

A strong history on environmental awareness and protection:

- ◉ Energy conservation and renewables
- ◉ Flare reduction (master gas system)
- ◉ Carbon management



# Carbon Management Technology Roadmap

## Focus Areas

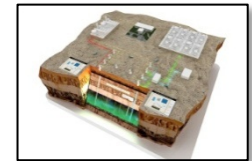
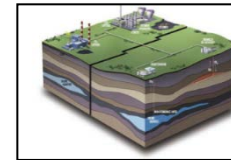
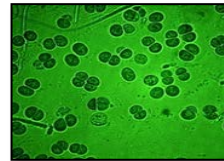
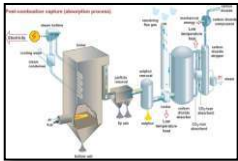
Capture  
Fixed Sources

Capture  
Mobile Sources

Industrial  
Applications

Sequestration

CO<sub>2</sub> EOR



# Why CO<sub>2</sub> EOR

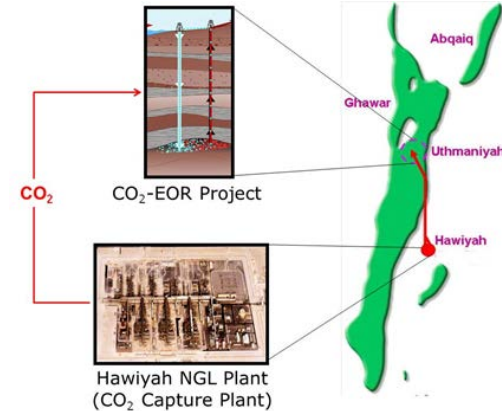
- ⦿ Oil fields are well understood and characterized.
- ⦿ Fossil fuels will play a major part of the energy landscape.
- ⦿ CO<sub>2</sub> sequestration can continue long after oil production is diminished.
- ⦿ CO<sub>2</sub> EOR serves as a mutually beneficial technology.



# Saudi Aramco CO<sub>2</sub>-EOR Demonstration Project

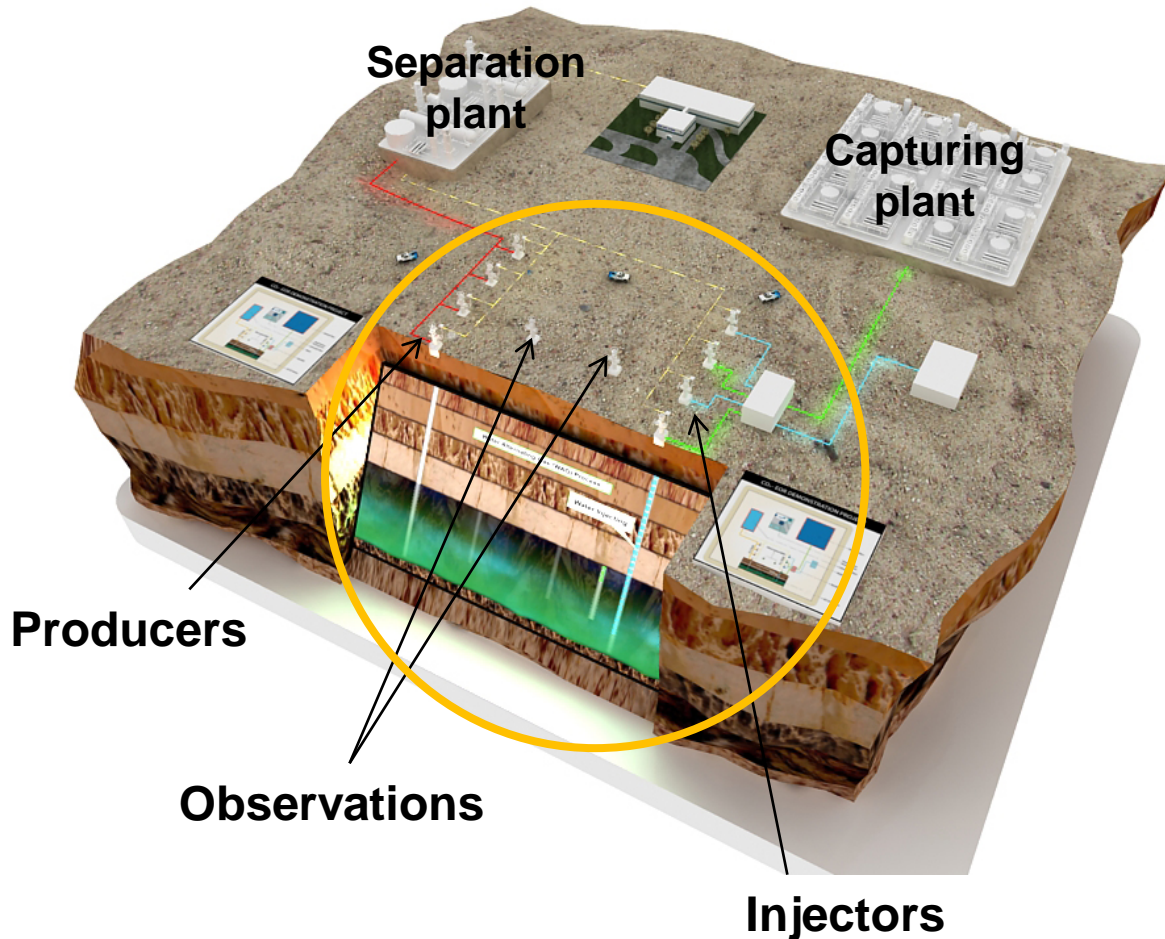
## Objectives:

- Confirm volume of CO<sub>2</sub> will be sequestered.
- Develop and apply innovative CO<sub>2</sub> monitoring techniques.
- Assess impact on oil recovery (EOR).





# Injection Strategy



- ⦿ CO<sub>2</sub> injection 40 MMscfd
- ⦿ 4 inj. and 4 prod.
- ⦿ Alternating water/CO<sub>2</sub>
- ⦿ Switch CO<sub>2</sub> between wells

***Over the course of the project, a robust M&S program is in place.***



# Involvement with CSLF

- ◉ Share knowledge with 23 countries\* (representing 60% of the world's population).
- ◉ Work in a collaborative environment to promote the RD&D efforts in carbon emission reductions.
- ◉ Advance Saudi Arabia carbon management technology roadmap.
- ◉ Obtain an international recognition for Saudi Arabia's CO<sub>2</sub>-EOR demonstration project.

*\*22 countries and European Commission*

