

# Intro to EcoSecurities & Emission Reduction Projects in the Natural Gas Sector

21 Sept 2007  
Presentation for INGAA

# Contents

- > About EcoSecurities
- > Emerging US Carbon Market
- > Project Development Process
- > Project Opportunities in the Natural Gas Sector

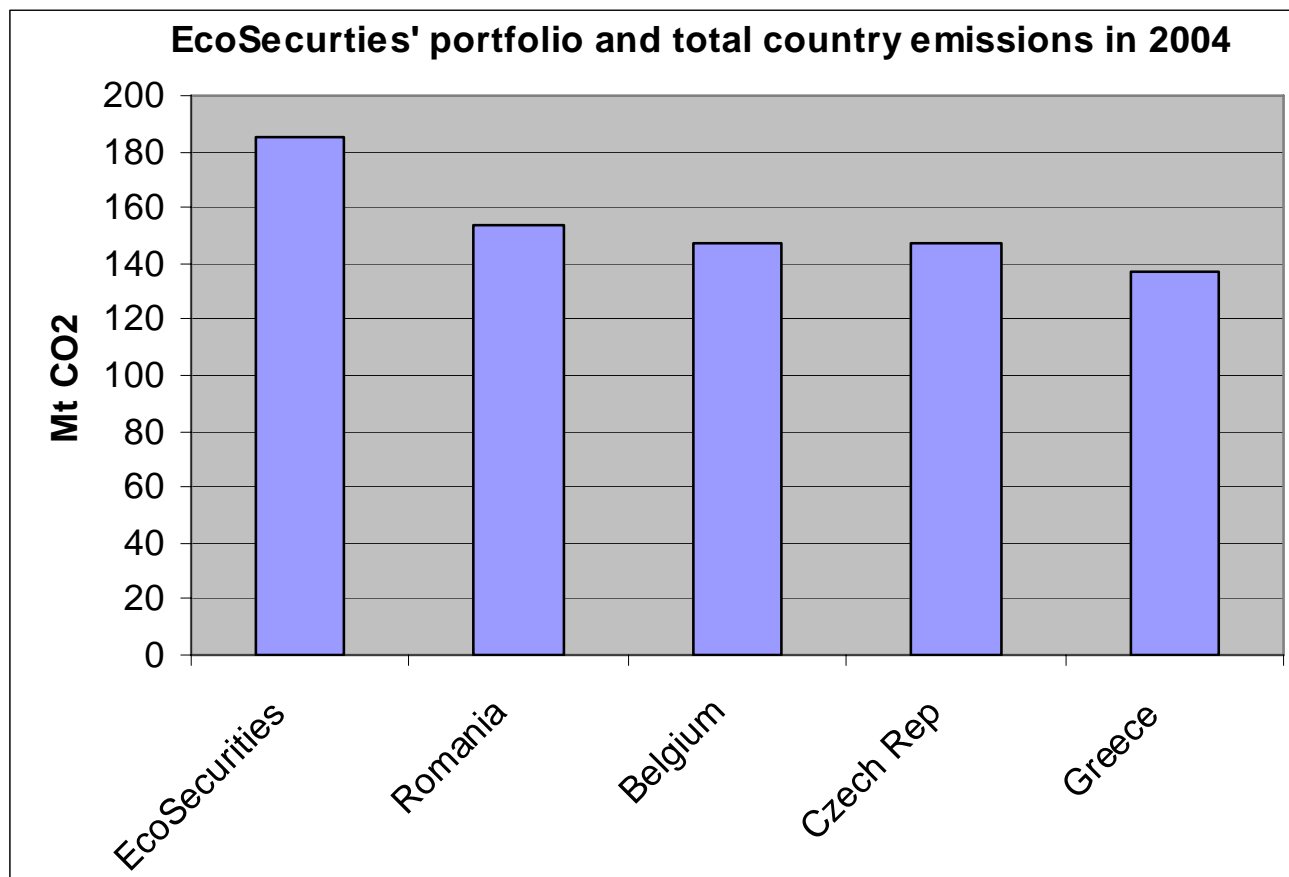
# Who we are

EcoSecurities is a leading originator of carbon credits in the global carbon market

Carbon Credit portfolio at 5 September 2007 comprised of:

