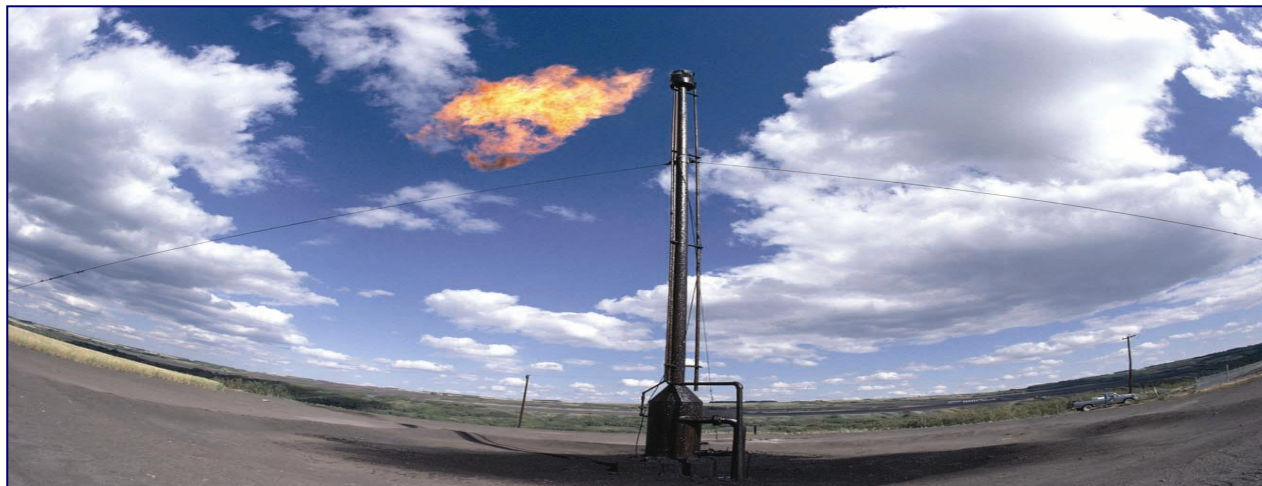


Joint OPEC/World Bank Group Workshop on Gas Flaring Reduction



Vienna, 30 June – July 1, 2005

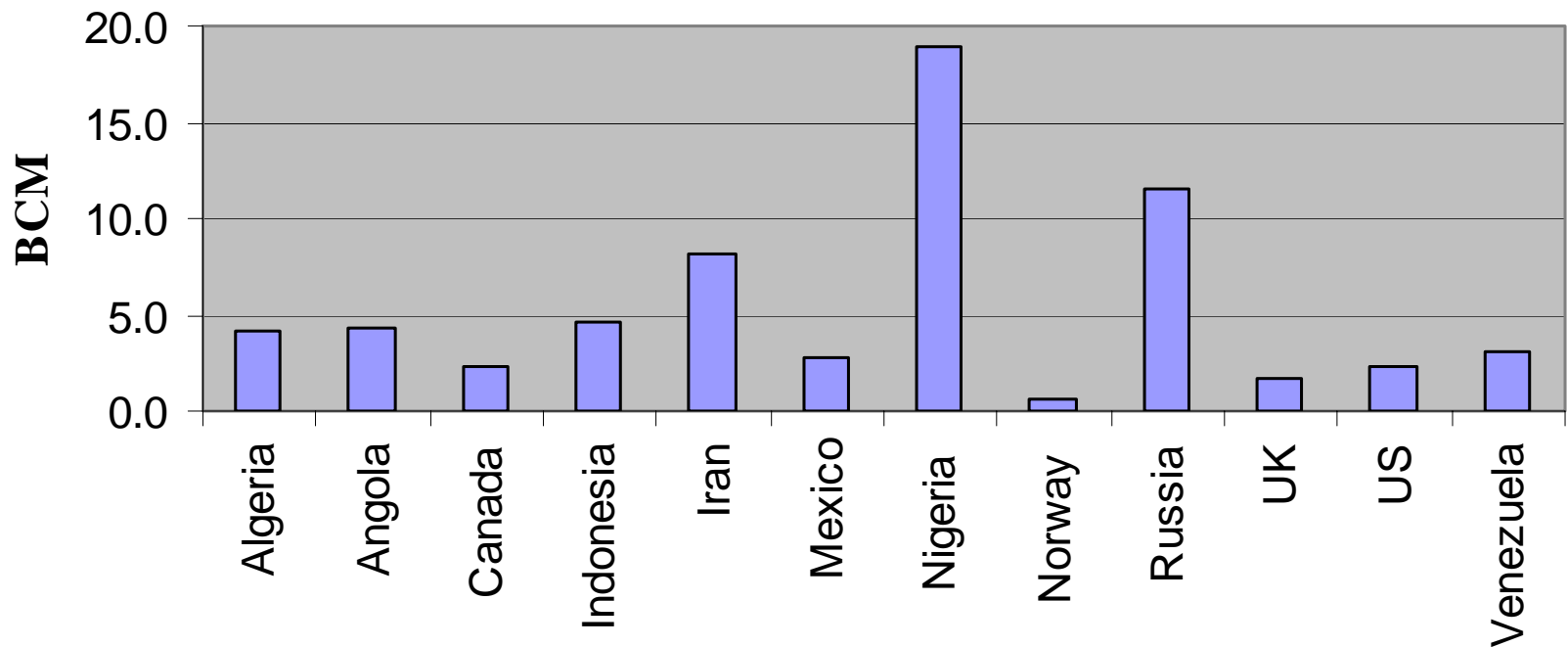


Dr. Sascha T. Djumena



