



# **ADMA-OPCO Gas Flaring Reduction Achievements & Strategy**

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**Middle East Forum on Gas Flaring Reduction & Gas Utilization**  
**Muscat, Oman**

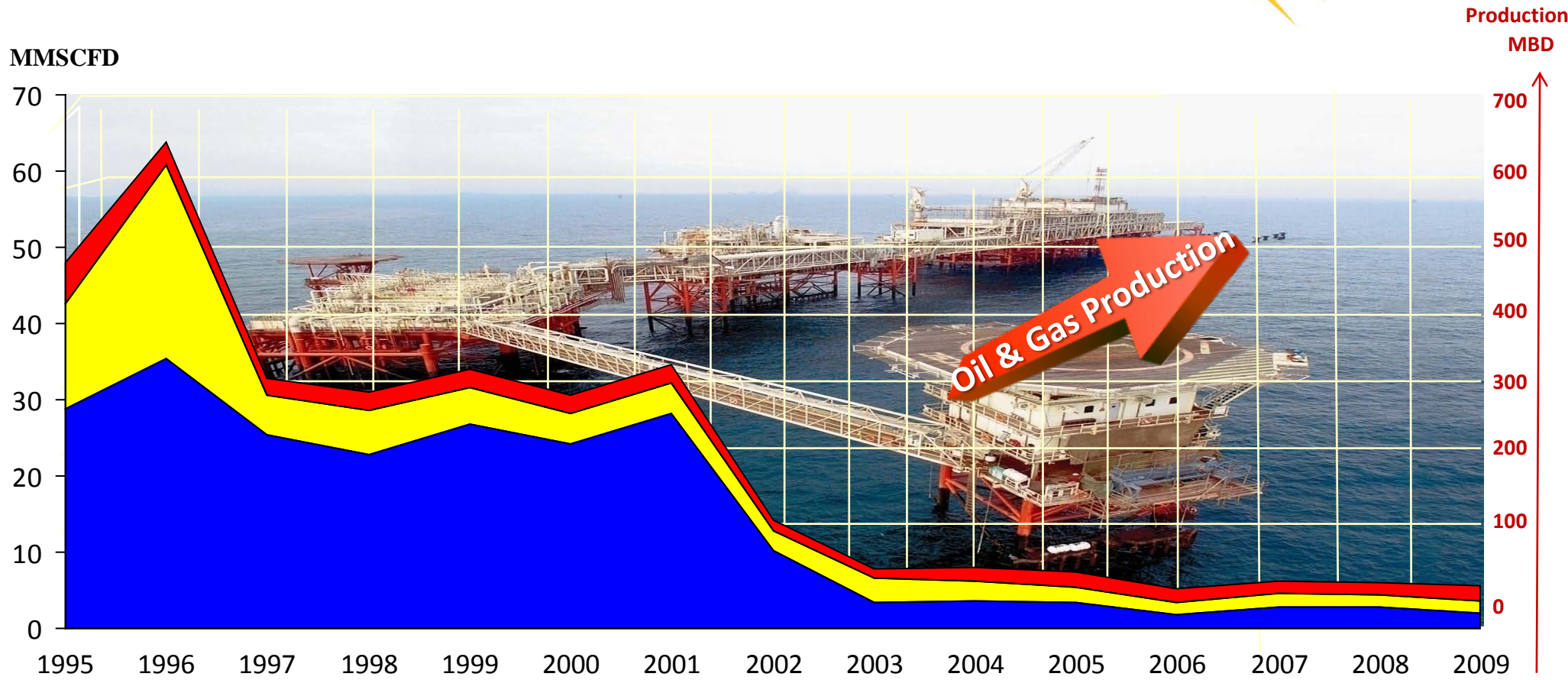
**10<sup>th</sup>-11<sup>th</sup> May, 2010**