- **456** CDM projects, up over 29% since 31 December 2006
- Projects have the potential to generate over **185** million CERs, up over 18% since 31 Dec 2006
- Options and contracts on **110** million CERs for the 2013-2028 time period
- 44 voluntary projects, up over 90% since 31 December 2006
- Projects have the potential to generate over **4.3** million VERs, first VER sales in 2007

# Portfolio What is 185 million tonnes ?



# Origination

## Diversification by project type

| % of Volumes                     | As at IPO | June 15 <sup>th</sup> 2007 |
|----------------------------------|-----------|----------------------------|
| Landfill gas                     | 25%       | 6.5%                       |
| Biomass electricity              | 14%       | 15%                        |
| Biodiesel                        | 0%        | 8%                         |
| Afforestation                    | 12%       | 0%                         |
| Hydroelectricity                 | 9%        | 24%                        |
| Coal mine methane                | 8%        | 3%                         |
| Anaerobic digestion - Wastewater | 6.5%      | 3.5%                       |
| Anaerobic digestion – Swine      | 1.5       | 1%                         |
| Natural gas fuel switch          | 7%        | 9.5%                       |
| Geothermal                       | 4%        | 4%                         |
| <b>N2O</b>                       | <b>0%</b> | <b>11.5%</b>               |
| Other                            | 13%       | 13.5%                      |
| Total                            | 100%      | 100%                       |

## Diversification by geography

| % of Volumes                    | As at IPO | June 15 <sup>th</sup> 2007 |
|---------------------------------|-----------|----------------------------|
| China                           | 29%       | 44%                        |
| Brazil                          | 27%       | 12%                        |
| Indonesia                       | 2%        | 8%                         |
| India                           | 0%        | 4%                         |
| Thailand                        | 7%        | 3%                         |
| Rest of Asia                    | 6%        | 4%                         |
| Rest of South & Central America | 12%       | 12%                        |
| Eastern Europe                  | 4%        | 1%                         |
| Rest of Africa & Middle East    | 13%       | 12%                        |
| Total                           | 100%      | 100%                       |

**Highly diversified portfolio, reducing country, technology, and policy risk**

## Global expansion of offices and employees



| Headcount |               | Offices and Representatives |
|-----------|---------------|-----------------------------|
| June 2005 | 27 employees  | 5                           |
| IPO       | 72 employees  | 15                          |
| May 2007  | 246 employees | 28                          |

(\*) No legal presence but EcoSecurities has entered into contracts with individuals to act as EcoSecurities representatives