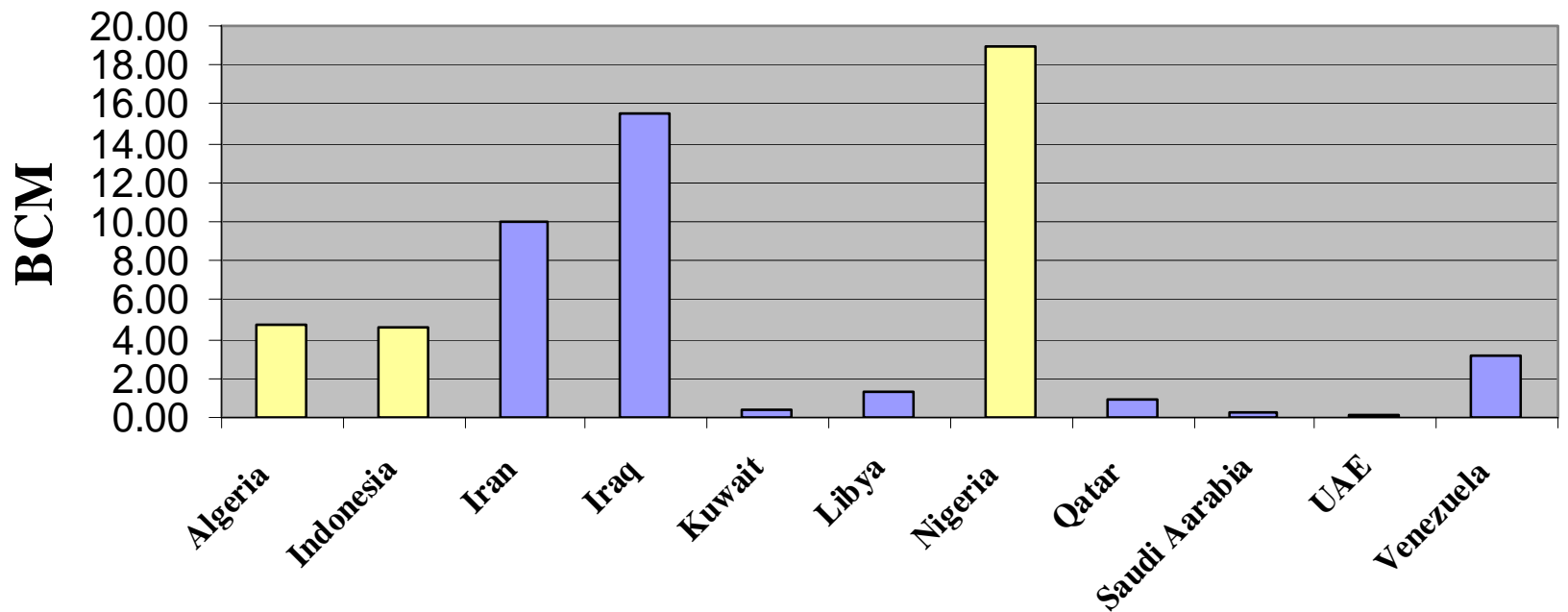
International Comparison

"Best Estimate" of Gas Flared and Vented in Selected Countries in 2002



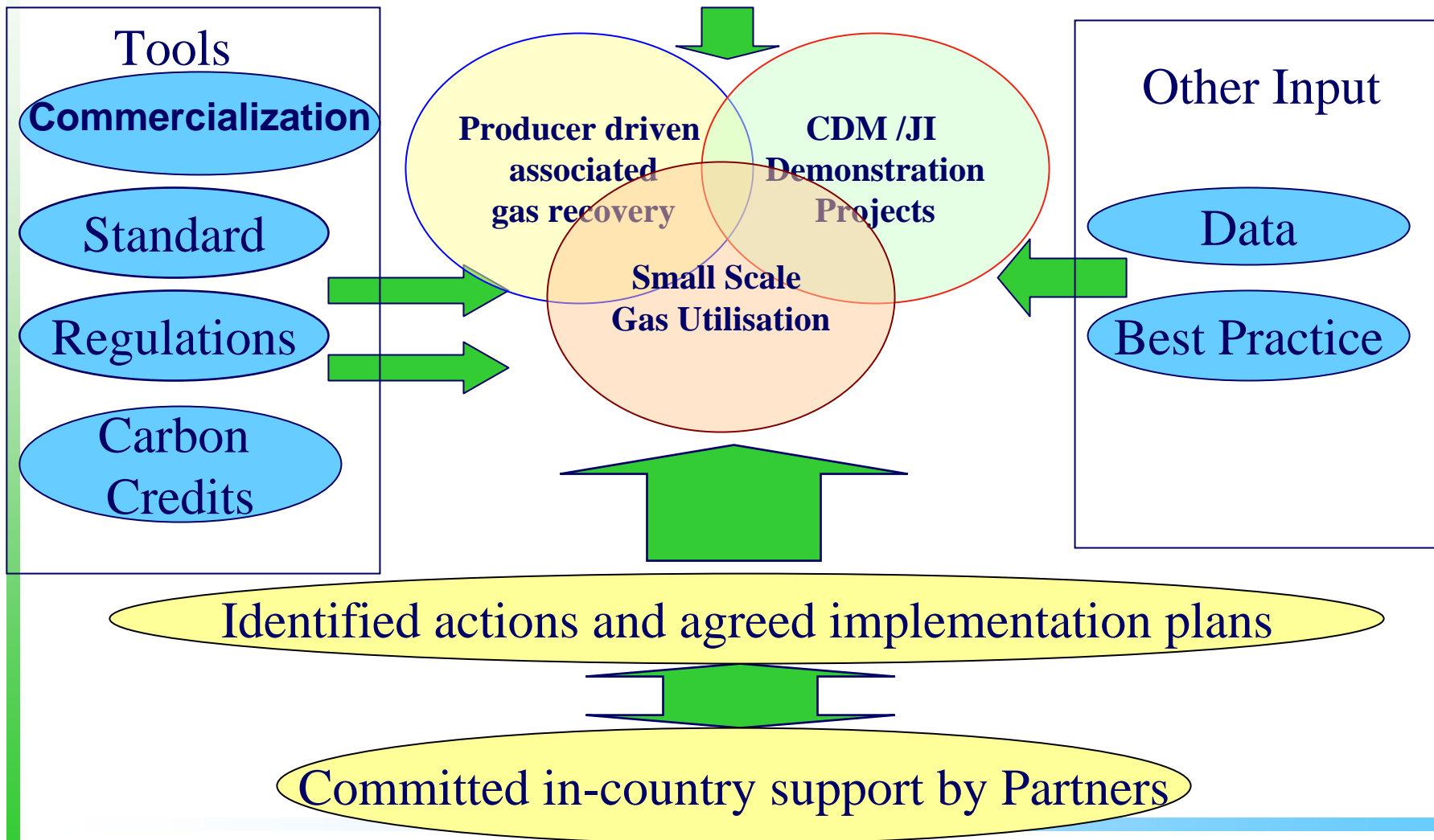