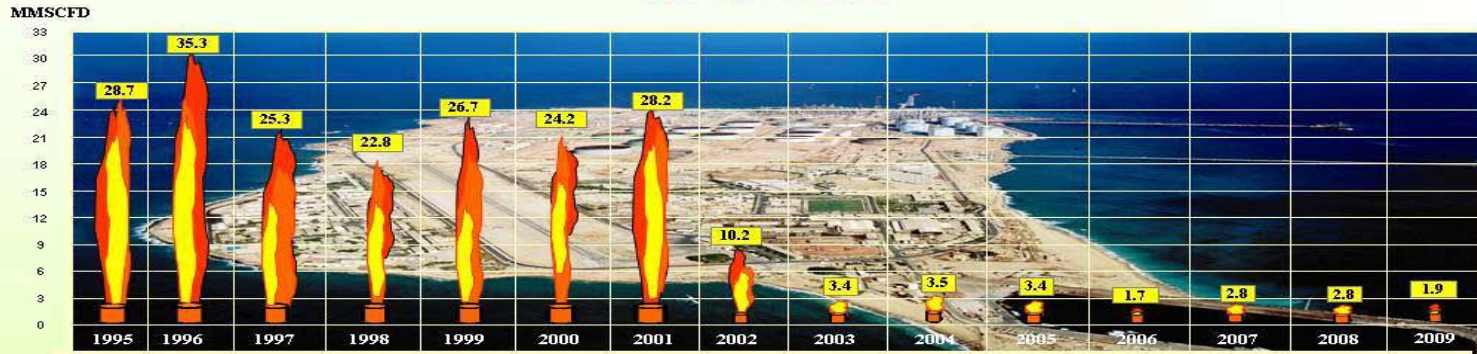


**Integrated Production Cycle to Provide Energy at Minimal Waste**

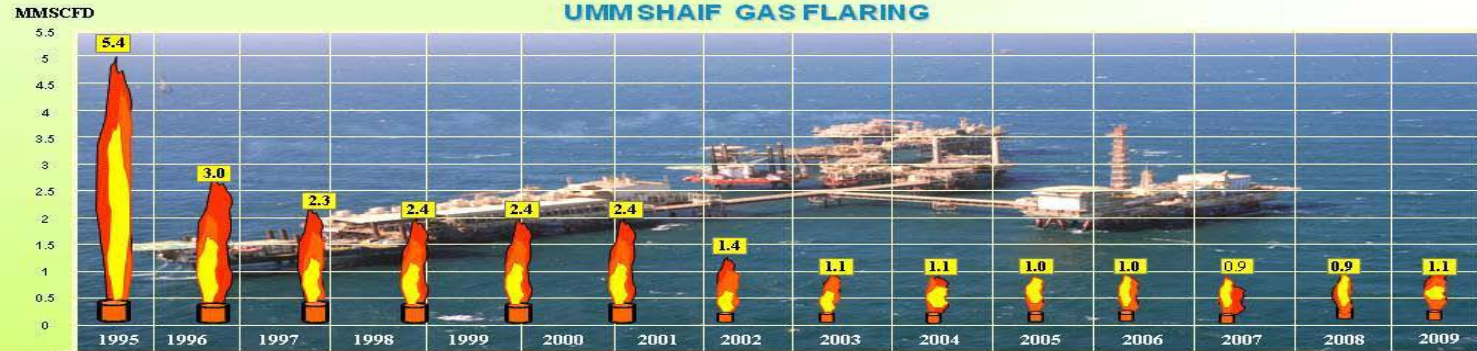
# ADMA-OPCO Flaring Reduction Trend 1995 - 2009