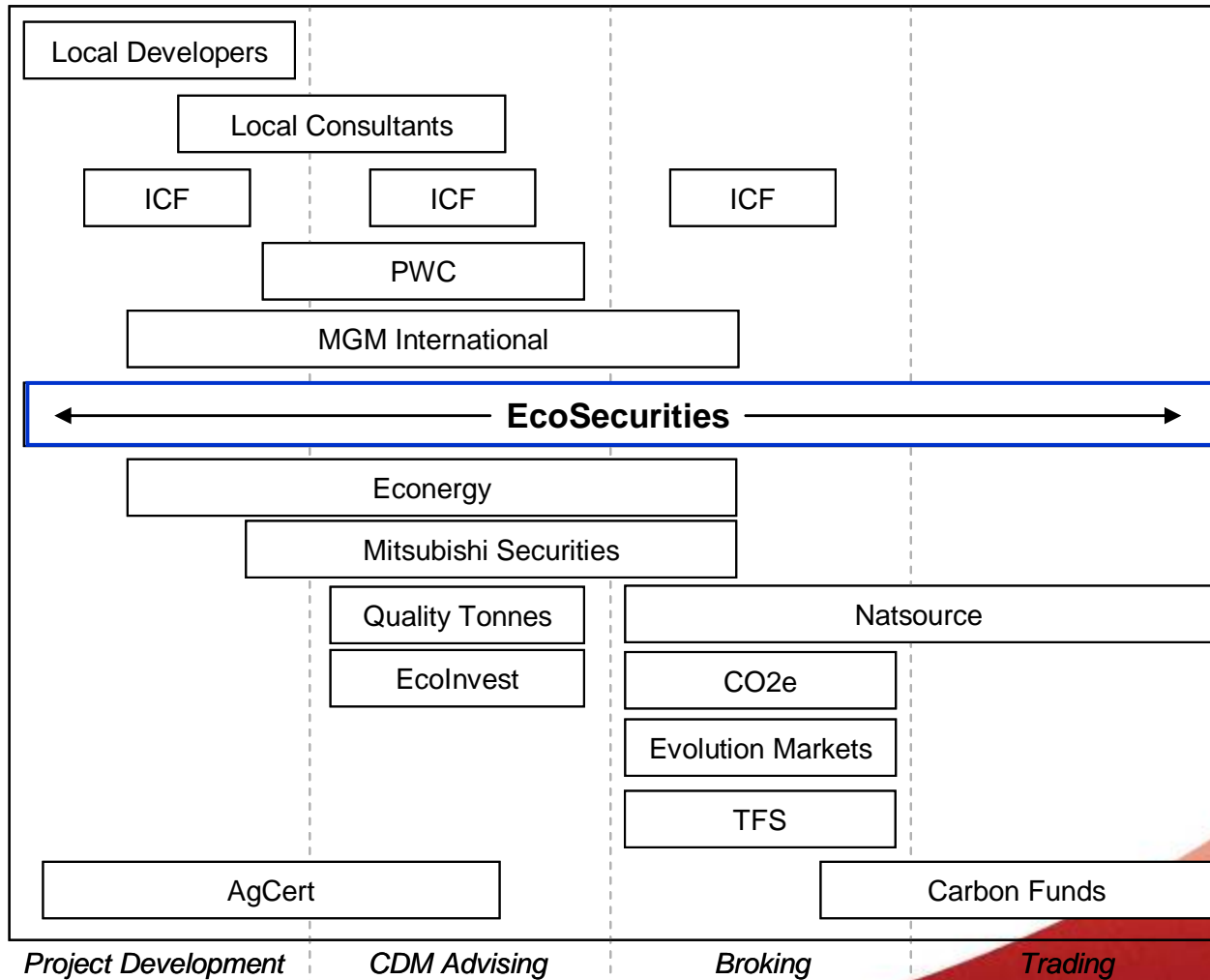
# Current Strategic Growth

## EcoSecurities in a new expansion phase, as a response to growing market opportunities

- Strategic investment by Credit Suisse – June 2007  
(9% of current outstanding shares, US\$60M)
- Credit Suisse and EcoSecurities intend to pursue joint business related to CER origination and commercialisation as well as investment in emission reduction projects
- Secondary institutional placement:- July 2007
  - US\$80 million of new shares
- Funds for growth opportunities related to;
  - Project Finance
  - **US Market**
  - **Emerging Voluntary Market**



# EcoSecurities Model



# Commercialisation strategy

## "Matched Project" Commercialisation



## "Portfolio" Commercialisation



# Emerging US Carbon Market

Growing demand from voluntary buyers:

## 1. Momentum - Speculative pre-compliance buyers

- Emerging US greenhouse gas legislation is leading to early speculative transactions
- US 110<sup>th</sup> Congress introduced more than 70 bills, resolutions, and amendments related to addressing climate change
- Fragmented market is business nightmare

## 2. Strategy - Corporate GHG planning

- Driven primarily by CSR and carbon neutrality initiatives creating product and brand value (i.e. NIKE, Google, HSBC, Interface)

## 3. Demand - Retail Carbon

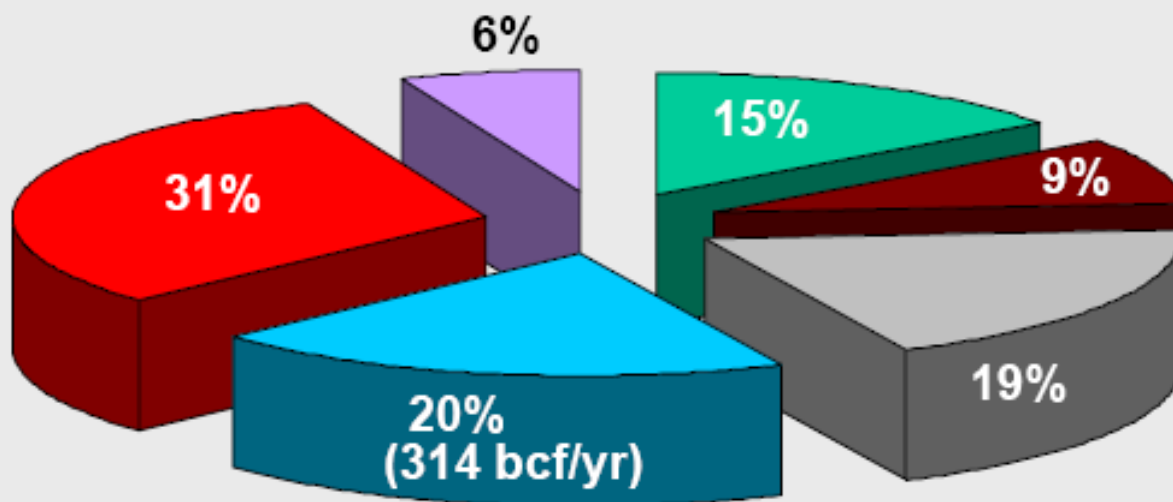
- Driven by consumer offset lifestyle (air, car, etc.)

