



## **Integrated Models for Profitable Gas Flaring Reduction**

Frederic Boeuf  
General Manager  
E.ON Masdar Integrated Carbon

## Large Carbon abatement potential through Gas Flaring Reduction

Gas Flaring Volumes		
2008 est.	bcm	mill tons CO <sub>2</sub>
Russia	40,2	115
Nigeria	14,9	43
Iran	10,3	29
Iraq	7,0	20
Algeria	5,5	16
Kazakhstan	5,2	15
Libya	3,7	11
Saudi Arabia	3,5	10
Angola	3,1	9
Qatar	3,0	9
Rest of the world	44,0	126
Global flaring level	140,0	400

- Gas flaring contributes to some 400 million tons of CO<sub>2</sub> emissions worldwide (>1.4% total CO<sub>2</sub> emissions)
- MENA is a major gas flaring region with 6 of top 10 countries
- Estimated potential for global gas flaring reduction of up to 150 mill tons CO<sub>2</sub> by 2020
- There will be a value for carbon post Kyoto
- Natural gas is a too valuable resource to be wasted

## Obstacles to gas flaring reduction vary

### Challenges for Gas Flaring Reduction

- Hydrocarbon monetization priorities
- Commercial viability
  - Production profile & volumes of gas flared
  - Lacking infrastructure and processing facilities
- Regulatory uncertainty & political support
  - Carbon market uncertainty
  - Lack of a consistent global regulatory approach
- Lack of integrated approach



## Lack of integrated approach

### Core capabilities of selected key players along gas flaring reduction value chain

Players	Gas Flaring Asset	Market Access Governm. Support	Development			Financing Equity / Debt	Implementation		Operation		Carbon Focus CER Offtake
			Technical	Commerc / Legal	CDM		Gas Infra-structure	Power Generation	Gas Infra-structure	Power Generation	
NOC	✓	✓	✓	✓		✓	(✓)		(✓)		
TSO / DSO		✓	✓	✓		(✓)	✓		✓		
Power Producers		✓	✓	✓		✓		✓		✓	(✓)
Carbon Aggregator				✓	✓	(✓)					✓
Financial Institutions				✓		✓					
Technology Providers							✓	✓	(✓)	(✓)	

✓ Core capability

(✓) Minor focus / partial capability

## **E.ON and Masdar join forces to help companies implement integrated carbon solutions**

- **E.ON Masdar Integrated Carbon** is a joint venture between E.ON and Masdar focused on developing, financing and implementing carbon abatement projects
- **Focus:**
  - Energy efficiency: OCGT to CCGT conversion, Fuel Switch
  - Fugitive gas reduction: Gas Network Repair, Gas Flaring Reduction
- **Value proposition:**
  - Integrated Carbon solutions for industrial asset owners, utilities and national oil and gas companies to help optimize energy efficiency of their assets, generating additional revenues and reducing emissions

## Drawing on expertise of E.ON and Masdar



- Integrated power and gas utility with activities ranging from power generation and gas production to trading, distribution and sales
- **Power expertise:** Power generation (73 GW capacity incl. nuclear, fossil and renewable energy), new build & upgrade, operation & fleet management
- **Gas expertise:** Gas transmission & distribution, LNG terminals, network design, new build & refurbishment, operations and field service
- **Carbon expertise:** Carbon Offset agreements, project development



- Abu Dhabi's multi-faceted initiative advancing the development, commercialisation and deployment of renewable and alternative energy technologies and solutions
- **Carbon expertise:** CDM development, Carbon Offset agreements
- **Policies and Regulation:** Global carbon market framework and policies
- **Gas flaring reduction expertise:** Flaring reduction projects with ADNOC

# Offering integrated solutions along the entire project life cycle

## E.ON Masdar Integrated Carbon Capabilities

	Pre-Feasibility	Development	Financing / Implementation	Operation
Technical	Pre-feasibility study	Development, Planning, FEED, RFP, Tender Evaluation	Implementation Supervision, Owner's Engineer services	Operational Supervision and Optimization
Commercial / legal	Financial modelling, scenarios	Investment Planning, Tender Negotiations, Sales Agreements, Financial Structuring	Equity investment, Licensing, Project Controlling, Claim Management	Performance Controlling
CDM	Feasibility check, PIN	PDD, Validation, ERPA	DNA Approval, Registration	Monitoring, Carbon Offtake
Project Mgmt	Project Team Coordination, Stakeholder Management			

# Integrating gas and power solutions

E.ON Masdar Integrated Carbon aims at optimizing the entire energy value chain



Gas Flaring



Gas Transmission



Gas Distribution



CHP / Industry



Power Plant

Gas Infrastructure

New Build  
Refurbishment

Power Generation

Fuel Switch  
CCGT conversion

## Conclusion

- A new breed: International Carbon Company (ICC)
  - Focused on carbon
  - Based on win-win economics: profit sharing of energy savings and additional carbon revenues
  - With the willingness to share regulatory risk, e.g. post Kyoto
  - Helping to realise integrated carbon solutions through technical, commercial, CDM development services, financing and implementation for gas and power
- An excellent pedigree: E.ON Masdar Integrated Carbon
- Wishing to partner with NOC, IOC, power producers and technology providers in gas flaring reduction projects
- Together we can successfully reduce carbon emissions from gas flaring

## Contact

E.ON Masdar  
**Integrated Carbon**

Frederic Boeuf  
General Manager  
E.ON Masdar Integrated Carbon

Mob.: +971 501094684  
[frederic.boeuf@eon.com](mailto:frederic.boeuf@eon.com)

E.ON Masdar Integrated Carbon Ltd.  
PO Box 54115, Abu Dhabi, UAE