OPEC Member Countries Comparison

"Best Estimate" of Gas Flared in OPEC Member Countries in 2002



GGFR Toolbox and Projects

Projects to reduce flaring and venting of associated gas



The CDM Potential

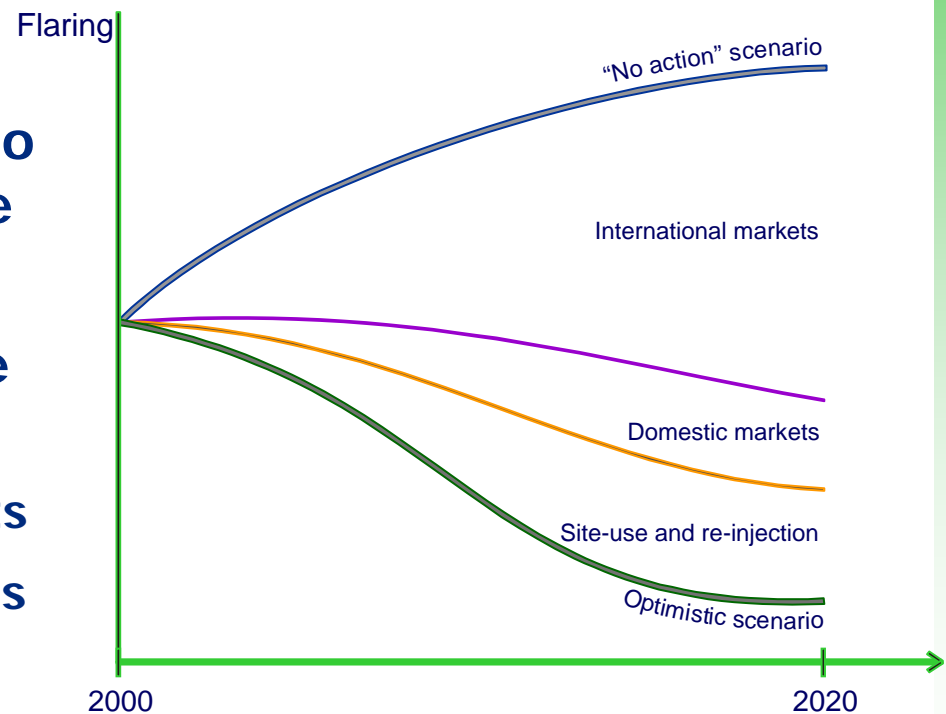
Current flaring 10% of Annex 1 reduction commitments for 2008-2012

CDM can become important to eliminate flares – precedence to be set by early projects