# What to look for as a developer or buyer

## Necessary Characteristics for any credible ER project

- **Additionality**
  - Are the emission reductions from the project activity “additional” to what otherwise would have occurred in a business-as-usual scenario.
- **Co-benefits**
  - What benefits does project bring in addition to emissions reductions?
- **Third party audited**
  - Developed to a credible standard and verified by a third party?
- **Acceptable project & delivery risk profile**
  - Have project risks and carbon credit delivery risks been mitigated?
- **No double counting**
  - Are environmental attributes being claimed by only one party?

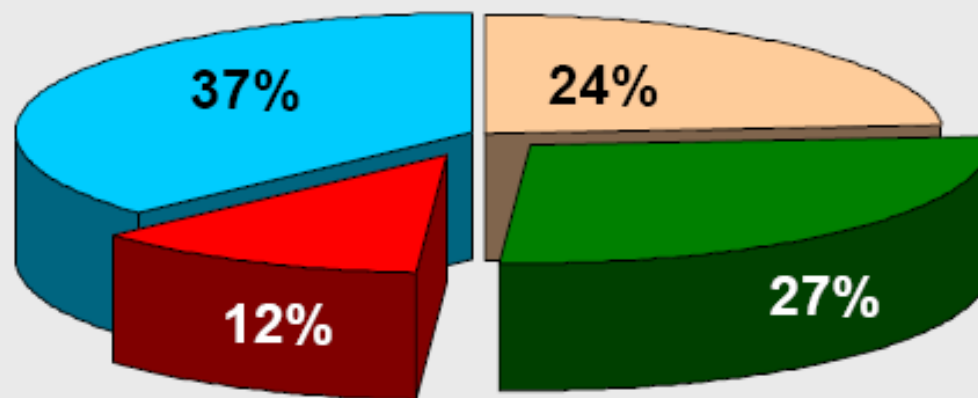
## Contribution of Major Methane Sources to Total U.S. Anthropogenic Emissions\*



