Market-based measures for methane emissions' reduction: Challenges and opportunities ahead

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Online Event

Hosted by MEP Maria Spyraki

Co-Chair of the European Parliament Intergroup on "Climate Change, Biodiversity and Sustainable Development"

Speakers:

- **MEP Maria Spyraki**
- **Julius Ecke**, Co-author of the Enervis study
- **Kitti Nyitrai,** Head of Unit C2 on 'Decarbonisation and sustainability of energy sources', DG ENER, European Commission
- **Manfredi Caltagirone,** Programme Management Officer at the Energy and Climate Branch, United Nations Environment Programme
- **Henning Steinfeld**, Livestock Information, Sector Analysis and Policy Branch, Food and Agriculture Organization of the United Nations
- **François-Régis Mouton**, Regional Director for Europe, IOGP
- **Kristina Mohlin**, Director and Lead Senior Economist, Office of the Chief Economist, Environmental Defense Fund
- **Michael Thomadakis**, Strategy & Development Division Director, DESFA SA –Hellenic Gas Transmission System Operator
- **Nikos Satras**, Head of Natural Gas Business Unit, Motor Oil
- **Niels Peter Nørring**, Climate Director, Danish Agriculture and Food Council (DAFC), and Chair of Working Party on Environment, Copa-Cogeca
- **Valérie Plainemaison**, Secretary-General, European Waste Management Association (FEAD)
- **MEP Marcos Ros Sempere**
- **MEP Asger Christensen**
- **MEP Jutta Paulus**
- **MEP Nicolás González Casares**

Introductory Remarks

MEP Maria Spyraki

> ***"The EU needs a cross-sectoral and holistic approach to provide a fair framework for the agriculture, waste and energy sectors. Therefore, it is of paramount importance to revise the European climate and environmental legislation in a coherent manner. At the same time, we should promote a global level playing field and develop an inventory of best practices and available technologies to promote the wide uptake of mitigation measures."***

In her opening remarks, hosting MEP Maria Spyraki, Rapporteur on the EU strategy to reduce methane emissions, laid out the terms of the debate. Due to its high potency and quick degradation in the atmosphere once emitted, **methane is both a challenge and an opportunity to advance towards the goals set out in the Paris Agreement**. Given that over half of methane emissions come from three sectors (energy, waste, and agriculture), there is a **need for a cross-sectoral and holistic approach** that builds a fair framework for emissions reduction. This should entail a revision of the fitness of European legislation, focusing on **promotion least-cost, technology-neutral reduction actions**. In Ms. Spyraki's view, immediate action must include the development of a binding and robust Measurement, Reporting and Verification (MRV) system, as well as a full supply chain Leak Detection and Repair (LDAR) programme that is flexible enough to capitalize on new technologies. Finally, beyond domestic action, the **methane footprint of EU energy imports must be addressed**, as they comprise most Europe's energy consumption. In this regard, Ms. Spyraki welcomed the launch of the International Methane Observatory (IMEO) in partnership with the United Nations Environmental Programme (UNEP). Further actions must be explored to apply domestic standards to energy imports and build a common framework at the international level, Ms. Spyraki concluded.

Presentation of the Enervis study

Julius Ecke, Co-author of the study

> ***"The EU has purchasing power that could be used to foster action on methane emissions reduction through the establishment of upstream pricing for methane emissions."***

Mr. Ecke presented the results of the study: "Scenarios, Effectiveness and Efficiency of EU Methane Pricing in the Energy Sector", produced by Enervis and commissioned by the Environmental Defense Fund. The study looks at potential measures to **capitalize on the EU's role as an important energy buyer**. The results of the model show that – even with no producer abatement response – a reduction of the **methane emissions footprint of European Union would take place at low cost for end-users** (households and medium-sized industries) through **trade readjustment**. Assuming abatement took place, the reductions would be more pronounced and the end-user costs lower. Thus, **upstream emissions pricing bears the potential to significantly reduce the EU's methane footprint**, and might have a significant global impact if it incentivizes producers to engage in abatement measures and other gas importers to adopt analogous policies.

