

## Summary

### **OGMP 2.0 Implementation Conference**

29-30 November 2021

#### DAY 1

Enabling collaboration, joint problem solving and sharing of solutions for mitigation methane emissions is at the heart of the Oil and Gas Methane Partnership (OGMP 2.0). This gives content and meaning to the concept of Partnership. The first OGMP 2.0 Implementation Conference was held on November 29-30 2021, sharing visions, ideas and challenges – as well as creating the network of connections between companies that enables them to mitigate methane emissions more rapidly and more cost effectively.

This report summarizes the discussions and presentations – but the meeting will truly be a success if it yields countless further unreported exchanges:

#### **UNEP's perspective on OGMP 2.0 progress by Mark Radka, Head of Climate and Energy Branch**

Mitigating methane emissions buys us time to solve harder climate issues. World leaders recognized IMEO at the G20 Leaders' Summit and the Global Methane Pledge (GMP) was launched at COP26 with over 100 countries committing to reduce these emissions by 30% by 2030. This illustrates the growing relevance of the OGMP 2.0 work. To meet the opportunities created by the international momentum around methane, we need to finalize the operationalization of the partnership by:

- Finalizing technical guidance - task forces are strongly encouraged to complete their work by March 2022.
- Increasing the ambition of targets: current average of OGMP 2.0 companies' targets is a 33% reduction for absolute targets, 0.13% for intensity - behind the 45% target and near zero intensity target recommended by 2025 for the entire industry; companies are encouraged to explore targets for their NOJVs.
- Improving data quality. Companies made good efforts in the first year of reporting, but quality of data remains low; companies are encouraged to start testing reporting at higher levels. UNEP recognized the efforts made by companies and was flexible this year in attributing Gold Standard, but criteria will be applied in a stricter way in the coming years.
- Supporting NOJV engagement – we see a positive trend in recruitment, but more companies need to join to ensure that the collective targets are delivered on time.
- Addressing the issue of the divestment of high-emitting assets to non-OGMP 2.0 companies.

#### **Update from the European Commission by Brendan Devlin, Strategy and Foresight Counsellor, DG Energy**

The Commission is proud of the OGMP 2.0 which is a well-crafted basis for a global standard. The European Commission is working towards incorporating the OGMP 2.0 in the upcoming EU legal framework since it sees it as central to all future actions on methane. For that purpose, it is important for all technical guidance to come to swift conclusion (end of Q1 of 2022). If not, EU legislation will need to be more prescriptive.

#### **Update from EDF by Mark Brownstein, Senior Vice President of Energy**

The Global Methane Pledge countries are eager to receive guidance on how to achieve the Pledge, which makes the OGMP 2.0 work even more relevant. Most low-hanging fruits for methane emissions reduction is in the oil and gas sector. At the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC), there was concern that the industry was being marginalized in discussions about the future of energy.

Industry has a credibility problem with Civil Society, so organizers of events like COP are increasingly shunning industry. Addressing methane is the biggest step that the industry can take to make a material difference. If it can't capitalize on this problem, it will be hard for people to believe it is capable of being a partner in the energy transition. There is still lots to do, e.g. increasing NOJV reporting as well as the ambition of targets over time or attracting more companies, especially NOCs. Some companies are sitting on the sidelines waiting to see the specifics. Their recruitment may depend on the clarity with which we can speak on what it means to join the partnership.

## Discussion

- UNEP is committed to helping members gain traction with their NOJV partners and encourages companies to share ideas on how to do that.
- The political landscape for some companies is frustrating with talk about the end of the industry in 10 years while at the same time calls for increased ambition. The EC suggested that without addressing methane there might well be no gas industry in 10 years, but that there is a very good case for a responsible industry - keeping its social license to operate and showing its ability to handle future challenges.
- The increased government participation at IMEO level (e.g. with US joining) will bring a powerful addition to companies' engagement at OGMP 2.0 level.

## [IMEO vision on data integration, year 2 report & IMEO relation with larger methane ecosystem by Manfredi Caltagirone, Acting Head of IMEO, UNEP](#)

The role of IMEO is to create the best existing public dataset of methane emissions and to help companies, governments, investors and Civil Society transform their climate ambitions into field-level actions. The current efforts are focusing on (1) data integration within the company reported data via OGMP 2.0 and (2) overall integration between data streams with wide range of confidence, quality and granularity.

IMEO is also currently in the process of building a data taxonomy and platform, engaging satellite providers, funding scientific measurement studies, engaging stakeholders through its governance structure and engaging countries including GMP signatories, for which IMEO will serve as the implementation vehicle.

IMEO will be at the center of the methane ecosystem, complementary to other initiatives and empowering stakeholders to deliver on their objectives.

## [A taxonomy of remote sensing detection and quantification of emissions by Ritesh Gautam, Lead Senior Scientist at EDF](#)

Remote sensing from space provides an effective way for systematic monitoring by quantifying the excess methane concentrations above the background. It is made effective by the combination of 3 essential parameters: (1) swath width, (2) pixel size and (3) precision. The various satellites in existence and planned can be mapped with the parameters and complement each other. MethaneSat will fill a critical gap in the ensemble of satellites.