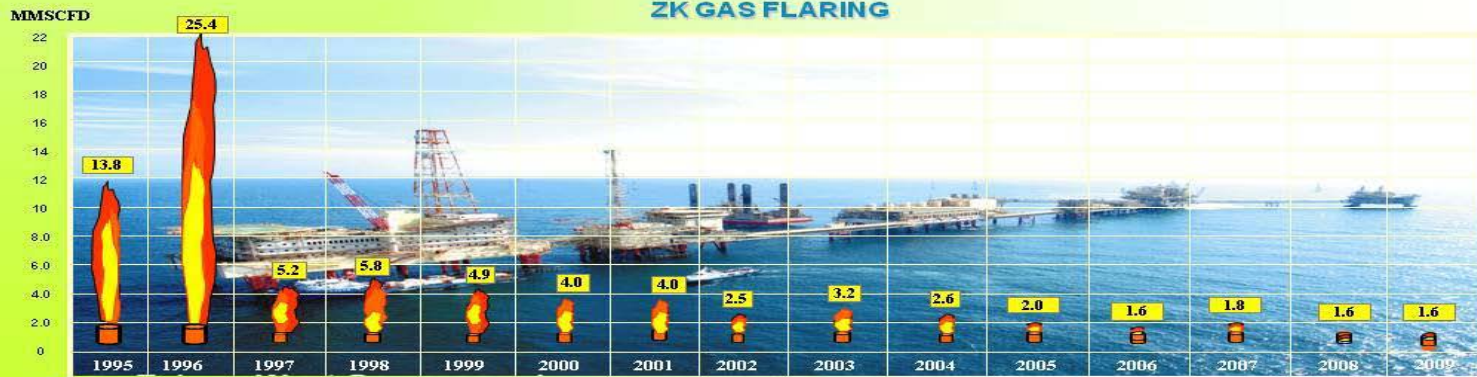
## DAS GAS FLARING



## UMMSHAIF GAS FLARING



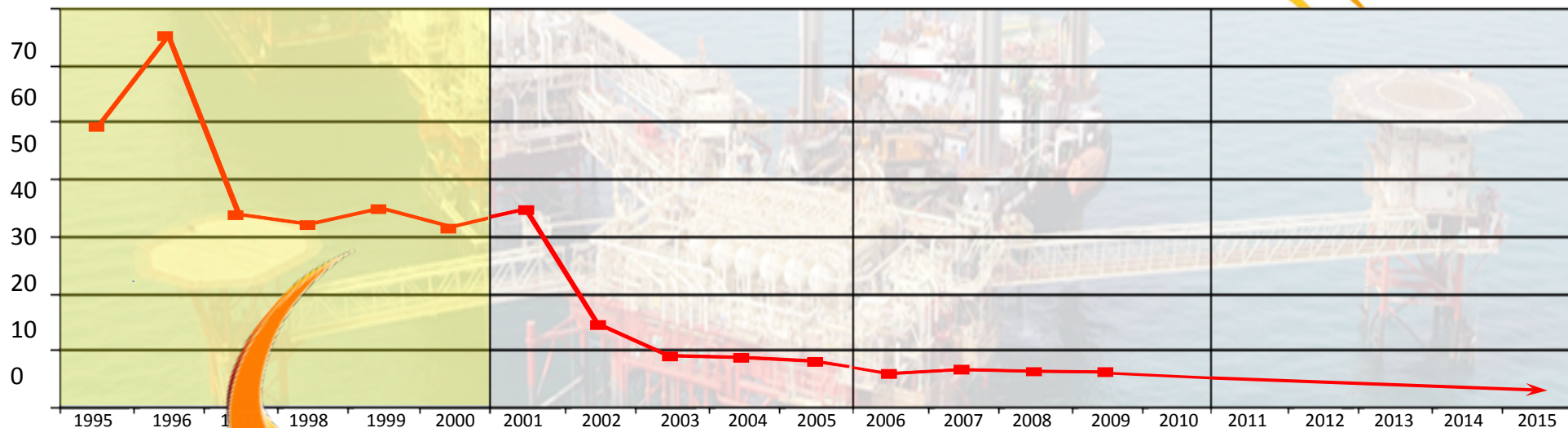
## ZK GAS FLARING



# Flaring Trend 1995-2000

## Reduction achieved through Vision & Compliance

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**50% Reduction  
Mainly Leadership &  
Soft Issues**