\* Total = 1,570 bcf per year



## Natural Gas Methane Emissions Across Industry Sectors \*



\* Total Natural Contributions = 314 bcf per year



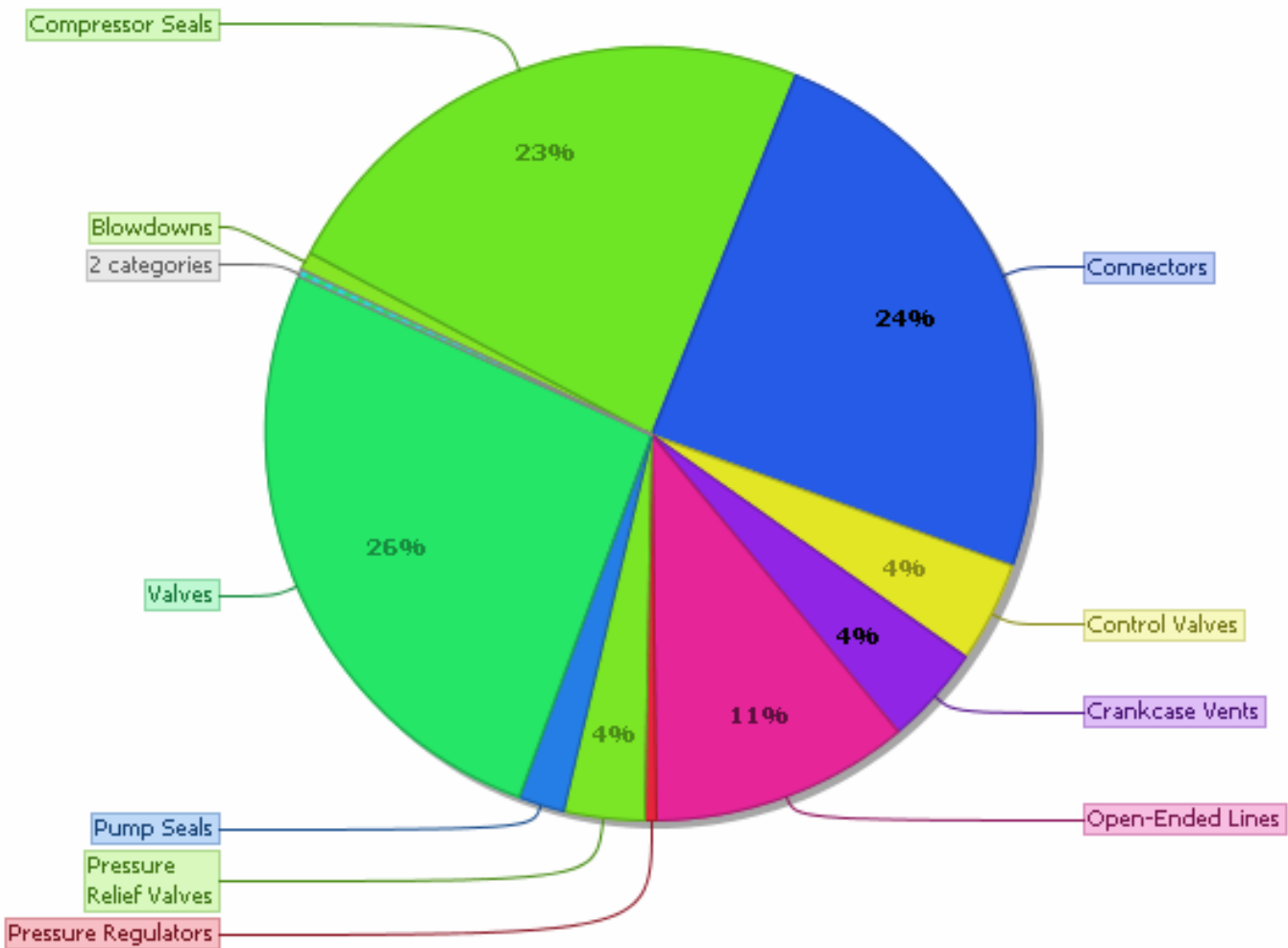
## Emissions arise from

- > Compressor stations
- > Gate Stations
- > Pneumatic devices
- > Pipeline maintenance

## Emission reduction technology and control options

- > Direct Inspection & Maintenance (DI&M)
- > Replacement of wet compressor seals
- > Maintenance of rod packing in reciprocating units
- > Low-bleed pneumatics