MethaneSAT will be launched in Q4 2022-Q1 2023 for 5 years or more to produce quantitative data on methane emissions from global production. MethaneAIR is an airborne precursor mission for MethaneSAT, which has flown across several major oil and gas basins in the US.

Satellites are sensitive to clouds but they can target and prioritize areas during non-cloudy days to acquire data. Offshore satellite measurements are more challenging, but several solutions exist. Satellites alone do not distinguish sources of methane. This can be done by integrating analytics and other datasets.

### [LDAR Programme by Thomas Hollbacher, Technical Lead on Methane at Wintershall Dea AG](#)

The LDAR program was based on detection by the use of sniffers and optical gas imaging: (1) sniffing between 700-800 sources/day, the concentration measurements were converted into gas loss using correlation tables and (2) optical gas imaging (IR camera) covering 2000-5000 sources/day. The OGI camera only provided qualitative information, but it was converted into gas loss using leak no leak factors. The Pilot project was conducted on gas dehydration plants in Germany with a focus on fugitive leaks, not considering vented emissions. Given that many sources were surveyed and only a few leaks were found, the approach is to do 100% survey for a baseline in the first year, then reduce frequency by 25% of the possible sources per year.

### [Methane Detection Technology as part of a Pathway to Measurement by Howard Dieter, Jonah Energy](#)

Jonah has 11 years of experience in onshore upstream LDAR campaigns. Leaks are measured and fixed once spotted and account for 1/3 of the company's emissions. Currently, Jonah is using LDAR campaigns to build an understanding of all their key sources, increasingly on a continuous basis. Sharing emissions inventory and measurement data with the operations teams helps to access the knowledge that exists with operators about emissions and to formulate ideas about emission reduction strategies. If emissions exceed expectations, more measurements can be done to build a better view of sensors' data. Having a corporate methane metric encourages creativity (e.g. Jonah's operations teams figured out how to re-route permitted vented emissions). Measuring the quantities that form methane emission calculations clearly shows where reduction opportunities exist.

### [Discussion including reports from breakout groups](#)

Companies shared their **experience with measurements** including using a combination of different technologies: OGI camera detection, quantification using high flow samplers, LDAR programs, testing emission simulation software and source measurements on certain sources, testing different technologies for flaring efficiency that can be deployable across large number of sites, using CRDS technology, testing drones, aerial inspections from helicopter, spectroscopy accompanied by cross-checking with bottom-up measurements or using infrared detectors. Companies outlined some **challenges** with regards to the use of technologies, including the accuracy and practicality of technologies, cost and trade hurdles of deploying technologies at scale and across countries, underground control of emissions, lack of experience and capacity on continuous monitoring, extension of measurements' coverage to all sources at complex sites, taking into account environmental factors in designing measurement campaign.

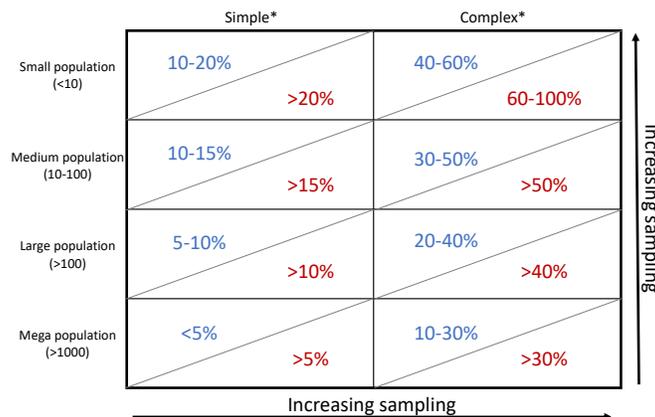
OGMP 2.0 could help compile lessons learned by companies on the use of the various measurement technologies, and IMEO could help create correlation factors through measurement studies. Another conclusion was that there is no one single technology that fits all possible sources with each operator required to develop its own strategy best suited for its operations, considering asset configuration/activity levels, etc.

### [Presentation and Discussion on Uncertainty & Reconciliation by Erin Tullos \(UNEP\) & Peter Evans \(bp\)](#)

The basis for the guidance is the recognition that distribution and characteristics of emissions vary across segments. There is therefore **no one size fits all sampling strategy**. Emission distributions are most often **non-Gaussian**, which needs to inform the sampling strategy. The **guidance is therefore based around principles, rather than prescriptions**, with the judgment of operators being of crucial importance. Operators are invited to make sampling decisions based on the particular assets and justify their approach. Another important recognition is that given the little experience with top-down measurements, the **reconciliation needs to be an iterative process**, with no expectations of perfection in year 1 but rather

becoming better and easier every year. Operators do not need to measure everything but instead **focus their efforts on most material sources** of emissions.