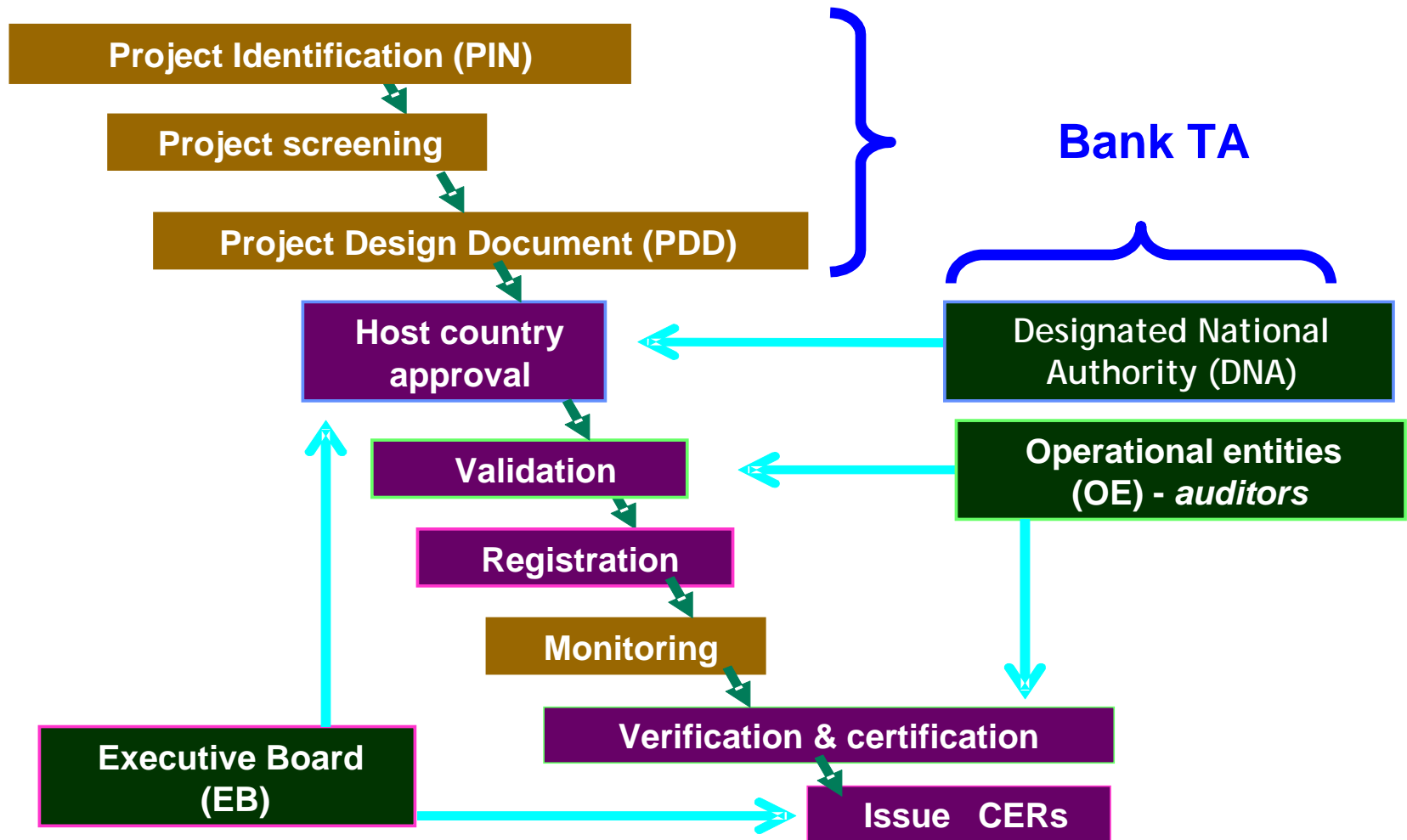
Flaring project central to the objectives of the CDM

- relatively low transaction costs
- large and long-term reductions
- technological transfers

