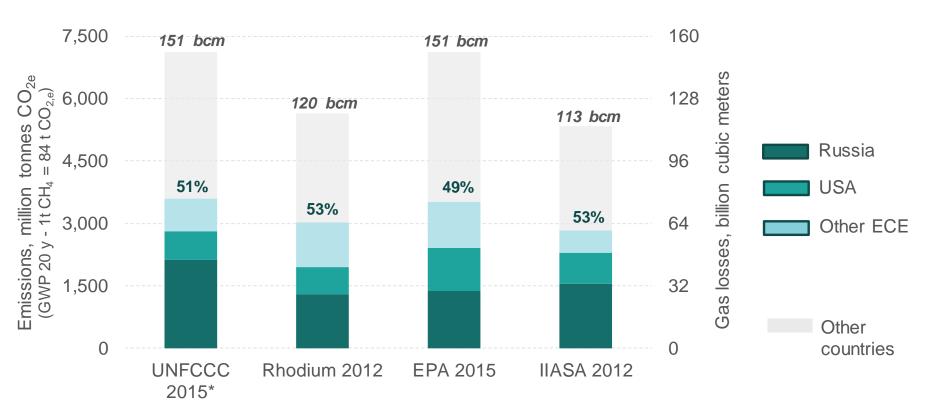


ECE region accounts for half of global oil and gas methane emissions ...country specific estimates differ greatly by data source



^{*} 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 bottomup 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

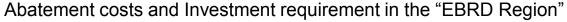
Facility data for corporate action

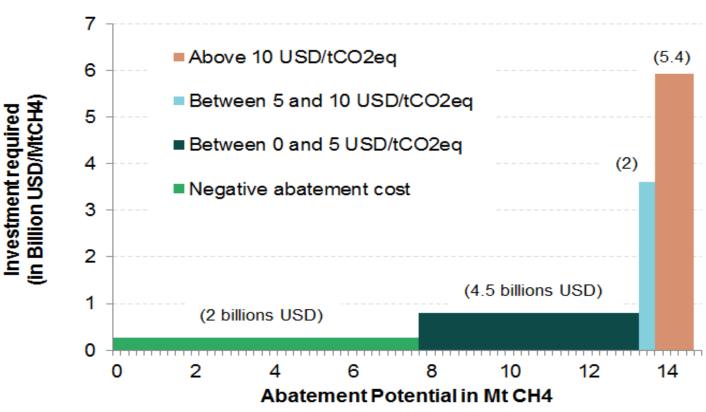
Optimal methane management strategies and investments

Detection and measurements as a basis for "house-keeping" and investment programs



Low-hanging fruits





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