Intervention by the European Commission

Kitti Nyitrai, Head of Unit C2 on 'Decarbonisation and sustainability of energy sources', DG ENER, European Commission

> ***"The Commission's first priority and starting point is to put in place a robust Measuring, Reporting and Verification framework on which data and policies can be based. To seize the current opportunity, we are acting on leak detection and repair and banning routine flaring and venting."***

The EU is lagging behind other countries in terms of reporting standards. As a follow-up to the Strategy to reduce methane emissions, the European Commission (EC) is working to develop

a Measuring, Reporting and Verification (MRV) framework, which will be instrumental in getting a reliable picture and for measuring the effectiveness of actions taken, Ms. Nyitrai argued. **As quick action is required, in parallel with MRV systems, the EC is also promoting LDAR actions and the ban of routine venting and flaring (BRVF)** and is considering including related measures in legislation**.** Said actions – where innovative technologies and best practices will play a key role – will have an immediate impact. During the recent open public consultation, stakeholders expressed their support for this approach , but also a **consensus on the need for more reliable data before proceeding further**. The effects of Europe's energy transition must also be taken into account, Ms. Nyitrai said; the phase-out of coal and lignite will bring an increase in gas consumption in some countries, whereas a share of natural gas will be replaced by cleaner and more renewable alternatives. To conclude, Ms. Nyitrai explained the actions taken by the EC to promote alignment at the international level. **The EU has introduced methane emissions reductions in bilateral dialogues with both consuming and exporting countries.** Furthermore, the EC is supporting transparency in the market through initiatives such as IMEO or the Oil and Gas Methane Partnership 2.0 (OGMP 2.0). Regarding the Enervis study, Ms. Nyitrai inquired about the specifics of the price mechanism, and brought attention to the **significant political and WTO-compliance challenges that some forms of pricing would face.**

Reactions from stakeholders

Manfredi Caltagirone, Programme Management Officer at the Energy and Climate Branch, United Nations Environment Programme (UNEP)

> ***"Reduction of fossil fuel sector emissions would represent a very significant step towards the goals set out in the Paris Agreement at very low cost. This is an extraordinary opportunity that we cannot miss."***

The "Global Methane Assessment" recently published by UNEP and the Climate and Clean Air Coalition (CCAC) showed that, **to align with the climate change mitigation objectives set out in the Paris Agreement, a 40-45% reduction in methane emissions is needed by 2030**. The fossil fuels sector is the one with the most cost-effective emission reduction potential,

considering that a 60-75% reduction of emissions can be achieved at low cost. This would amount to a 17% reduction in the gap between the Paris goals and the current trajectory. **To reap the benefits of methane emissions reduction, general decarbonization actions are insufficient**, Mr. Caltagirone stated. Instead, direct action focused on methane is needed – including MRV, LDAR and BRVF – as well as paying attention to flare efficiency (in addition to its overall reduction). However, achieving methane reduction on the scale and at the speed necessary to meet the Paris Agreement goals will require more targeted and ambitious actions – and for that, we will need more data. The UNEP International Methane Emissions Observatory will close this knowledge gap, by integrating a variety of data sources to create a public dataset of empirically verified methane emissions at global, regional, and local levels.

Henning Steinfeld, Livestock Information, Sector Analysis and Policy Branch, Food and Agriculture Organization of the United Nations (FAO)

> ***"Livestock systems worldwide differ a great deal in size, purpose and capacity to adapt to change. In many low-income countries, livestock plays important livelihood and food security roles, and lack of access to knowledge, markets and financing prevents the uptake of innovative solutions."***

Agriculture and food systems are a central source of anthropogenic methane emissions – representing about 40% thereof. Any action taken in these fields – including MRV – must be attentive to the **large diversity of livestock systems worldwide** (in terms of size, purpose and adaptability) and to the food security and livelihood functions played by livestock in many low-income countries, Mr. Steinfeld said. Improvements in animal nutrition, genetics and health are **no-regret policy measures** that bear high mitigation potential in systems with low livestock productivity. However, **lack of access to knowledge and markets, insufficient incentives, and high costs continue to prevent uptake**. Beyond specific solutions, the concept of the circular bioeconomy has great potential to minimize resource use.