Future flaring trends



CDM Project Cycle



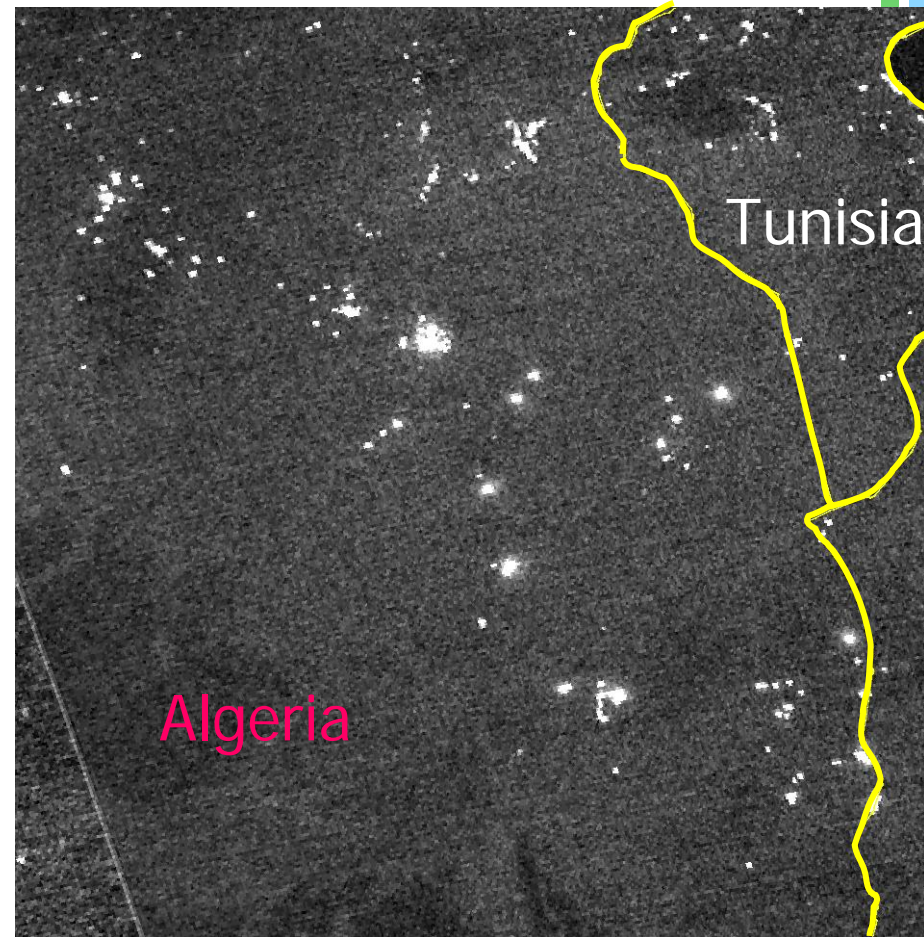
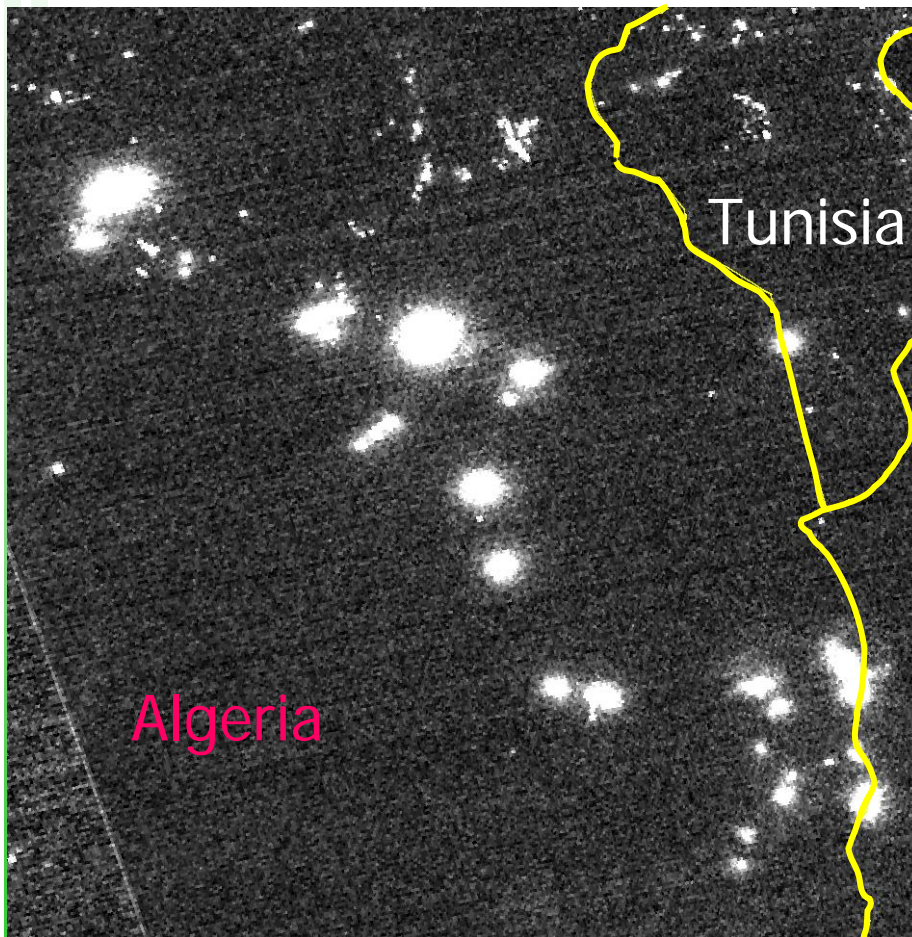
GGFR Assistance on Carbon Credits

- Assistance to demonstration projects and facilitating linkages to carbon finance
- Creation of a forum for exchange of views, ideas and experience on gas flaring reduction CDM/JI projects
- Capacity building for stakeholders including improving the understanding of methodological issues related to CDM
- Providing technical assistance to enhance the capacity of host countries to develop, assess and approve high-quality gas flaring CDM (demonstration) projects
- Current activities are on going in Algeria, Angola, Indonesia, Nigeria and Russia on developing projects and assisting in capacity building