# Emissions at Compressor Stations



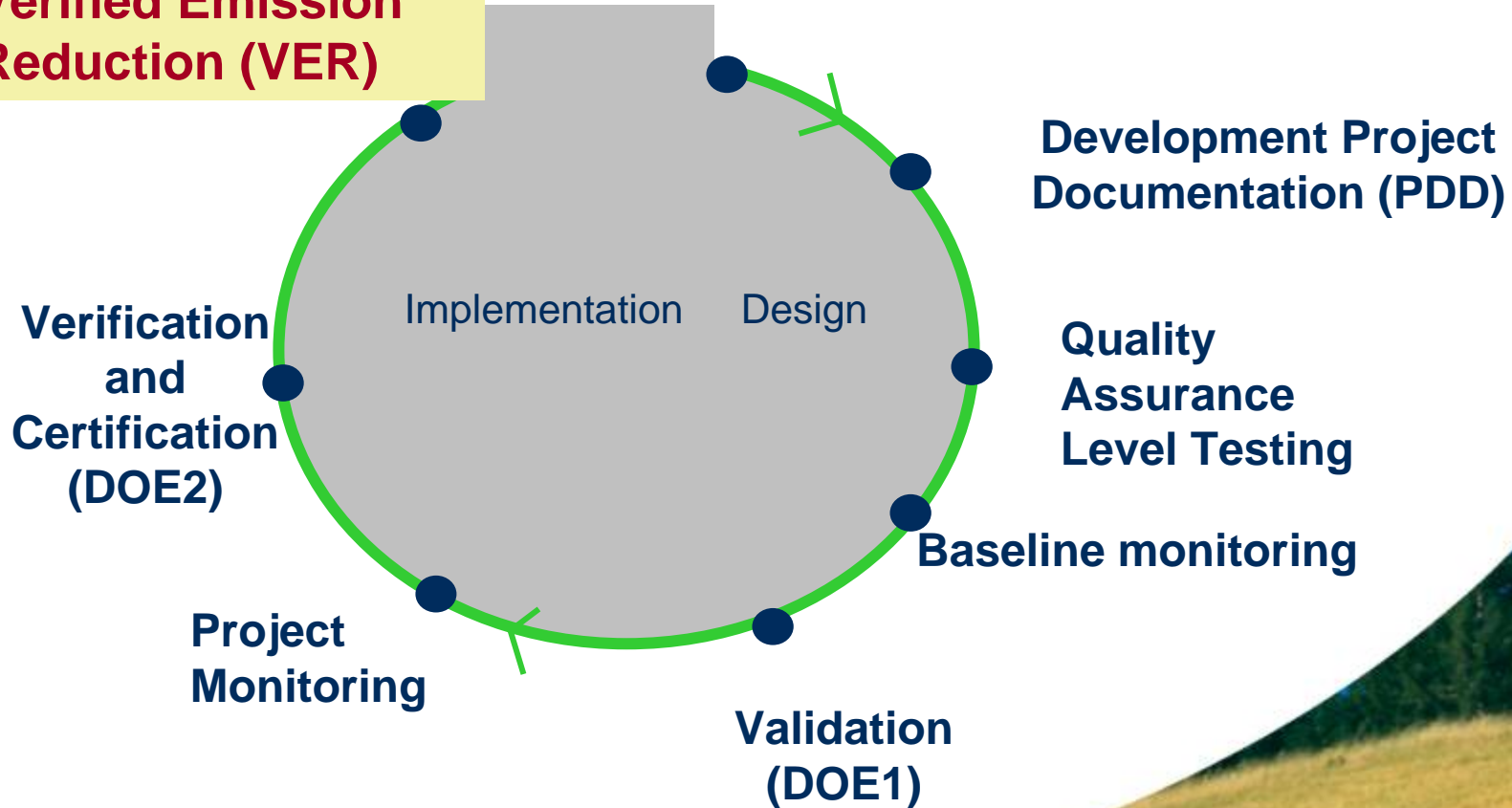
# Approved Methodology (AM0023)

*“Leak reduction from natural gas pipeline compressor or gate stations”*

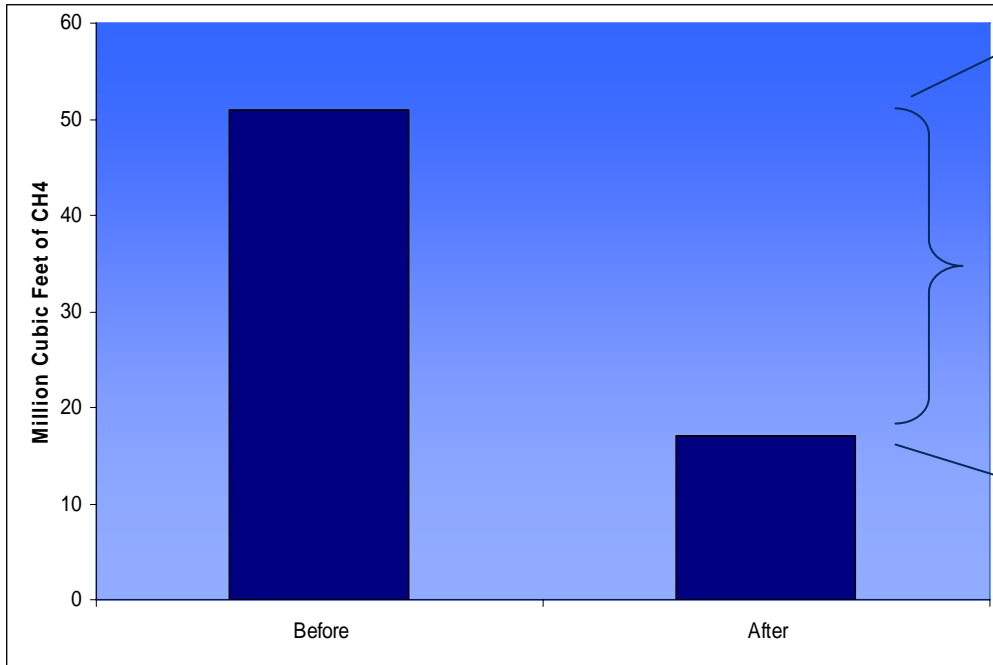
- Natural gas pipeline operators have no current systems in place to systematically identify and repair leaks
- Leaks can be identified and accurately measured
- A monitoring system can be put in place to ensure leaks repaired remain repaired
- Provide accurate and comprehensive maintenance records on compressor and gate stations