François-Régis Mouton, Regional Director for Europe, IOGP

> ***"Like any effective and fair policy, methane emissions must be measured first, exactly as you would not fine a driver for speeding without knowing how fast he was going."***

Mr. Mouton underlined the **need for more accurate data on the distribution and effects of methane emissions as a prerequisite for any fair and effective policy initiative**. The establishment of IMEO and the development of a robust MRV system based on the OGMP 2.0 standards are appropriate measures in this regard. When building upon this improved information base, the **flexibility and choice of scope of mitigation measures should be ensured**, Mr. Mouton said. In this light, and with the ambition of finding common international standards, IOGP supports the Methane Guiding Principles as an industry-led effort to embed best management practices within operations worldwide. Mr. Mouton concluded his intervention by cautioning against **price and cost increases that might be detrimental to energy accessibility and to the competitiveness of European industries**.

Kristina Mohlin, Director and Lead Senior Economist, Office of the Chief Economist, Environmental Defense Fund (EDF)

> ***"Research highlights that global decarbonization efforts that significantly reduce CO2 emissions would not lead to appreciable methane emissions reductions before 2050 unless we act to drastically reduce methane now, and the place to start is the oil and gas sector."***

Research points to the high potential for fast methane reduction, but also to the lack of appreciable reductions in methane emissions from global efforts focused on CO2 reductions, Dr. Mohlin highlighted. **Specific action on methane is needed, starting from the oil and gas sector**. The International Energy Agency (IEA) highlights how such sectors can achieve up to a 75% methane emissions reduction with current technology – much of it at minimal or no net costs. Although the initiatives taken by the EC are appropriate to tackle domestic emissions, **the role of the EU in international energy markets brings a responsibility and an opportunity to change the global situation** – Dr. Mohlin argued – by introducing **legally binding requirements on methane emissions for all gas consumed in the EU.** Internationally, the EU

could reinforce its role as a climate leader by working for the formation of a coalition of gas-buying countries to promote similar methane emissions standards.

Michael Thomadakis, Strategy & Development Division Director, DESFA SA – Hellenic Gas Transmission System Operator

> ***"Methane emissions reduction seems to be a low hanging fruit in the decarbonization of the economy, especially when it comes to cross-sectoral actions between energy, waste and agriculture."***

The possibility of cross-sectoral actions between energy, waste and agriculture – such a as the development of markets for biomethane – makes methane emissions reduction a promising field. In rolling out new approaches, the **lessons learned from past initiatives will be essential to lay the foundations for a sustainable biogas market**. Collaboration between stakeholders to exchange on best practices across sectors will be instrumental in this regard. At the international level, **EU initiatives and actions should be extended to relevant partners, including the Energy Community countries**, Mr. Thomadakis proposed. This would ensure that all Member States and neighboring countries have equivalent conditions for the decarbonization of the economy.

Nikos Satras, Head of Natural Gas Business Unit, Motor Oil

> ***"A thorough impact assessment should be carried out prior to enforcing any mitigation measures in order to prevent negative effects on European competitiveness and on the critical transitional role to be played by natural gas."***

Mr. Satras agreed with previous speakers on the need for better data and a robust MRV system, supporting the establishment of IMEO. However, the need to reduce emissions must be balanced with other considerations. **Methane pricing measures should not prevent the role to be played by gas as a transitional energy source**, and any action should be attentive to the global level to **ensure the existence of a level playing field**. Likewise, the effect of price hikes on competitiveness and energy affordability should be evaluated in the light of the new data still to be obtained.

Niels Peter Nørring, Climate Director, Danish Agriculture and Food Council (DAFC), and Chair of Working Party on Environment, Copa-Cogeca

> ***"Pricing methane is not a good solution for agriculture, as agricultural methane emissions are generated in natural processes with limited mitigation potential. "***

Mr. Nørring pointed to the concurrent challenges placed on farmers by climate change impacts, growing populations and increasing demands for sustainability. Since much of agricultural methane emissions are the result of natural processes, **the mitigation potential of the sector is limited**. Specific measures to be taken could include changes in cow feed composition and other forms of feed optimization, improvements to minimize methane leaks in transforming manure to biogas, and the use of methane for feed protein production. Mr. Nørring concluded by reaffirming the **commitment of agriculture to action on methane emissions**.