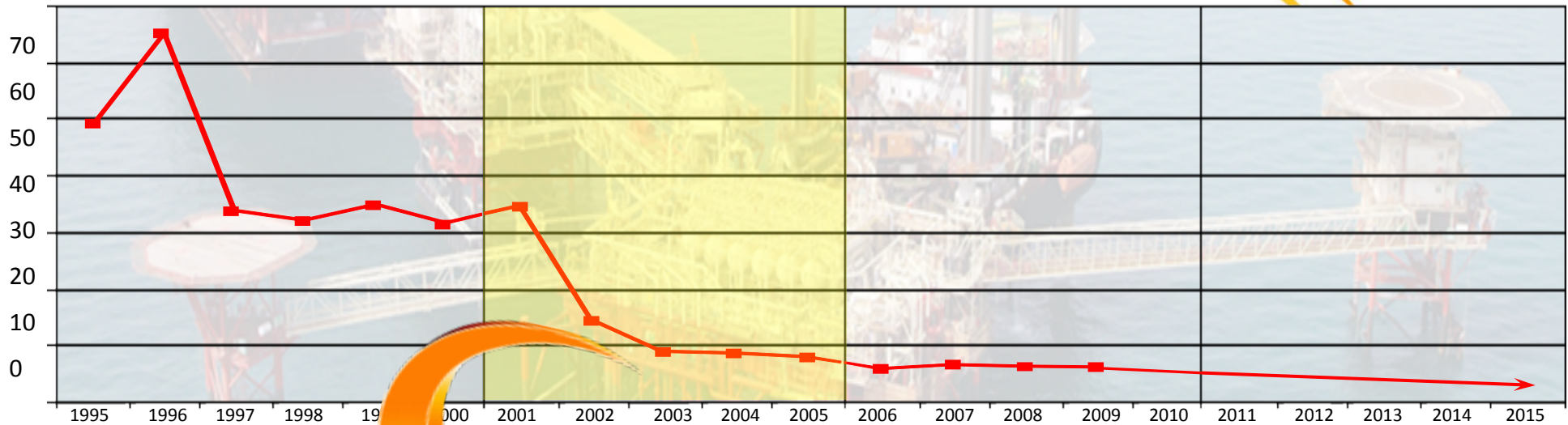
### Vision, Leadership & Compliance (1995 – 2000)

- ADNOC Vision 'No Harm to People, No Damage to Environment'
- OPCO Commitment (ADMA Hub for networking)

### Policy, Procedures, Laws, Regulations & Coordination

- Localised approach and management commitment
- Management Systems
- Full Compliance to International standards
- ISO 14001 Certification of ADMA-OPCO since 1999
- UN Protocols and Conventions incl. Kyoto Protocol

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### Continuous advances in Technology & Hardware (2000 – 2005)

- Modifications of Das Flare & Inshore Flares Segregation
- Zakum Gas Injection Project
- Modification to Offshore Flares ZWSC/ZCSC/USSC Project metering
- Nitrogen Purging for Flares
- HSEIA for lifecycle of all facilities from Concept to Decommissioning.
- Use of Best Available Technology (BAT) Concept
- Upgraded facilities and enhanced practices to reduce Hydrocarbon Flaring
- Advances and initiatives in management and business practices