# VER Development Process

**Verified Emission Reduction (VER)**



# Average ER Potential



Baseline Emissions

Emission Reductions  
(ERs)

Project Emissions

**DI&M on compressor and gate stations**

~16,000 tCO<sub>2</sub>e/yr per station

**Compressor retrofit for dry seals**

~18,000 tCO<sub>2</sub>e/yr per unit

# Transmission Leakage Project List

| Project   | Country | Methodology | tCO <sub>2</sub> e/yr | PDD Consultant                  |
|-----------|---------|-------------|-----------------------|---------------------------------|
| Belgorod  | Russia  | AM0023      | 974,000               | ECON Carbon                     |
| Orel      | Russia  | AM0023      | 364,000               | ECON Carbon                     |
| Tula      | Russia  | AM0023      | 791,000               | ECON Carbon                     |
| Bryansk   | Russia  | Own Format  | 897,000               | National Methane Centre, Russia |
| Kostroma  | Russia  | Own Format  | 524,000               | National Methane Centre, Russia |
| Stavropol | Russia  | Own Format  | 5,000,000             | National Methane Centre, Russia |
| Monterrey | Mexico  | AM0023      | 7,000                 | Quality Tonnes                  |

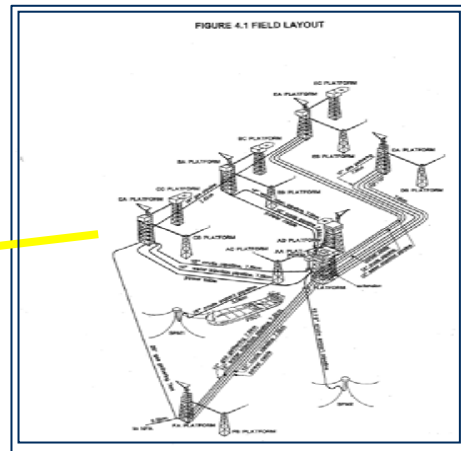
# Additionality Arguments

- > Difficult to prove financial additionality because of the short payback period when considering gas savings
- > Gas prices are often heavily subsidized by governments which discourages conservation
- > Gas is colorless and odorless before it reaches the distribution networks and technicians often don't realize the volume of leakage – Lack of detection equipment
- > Revenue is typically reinvested into exploration rather than spent on conservation
- > Gas transmission and distribution companies may only own pipelines and are not affected by gas losses

# Other O&G Meths

|                 |  |
|-----------------|--|
| <b>ACM009</b>   | Recovery and utilisation of gas from oil wells that would otherwise be flared                                |
| <b>AM0037</b>   | Flare reduction and gas utilization at oil and gas processing facilities                                     |
| <b>AM0055</b>   | Recovery and utilization of waste gas in refinery facilities   |
| <b>AM0043</b>   | Leak reduction from a natural gas distribution grid by replacing old cast iron pipes with polyethylene pipes |
| <b>AMS-II.D</b> | Energy efficiency and fuel switching at industrial facilities  |
| <b>ACM12</b>    | <b>Waste gas or waste heat or waste pressure based energy system</b>   |

# AM009 Case Study



# Al-Shaheen Path to Registration

- PDD started May 2006
- Submitted for Validation in August 28, 2006
- Final Validation on November 23, 2006
- Request for registration on January 7, 2007
- Request for review, March 1, 2007
- “Minor corrections “ from EB on March 27, 2007
- Registered May 29, 2007- **2.5 million tCO<sub>2</sub>e/yr**

**Thank You!**

**Molly Aeck**

**[molly.aeck@ecosecurities.com](mailto:molly.aeck@ecosecurities.com)**

**+1.650.455.9278**