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**Economic Commission for Europe****Committee on Sustainable Energy****Twenty-fifth session**

Geneva, 28–30 September 2016

Item 10 of the Provisional Agenda

**Approval of documents****Methane Management in Extractive Industries – Update****Note by the Secretariat**

1. As noted during the twenty-fourth meeting of the Committee on Sustainable Energy (document ECE/ENERGY/2015/1), the information that is available regarding methane emissions is relatively sporadic and often based on estimates/guesstimates. There is neither a common technological approach to monitoring and recording methane emissions, nor a standard method to reporting them. The extent of the challenge and opportunity to manage such emissions remains largely undefined.
2. Recommendations were made by the Committee on Sustainable Energy to agree on common philosophies, standards, and technologies for monitoring, recording, and reporting methane emissions at each stage of production, processing, storage, transmission, distribution, and use of fossil fuels, whether coal, oil, or natural gas<sup>1</sup>, while recognizing that there will be adaptation to specific situations. Additionally, it was agreed there is a need to mitigate methane emissions, including identifying appropriate mechanisms for mobilizing needed resources, and to fund a detailed study, on a common basis across the entire United Nations Economic Commission for Europe (ECE) region.
3. In response, the Committee requested the establishment of a task force reporting to the Committee with representatives of the Groups of Expert on Gas and Coal Mine Methane and other stakeholders to undertake further work to assess baseline, benchmarking and scale of current methane emissions in those industries, with the aim of giving clear guidance for report back at its twenty-fifth session. The Committee agreed that such a study of the methane challenges and opportunities in the extractive industries would be subject to the availability of extrabudgetary resources.
4. This document sets out the proposed structure of the programme on managing methane emissions in extractive industries and also includes a draft survey that has been

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<sup>1</sup> Note that the terms of natural gas and gas will be used interchangeably throughout the document.

developed with the support of stakeholders. Member States are asked to endorse the proposed approach, to encourage their national institutions and companies to collaborate in this work, specifically with respect to completing the survey and providing expertise, and to provide extrabudgetary funding to support this activity.

## I. Activities

5. Despite a lack of extrabudgetary resources dedicated to this activity on methane management in extractive industries, progress has been made and there is now a defined programme for developing best practice guidance for the monitoring, measuring, recording, and reporting of methane emissions in the extractive industries.

6. The secretariat of the Sustainable Energy Division (SED) held two task force meetings at the Global Methane Forum that was held in Washington D.C., United States, 28–30 March 2016. The first meeting was held with stakeholders across all extractive energy sectors to discuss the structure of the project and establish need term priorities. The second meeting was held with stakeholders from the natural gas sector to refine sector specific activities and increase membership of the existing task force under the Group of Experts on Gas.

7. A draft survey has been developed by the secretariat (see Annex). The survey has received initial comments from the stakeholder community across all extractive energy sectors and will continue to be developed until it is sent out in September 2016.

## II. Organization of efforts across the sectors

8. The programme for methane management in extractive industries will address emissions from the coal, natural gas and oil sectors. In consultation with stakeholders, it became clear that stakeholder communities differed significantly across the sectors and secondly that it was not sufficient to simply create three groups across coal, natural gas and oil. Figure one shows the structure of the programme and the leadership from the Sustainable Energy Division.

Figure 1

### Sectoral Organization of Methane in Extractive Industries Programme



SED: Sustainable Energy Division

9. Partnerships have been established across the energy sectors and there is ongoing discussion with additional partners. Memoranda of Understanding (MOU) have been established with the Global Methane Initiative and the International Gas Union, and another is under development with the World Coal Association. Additional agreements may be developed with partners or joint work established under the auspices of the Committee on Sustainable Energy or respective groups of experts.

### **III. High-level work plan and near term activities**

10. Under the overarching objective to develop normative instruments for methane management across energy-based extractive industries, the programme has been conceived as comprising three phases:

- Phase 1: Develop a set of best practices on monitoring, measuring, recording, and reporting methane emissions;
- Phase 2: Develop a set of best practices for abatement of methane emissions;
- Phase 3: Develop an approach to monetize methane emissions abatement.