Algeria

September 24, 1992

March 20, 2002



GGFR – Algeria work program

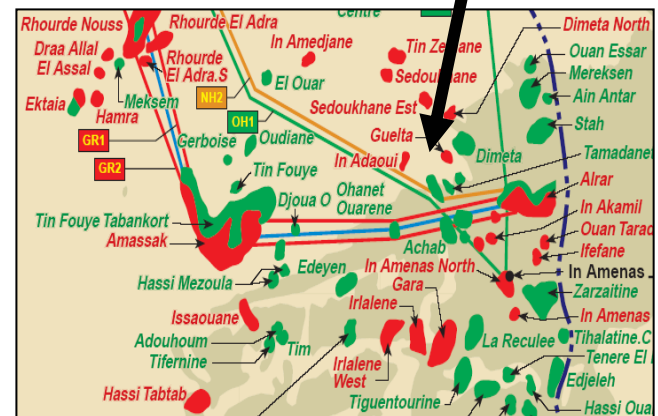
- 1. Associated Gas Utilisation Study
 - Together with Sonatrach, three areas have been selected where flaring remains significant. These areas are Ohanet, Tin Fouye Tabankort (TFT) and In Amenas, with a combined 2003 flared gas volume of 1.3 BCM.
- 2. CDM Capacity Building

Objectives of the Algeria CDM Capacity Building Project

- Create a Process to develop CDM projects
- Develop methodology for associated gas utilisation (capture & transport)
- Lay basis for the creation of a Designated National Authority (DNA)

CDM Capacity Building Pilot Project for Gas Flaring Reduction in Algeria

- The project will support the country's overall development and sectoral policies in that the gas will be used productively downstream and totally eliminate the flaring on-site.
- According to the study results,
 - The project needs an investment capital of **25.5 million US\$**
 - The flaring reduction is about **1.8 billion CM** over the lifetime of the CDM project (14 years).
 - CO₂ emissions reduction will be approximately **5.7 million tons of CO₂ equivalent**



PIN

- The task force (Sonatrach and MEM) identified several potential projects both upstream and in the LNG operations.
- The transport division also reviewed its operations to see if any significant flaring or venting of gas could be identified (none were identified).
- These projects were then prepared to the PIN level and then a single project was selected for development into a PDD.

Ohanet results

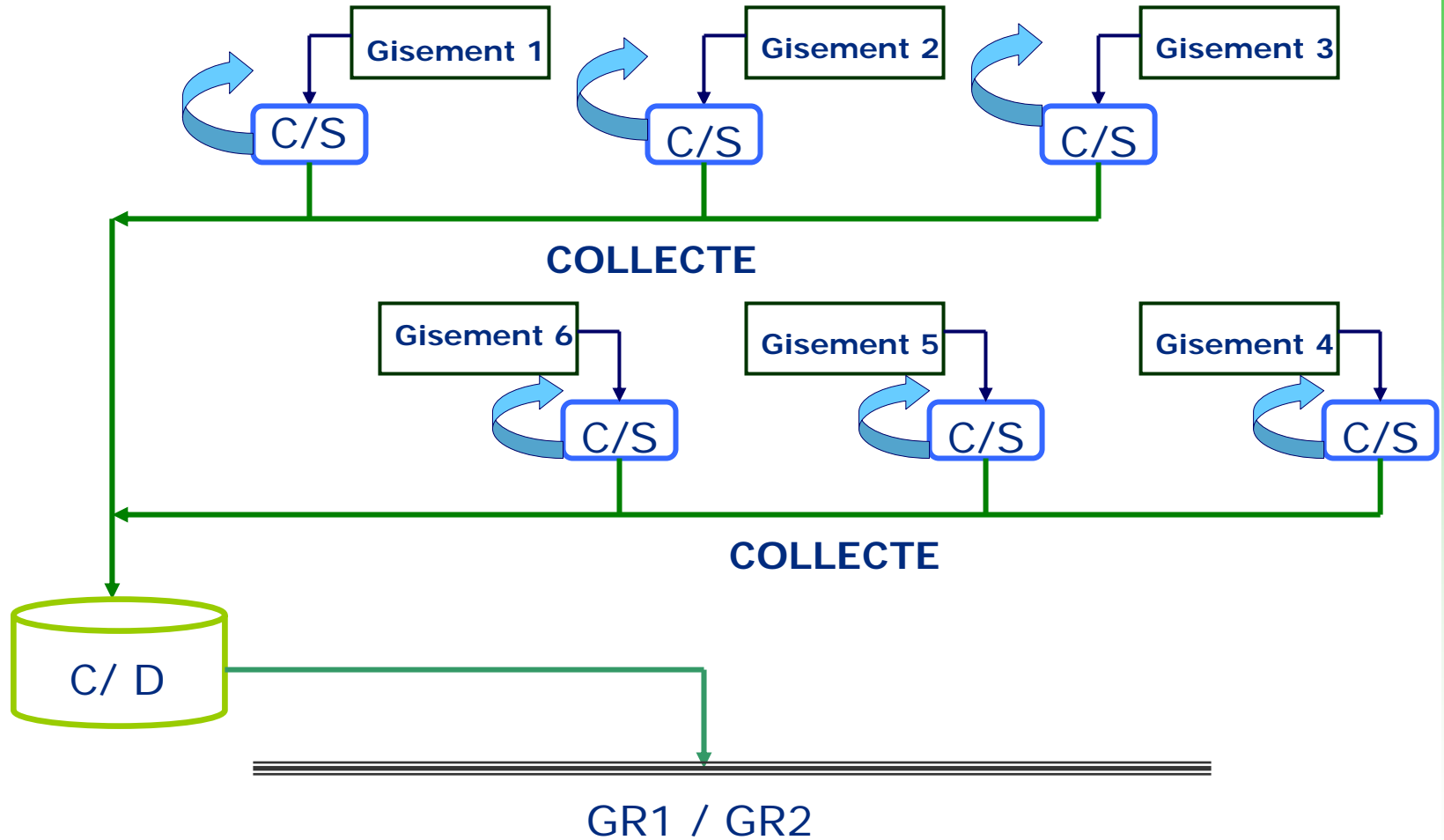
- Based on the methodology, the Ohanet project to capture and transport of currently flared associated gas clearly qualifies for CDM designations.
- It is additional and results in real, measurable and long-term emission reductions of GHGs.
- It would reduce CO₂ emissions significantly below the baseline (approximately 5.67 million tons.)

