

# Development of an Accurate and Consistent Method for Methane Emission Estimation of the Gas Transmission Grid

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Project Proposal MEEM TSO

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# WHY DO WE NEED A METHOD FOR EMISSION ESTIMATION?

## Motivation of the Project



- Estimation and publication of **methane emissions** from the gas transmission grid is an **obligation** for the national authorities within the United Nations Framework Convention on Climate Change (UNFCCC)
  - Better data base leads to a better estimation and lower emissions are reported
- Methane emissions are **increasingly meaningful** in public debates for **political, administrative, and public stakeholders** and can have significant (economic) **impact on the future** of gas. (It also might be included in the EU Emission Trading Scheme.)
  - Regulating bodies look at areas which cause methane emissions and impose measures to reduce them. If emissions are poorly estimated, unjustifiably high mitigation measures could be imposed

- Operators and gas associations (e.g. DVGW) have to **react on requests**
  - e.g. Marcogaz survey on methane emissions
- The **different approaches/methods** for emission estimation in place **cause difficulties** to identify the methane emissions in the countries correctly/ consistently and put the gas industry in a **difficult situation**.
  - IASS position paper „The Uncertain Climate Cost of Natural Gas”

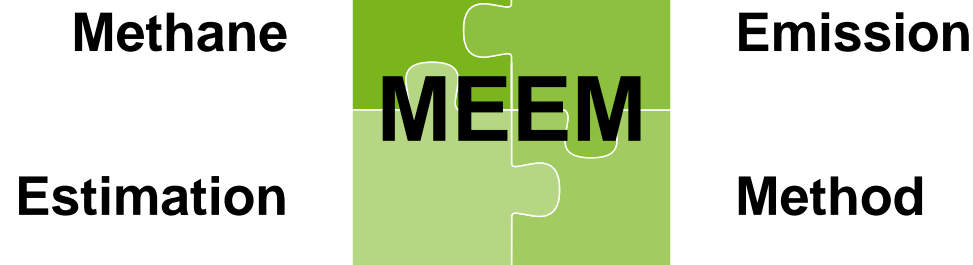
**New consistent and accurate method is the fundament for a reliable, flexible, transparent and complete emission estimation from the gas infrastructure.**

# WHAT ARE OUR AIMS?

Main Objective of the Project



**Aim is to develop an accurate and consistent method for emission estimation of the gas grid.**



- **Two sister projects** will ensure that the methane emissions of gas networks will be covered:

## DSO Aspects

Will be considered in a sister project



In Progress  
- Kick-off in Oct. 2016

## TSO Aspects\*

Will be considered in this project



In Preparation

- **Aligning of the methods**, as far as possible/ beneficial will be ensured by an information exchange and if needed meetings.

\*including storage of natural gas

# WHAT DO WE DO?

## Scope of the Project





### WP1: Inventory of Methods and Adding Missing Features/ Definitions

- Definition of sources and system boundaries and emission categories
- Inventory of methods, availability and accuracy of input data
- Agreeing on missing definitions
- Implementing missing features e.g. suitable consideration of measures that lead to emission reductions

### WP7: Reporting

- Technical report, management summary, presentation



### WP6: Validation

- Continuous validation of method in the course of the project

### WP2: Benefit/Effort

- Evaluation of effort for providing data
- Recommendations for providing missing data
- Suggestions for adjusting method for different data availability
- Selection of elements for pan-European method

### WP3: External Requirements

- Identification of needs e.g. of authorities
- Requirements for verification

### WP4: Alignment with MEEM DSO

- Investigation of interfaces, common features and differences to the distribution grid

### WP5: Final Development of Method





- Combining the results in the previous work packages
- Final Evaluation and last modifications

# PROJECT PROPOSAL MEEM TSO

## TIMELINE (WORK PACKAGES AND MILESTONES)

Task/ Work Package (WP)	Period											Cost Allocation [%]					
	2017					2018											
	8	9	10	11	12	1	2	3	4	5	6		7	8	9	10	11
<b>WP 1 "Inventory of methods and adding missing features/definitions"</b>																	25,00%
Inventory of methods and necessary input data																	
Definition of sources and system boundaries and emission categories																	
Agreeing on missing definitions																	
Adding missing features (e.g. consideration of emission reduction measures)																	
<b>WP 2 "Benefit effort analysis"</b>																	25,00%
Evaluation of availability and accuracy of input data																	
Investigation of statistical uncertainty and proof of representativeness																	
Evaluation of effort for providing data																	
Recommendations for providing missing data																	
Suggestions for adjusting method																	
Selection of elements for pan-European method and possible improvement																	
<b>WP 3 "External requirements"</b>																	5,00%
Needs of the authorities																	
Requirements for verification																	
<b>WP 4 "Alignment of methods"</b>																	5,00%
Investigation of interfaces, common features and differences to the distribution grid																	
Aligning of interfaces and methods																	
<b>WP 5 "Final development of pan-European method (transmission grid)"</b>																	15,00%
Combining the results of the previous work packages																	
Final Evaluation and last modifications																	
<b>WP 6 "Validation of the pan-European method transmission grid)"</b>																	15,00%
Continuous validation of method in the course of the project																	
<b>WP 7 "Reporting"</b>																	10,00%
Report, management summary, presentation																	
<b>WP 8 "Emissions from production, storage and long-distance-gas-transport outside the member states" (optional)</b>																	
Definition of transport routes and sources of emissions																	
Investigation of available data																	
Evaluation of reliability of data and methods																	
Recommendation for improvements of methods																	
Evaluation of emission trends																	
Deduction of potential for emission reduction																	