11. The time needed to complete all phases is not known precisely, but is expected to take from five to seven years in total and will depend on the availability of extrabudgetary funding. Near term activities, including near term objectives, are listed below.

#### **A. Develop and distribute a survey across the four established areas of coal, downstream gas, downstream oil, and upstream oil and gas**

12. The objectives of this survey are of a qualitative nature, but will provide some quantitative outputs. The survey will provide an initial snapshot of how methane emissions in extractive industries are monitored, measured, recorded, and reported, helping to establish a baseline understanding of the existing methane management landscape. The survey will also help to develop engagement in the programme and objectives by key actors

#### **B. Prepare a road map laying out objectives, deadlines, and resources**

13. This activity will create a programme management plan that can be carried out over the next several years, with timely adjustments as needed.

#### **C. Provide a review of various groups active in the area of managing gas leaks**

14. The mapping is essential to capture the efforts that are being carried out by various organisations in order to identify gaps and enable collaboration. Work on this has already started.

#### **D. Prepare a draft strawman for a principles-based best practice document regarding monitoring, measuring, recording, and reporting methane emissions**

15. This activity will be carried out either immediately after or in parallel with the survey process. It is intended to develop some initial guidance on best practices, but also to identify key issues from stakeholders in carrying out monitoring, measuring, recording and reporting on methane emissions.

## Annex

# Methane Management in Extractive Industries – Draft Survey

### Note by the Secretariat

The objective of this survey is to provide an initial snapshot of how methane emissions in extractive industries are monitored, measured, recorded, and reported.

### Survey Questions

1. You are active in which industry? (more than one reply is possible)
  - a. Upstream Oil and Gas
  - b. Downstream Oil
  - c. Downstream Gas
  - d. Coal
  
2. Do you monitor methane or other volatile organic compound (VOC) emissions?
  - a. Yes
  - b. Yes, we perform some measurements but we calculate total emissions based on emissions factors
  - c. No
  - d. No, but we calculate emissions based on emissions factors
  - e. Other (please specify)
  
3. Is monitoring mandated by law or regulation?
  - a. Yes
  - b. No
  
4. What is the purpose of the monitoring program? (more than one reply is possible, but please indicate which is the primary purpose)
  - a. Avoid commercial losses
  - b. Safety
  - c. Environment
  - d. Other (please specify \_\_\_\_\_)
  
5. How do you define “emissions”?
  - a. Unintentional Leaks
  - b. Natural accumulations of methane in the resource
  - c. Intentional venting
  - d. All of the above

6. Do you distinguish between methane and other VOCs in your monitoring?
  - a. Yes
  - b. No
  
7. If yes, what other VOCs do you monitor?
  - a. Ethane
  - b. Propane
  - c. Butane
  
8. Which parts of your facilities do you monitor (which components, which equipment, or other)?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  
9. Why those particular components?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
10. How regularly do you determine emissions (monitoring or estimating)? What is the frequency of your determination of emissions and does it vary based on component? If you answer varies by type of facility, please indicate.
  - a. Continuous
  - b. Daily
  - c. Weekly
  - d. Monthly
  - e. Quarterly
  - f. Annually
  - g. Our systems do not emit methane
  
11. What methods/technology(ies) do you use to determine emissions at your facilities? (attach additional pages if necessary)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Why were those methods/technologies chosen?

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13. How often is the monitoring equipment calibrated?

- a. Weekly
- b. Monthly
- c. Quarterly
- d. Other

14. How are the monitoring results recorded?

- a. Level of detail/disaggregation (more than one answer is possible)
  - i. geographical region
  - ii. facility
  - iii. component
  - iv. time period
  - v. emission type
- b. What units are used to record the results?

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15. How are the results aggregated?

- a. Company-wide emissions
- b. Equipment type
- c. Not aggregated
- c. Other
  - i. \_\_\_\_\_

16. Are your results reported?

- a. internally
- b. for regulatory purposes
- c. in the company sustainability report
- d. as part of the carbon disclosure project
- e. publicly available
- f. other

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