Methane Management in Extractive Industries (Upstream Oil and Gas / Downstream Gas)

-Joint UNECE/GMI Project

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ECE region accounts for half of global oil and gas methane emissions

...country specific estimates differ greatly by data source

*Data for 2015 for Annex I countries and latest report for non-Annex I countries. US EPA estimate is used for total global methane emissions from the oil and gas sector.*
MRV at three levels – serving different purposes
… but for the same broader objective

International GHG inventories

- Estimates according to UNFCCC & IPCC principles
  - Estimates based on: Activity * Emission factor

- Uncertainty in estimates represented by Tiers
  - Tier 1: Top-down average emission factor approach
  - Tier 2: Country-specific emission factors
  - Tier 3: Rigorous bottom-up approach

National data for policies and measures

- How to obtain a knowledge base adequate for the design of cost-efficient measures
- Data quality good enough for use of economic policy instruments?
- How to understand and estimate super-emitter sources

Facility data for corporate action

- Optimal methane management strategies and investments
- Detection and measurements as a basis for “house-keeping” and investment programs
Low-hanging fruits

Abatement costs and Investment requirement in the “EBRD Region”

- Above 10 USD/tCO2eq: (5.4)
- Between 5 and 10 USD/tCO2eq: (2)
- Between 0 and 5 USD/tCO2eq: (4.5 billions USD)
- Negative abatement cost: (2 billions USD)
Summary of the gaps

**Emission estimates and MRV practices**
- Large discrepancies in emission estimates by country and by oil & gas supply chain segment
- Large share of estimates still based on Tier 1:
  - 75% upstream
  - 40% downstream

**Mitigation**
- Lack of awareness of negative cost options
- Societal vs company costs – carbon pricing needed to spur mitigation
- New approaches can help in spurring profitable emission reduction opportunities
- Much valuable site specific data is “lost” and not being used for mitigation and/or statistical purposes
- Knowledge base inadequate for design and implementation of effective and cost efficient policies and measures