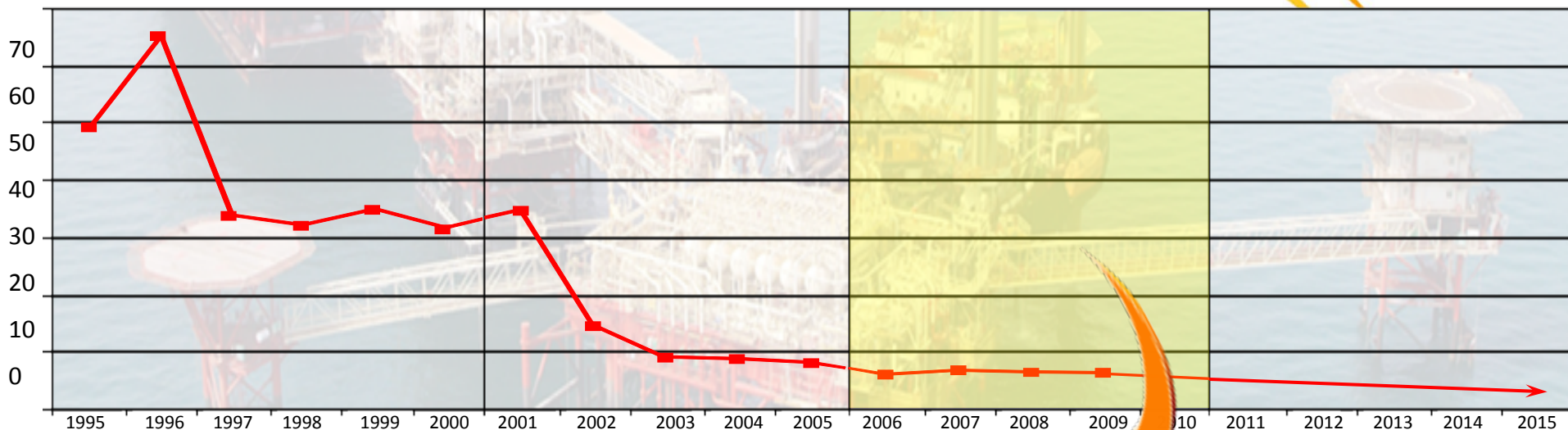
Year 1991



Year 2003



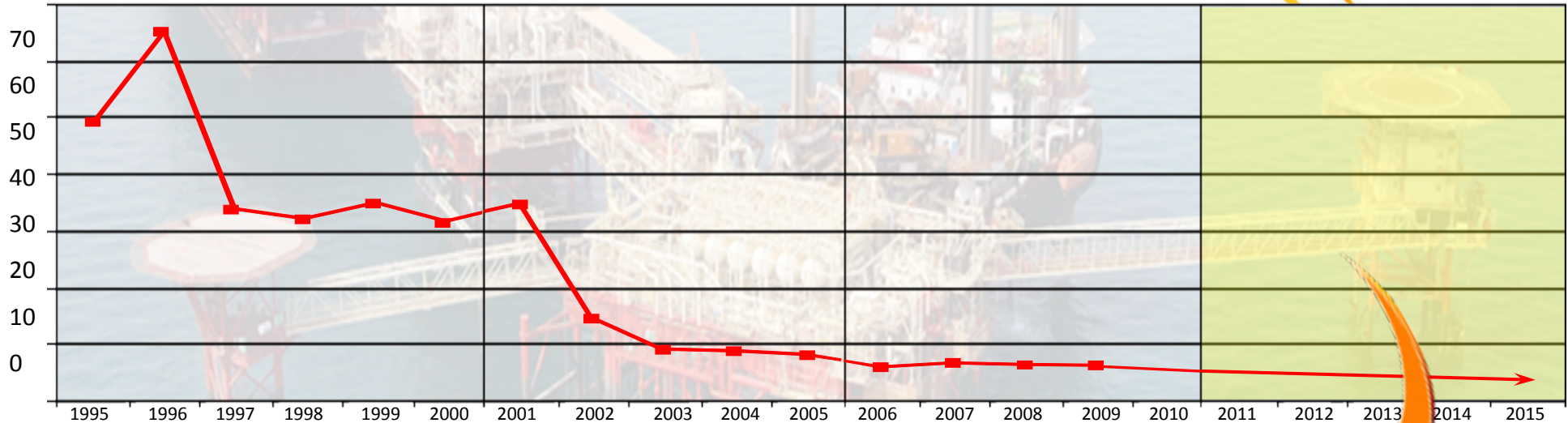
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### PRACTICES / PROJECTS ( 2006 – 2010 )

- Challenges of high demand & low flaring
- Sustaining good performance and refinement
- Crystal Gas Injection
- Simultaneous Operations (SIMOPS)
- ZWSC CSP & GG II Debottlenecking / CSP knock out drum
- Installation of Waste Gas Handling unit
- Auto ignition & Nitrogen Purging on Das Flares
- Measurement using Flowmeters, etc.