Valérie Plainemaison, Secretary-General, European Waste Management Association (FEAD)

> ***"Better data collection for waste is essential to successfully monitor emissions, exploit the synergies between biogas production and recovery, and valorize waste streams."***

Turning to methane emissions from waste, Ms. Plainemaison laid out the priorities for action in fostering more sustainable practices. In the first place, the **implementation of existing waste laws should be ensured**, including obligations to separate municipal biowaste starting from 2023; this is a prerequisite for more ambitious measures. Biowaste **separation obligations should be extended to industrial and commercial sources**, as they offer more economically viable waste flows due to their higher homogeneity and size. Likewise, the establishment of composting targets would boost biowaste recovery. To ensure successful biowaste selective collection, **public sector support is critical in facilitating private investment**. Ms. Plainemaison concluded by celebrating that capture and recovery of landfill biogas emissions are included under the EU Taxonomy Climate Delegated Act, but argued for the inclusion of leakage reduction measures (prior to capture and mitigation).

Reactions from MEPs

MEP Marcos Ros Sempere

> ***"As one of the main importers of oil and gas, the European Union must play a leading role in reducing methane emissions linked to its trading activities. Strong domestic action will not deliver meaningful reductions if it is not extended to incoming energy supplies."***

Renewable gas has a relevant role to play in sectors where electrification is not feasible, not efficient or has high costs. However, possible leaks must be clarified and accounted for. Moreover, **measures to support biogas must avoid perverse incentives leading to overall emissions increases**. Mr. Ros Sempere hoped that the new sustainability criteria under the Renewable Energy Directive Recast to 2030 (REDII) will work in this direction. Mr. Ros Sempere concurred with previous speakers on the importance of MRV and new LDAR technologies, the role of IMEO in boosting data quality, the need to review European climate legislation, and the importance of the international dimension for any initiative to be successful in tackling climate change.

MEP Asger Christensen

> ***"The EU should be the leader in developing sustainable alternatives by prioritizing and supporting the frontrunners developing green solutions."***

In Mr. Christensen's view, actions to tackle methane emissions must include MRV systems, the development of new technologies, and the construction of an appropriate governance framework. Citing specific examples, Mr. Christensen highlighted the role of **biogas as a powerful cross-sectoral action to reduce methane use**, and the **need to open space for gene editing techniques to contribute to emissions reduction**. In line with these examples, Mr. Christensen stated that the EU should be a leader in the field by prioritizing support for the frontrunners developing green solutions.

MEP Jutta Paulus

> ***"As one of the main oil and gas importers, the EU has a global responsibility to build better international governance from data to emissions reduction."***

Ms. Paulus celebrated the actions taken by the EC in parallel to the development of a robust MRV system. However, better data is a means and not the ultimate goal. In this regard, **emerging European regulation should foresee the quick adoption of further action as soon as the data is available**, shortening regulatory times through instruments such as delegated acts. Swift action must also be taken on the **closing of the most polluting abandoned sites** (coalmines and landfills), which would be a cost-effective action with great environmental benefits.

MEP Nicolás González Casares

> ***"I welcome that the EU is finally addressing the debate on methane emissions, as attaining newly set climate goals will require paying attention to all sectors and seeking the most cost-efficient reductions."***

To achieve the EU's environmental objectives, actions must consider all sectors and seek the most cost-efficient reductions (energy in the case of methane), Mr. González Casares said. Despite the critical role of MRV systems, the **need to address upstream emissions remains**. To this end, standards or incentives for energy imports must be explored; in this regard, the application of a price signals in Norway has lent good results. The results of the Enervis study are encouraging, as they find that it is possible to abate emissions while avoiding an impact on consumers. The **impact of measures on the economies of energy-exporting countries must be considered** by the Commission. When addressing emissions from agriculture, opportunities for affected regions and people in rural areas must be ensured, Mr. González Casares concluded.

Closing remarks

MEP Maria Spyraki

Ms. Spyraki closed the event by celebrating the overall **consensus on the need for data reliability and for MRV and LDAR measures**. Despite common challenges and the need for cross-sectoral measures, specific sectors show different opportunities for action, and thus the most appropriate measures to be taken differ. In the energy sector, developing and adapting new technologies will be crucial. In agriculture, it is important to incentivize best practices. Finally, better implementation of legislation and the setting up of EPR schemes are needed in waste. **European policy must be attentive to industrial competitiveness, and acknowledge the transitional role of gas** as established in the December 2020 European Council conclusions. Disagreements remain on the effect on end-users of upstream emissions pricing, as there is a need to secure both energy affordability and environmental protection.