### Explanation

-  Work Package (WP)
-  Sub Work package
-  Beginning/ End of Project
-  Milestone

**Milestone 1:** Elements for pan-European method selected

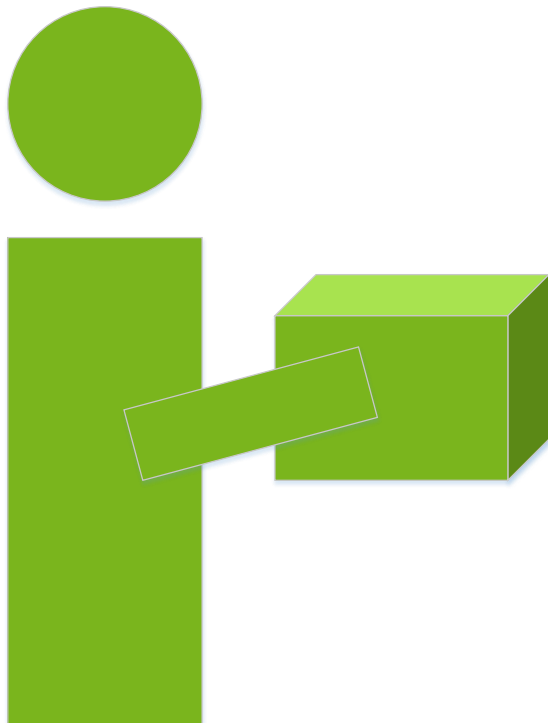
**Milestone 2:** External requirements clarified

**Milestone 3:** Method developed and validated

# WHAT ARE THE RESULTS?

## Deliverables and Benefits of the Project





**Aligned European Method** for emission estimation of the gas transmission grid

**Basis for Verification** of the Method (e.g. CEN, Ecoinvent)

**Consistent** Emission  
Estimation of Gas  
Transmission within Europe



**Improved Data Exchange  
Processes** between Different Actors  
(TSO, Associations, National  
Authorities)

**Better Understanding** of  
Methane Emissions from  
the Gas Transmission Grid

New method comprises **suitable  
consideration** of measures that lead to  
**emission reductions**

# WHO WILL USE THE MEEM RESULTS IN THE FUTURE?

Integration of the Method  
by further Stakeholders



### 1. Scope of the MEEM-Project

Guidelines for Determination of EF & AD

- Equations
- Assumptions
- Definitions
- ...



**Method** for emission estimation is developed by **MEEM**

### 2. Use of Project Results on National Level

Determination of national EF & AD

**Member States of UNFCCC** estimate national emissions by using the developed method

### 3. Use of Project Results on European Level

Collection of national EF & AD

The Project results can be used e.g. by **Marcogaz** and **Eurogas** for emission estimation on European level

# WHAT ELSE IS IMPORTANT?

Project Characteristics





# PROJECT PROPOSAL MEEM TSO

## PROJECT CHARACTERISTICS

### Schedule

Start in  
autumn 2017

Duration of approx.  
15 months

End in  
winter 2018

### Costs

Total:  
210 kEUR

Maximum contribution per  
partner: 21 kEUR

Maximum contribution per  
partner per year: 10.5 kEUR

### Partners

- Partners (preferably companies) are welcome.
- A minimum number of 10 partners (TSO) is envisaged
- The project is planned as joint industry project under the roof of GERG.

# ORGANISATIONAL ISSUES

Organisational Issues



## MEEM = Joint Industry Project under the Roof of GERG

### Interested Partners of MEEM TSO

- Open Grid Europe (GER)
- Ontras (GER)
- Enagas (SP)
- ...

- Partners are full members of the steering committee
- Can participate in all meetings
- Have voting rights

### Steering Committee



- Project guidance
- Decision making

Expert Advice

### Associations



...

- Associations can be guests of the steering committee
- Can send a representative to selected meetings
- Advisory role without voting rights

Are you interested in the MEEM Project?  
Do you have further questions?  
Do you know companies who might be interested?

**Please contact**

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