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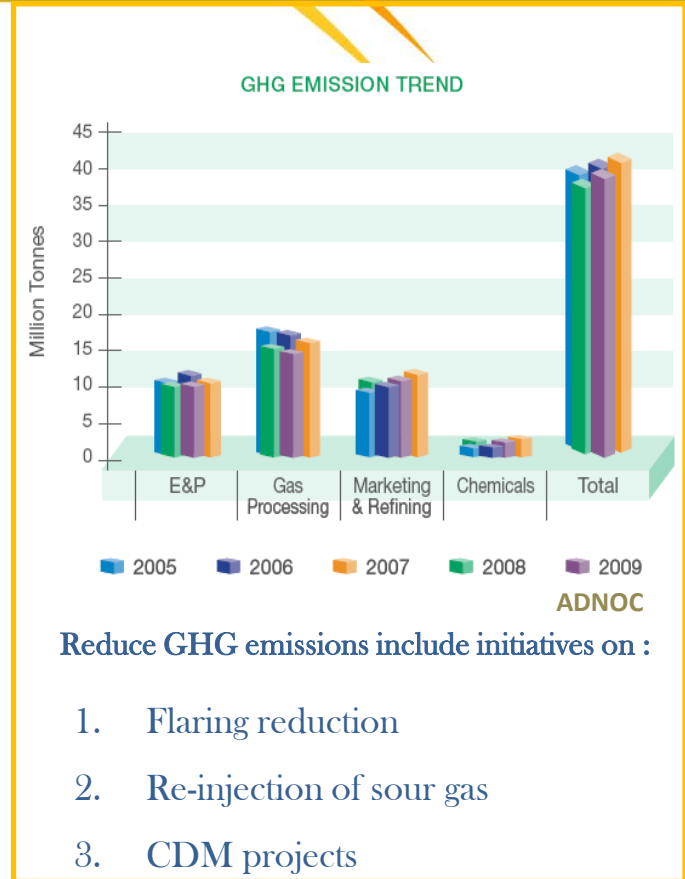
### ZERO FLARING ASPIRATION (INNOVATION) (2010 & Beyond)

- Gas injection facilities (USGIF)
- Gas Process Facilities (GPF)
- Vapor recovery compressor provided to recover low off gases from the regeneration system and purge gases from the Flare system for all New Fields & New Projects
- Zero flaring Concept for New Fields Development Satah / Umm Lulu/ Nasr
- Extending the zero flaring by power generation integration
- Synchronization of power energy
- Habshan Link (Connection to GASCO facilities) Production Flexibility & Flaring reduction
- Integrated Gas Development (IGD) & Offshore Associated Gases (OAG)
- Clean Development mechanism (CDM ) Projects under review

- **Health**
  - Health risks from combustion products (toxic gases and particulates) are reduced.
- **Environment**
  - Risks of global warming and acid rain from CO<sub>2</sub> and SO<sub>2</sub> are reduced.
- **Safety**
  - Risk of fire / explosion from an unignited gas cloud due to flare pilot failure is reduced.
- **Financial**
  - Reduced direct costs caused by loss of product.
  - Reduced indirect costs caused by any of the risks mentioned above plus lower insurance premiums.
- **Reputation**
  - Enhanced reputation for good environmental stewardship.

- The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change.
- Objective of the Kyoto Protocol : To establish a legally binding international agreement, whereby all the participating nations commit themselves to tackling the issue of global warming and greenhouse gas emissions. Kyoto places no legally binding targets for GHG reduction on UAE.
- The target agreed upon was an average reduction of 5.2% every year till the year 2012.

As per the world statistics, UAE has 139,553,000 tonnes of CO<sub>2</sub> emission which is 0.49 % of the world CO<sub>2</sub> emissions.



## Current Aspiration

CO<sub>2</sub> gas injection pilot started in onshore for future large scale considerations including offshore.

- Production Growth Strategy vs. Flare Reduction commitment.
- Zero Flaring Concept for all new fields development projects.
- Implementation of Best Available Technology (BAT).
- Asset Integrity issues from aging assets.
- Compliance with local and international environmental regulations.
- Minimizing uncertainties through increased transparency, dialogue, partnership and cooperation with local and international organizations.
- Improved monitoring, measurements and reporting system.
- Continue to re-energize the organization, for environmental leadership, commitment, best practices, innovation & initiatives.



*Thank You*