Ohanet Investment Costs (in US\$ millions)

- Gathering Lines: 5
- Dehydration: 2.5
- Compression: 12
- Connection to main line: 2
- Contingency: 4
- Total: **25.5**

Ohanet	Without carbon credits	With carbon credits (\$5/ton and 38% tax rate)
NPV @ 12% (\$ million)	0.1	11.7
IRR (%)	10	26

Pilot Project: Capture & Transport



Notable results to date

- The development of a core group with Sonatrach and the Ministry of Energy and Mines, now well versed on Kyoto concepts and the development of CDM projects related to gas flaring.
- The screening of several projects to the PIN level and the selection and development of one pilot project to the PDD level.
- The building of a broad understanding of the need for, and function of, a DNA. Most likely the DNA will be housed at a to be created national agency for climate change (ANCC).
- Development of CDM Methodology for gas flaring reduction

Benefits of Project to Algeria

- Less wastage of a natural/national resource
- Process for the possible development of marginal projects
- Support sustainable development goals
- Access to new financial resources (carbon credits)
- Participation in international environmental issues

Next Steps: Developing a Carbon Strategy within Sonatrach

- Integrate CDM in Company's Strategic and Operational Plan
- Develop a Process to Produce Portfolio of CDM Projects
- Develop Strategic Alliances with Carbon Purchasers

Step 1: Integrate into Company's Strategy

- Make Explicit the CDM Objectives
- Develop a GHG inventory and targets
 - Gas flaring
 - Processing
 - Other
- Assign Capital and Revenue Roles to CDM Activities
- Designate Corporate Responsibility for Implementation

Step 2: Develop a Process to Create CDM Projects

- Implement GHG Inventories and Targets
- Have clearly defined targets
 - Number of Projects
 - Types of Projects
 - Tons of Carbon Credits Produced
- Clear Focal Points at Sonatrach for CDM Development
 - Task force members from implementation units

Step 3: Develop Strategic Alliances

- Integrate energy and carbon sales strategies
 - Key clients
 - Synergies
- Benefits to Sonatrach from Alliances
 - Capital
 - Market Access
 - New Markets

Thank You Very Much

For further information:

<http://www.worldbank.org/ggfr>