Therefore, the task force did not come up with one specific number of measurements required. The presented approach constitutes a starting point, showing that sampling strategy depends on a variety of factors and different scenarios can be envisaged. Distinction is made between **simple sites** (with not much temporal variation, e.g. miles of pipeline, onshore well pads) and **complex facilities** (with a lot of types of emission sources and a high temporal variability entailing the need to sample a greater % of total population (e.g. gas processing facilities, offshore platforms, large compressor stations). Distinction is also made in terms of the **population size** with bigger populations requiring less sampling in %. Another important consideration is the **material contribution of emissions**. Operators should focus on material emissions and **report vast majority of emissions at level 4 for any given asset**.



A given company can have a few different populations within its operations requiring a different sampling approach, e.g. one for its distribution network and another one for its LNG systems.

The **frequency of sampling** depends on the distribution of emissions. For **simple assets**, measurements should be conducted at least once a year following the OGMP 2.0 reporting period. For **complex facilities**, one annual measurement is not sufficient because there is not enough information about the temporal variation of emissions. Multiple measurements are required in that case to understand how they evolve over time and for operators be able to perform meaningful reconciliation.

A case of an offshore platform was presented as an example representative of these type of facilities. **Main sources** need to be identified, and each source has **specific measurements**. For example, flares and turbines have continuous monitoring through flow meters, while vents require monthly manual checks due to variation. In this case, since fugitives were smaller contributors to total emissions, an emission factor was used for this source. There is a **unique uncertainty** attributed to the measurements of such components, and the varying strategies need proper justification. The **population distributions are different** for each source, and the summation of these component distributions equals the total distribution for the asset. **Site-level aerial measurement is compared to the source-level total for L5 reconciliation**. The site-level measurement was below the source-level total, which means that further investigation is needed but it ensures at least that source-level estimates are conservative and do not underreport emissions.

Furthermore, a population of US onshore dry gas sites was presented as case study of simple sites. **Measurements of a sample of sites** using different technologies and techniques was highlighted to **show the inferred distribution from hundreds of similar simple sites**. Source-level measurements and site-level measurements showed different emissions estimates across different days, yet the distribution of total emissions across all sites was very similar using both techniques. **Reconciliation is thus possible if**

**distributions of emissions at multiple sites, instead of measurements at individual sites, are compared.** Finally, it was demonstrated that **coupling source-level measurements with an engineering model** that accounts for intermittency can allow for **long-term estimates of site emissions.**

## Discussion

*What are the major technological challenges associated with site-level measurements?*

- One of the major technological challenges are **meteorological conditions** during measurement campaigns with snow, rain, wind affecting the use of technologies. It is important for operators to understand typical weather conditions when planning a campaign and take them into account.
- Operators are not expected to always cover 100% of their facilities. **There is a way to be smart and efficient about sampling** and refine uncertainty budget for site level technologies, e.g. a population-based sampling and reconciliation can be a smart way around the mentioned challenges.
- Another key challenge is **accounting for abnormal emissions**, which is impossible without understanding the nature of a given facility. Abnormal emissions can take different forms, e.g. short period of elevated emissions due to maintenance (tracked by a meter) which is different from unplanned events, e.g. major component failure. Abnormal events must be included in emissions inventory but focusing on being ready for unplanned events entails the risk of detracting the attention of operators from normal emissions.

**UNEP and EDF experts are available to discuss sampling strategy with companies bilaterally.** A dedicated workshop will be organized on uncertainty and reconciliation to discuss this topic in more detail and share additional examples. More examples will become available as companies test sampling and reconciliation approaches.

## Proposal for OGMP 2.0 partner collaboration platform by Shell and Wintershall Dea

Shell and Wintershall Dea presented the industry collaboration platform that upstream companies have formed at their initiative to allow companies to dive deeper into specific topics (e.g. clarify requirements or discuss experience with implementation), in addition to mirror group meetings. The idea is to share feedback from the platform to mirror groups and task forces developing guidance. The platform organizes monthly voluntary meetings with agenda set according to companies' questions/needs.

UNEP proposed to organize **dedicated workshops on specific topics** (e.g. NOJVs engagement, uncertainty & reconciliation), e.g. every 3 months to give companies more opportunities to share experience and build knowledge.

## Discussion on the Future of OGMP 2.0

It has been acknowledged that a lot of change has happened since 2014, but the Partnership should be given space to continue the learning and improvement process (with technical guidance under development) as long as it pulls in the right direction. Climate change requires a greater collective ambition and action from the oil and gas industry. The work done so far constitutes a solid ground to accelerate efforts next year and beyond.

**Potential areas of improvement** include bringing more credibility and better promoting the work done by OGMP 2.0 companies with stakeholders, attracting more companies to the Partnership by addressing remaining hurdles, improving a few elements in the reporting templates based on year 1 experience while ensuring they remain a stable tool for companies to use, developing a social guidance to capture the best practice of companies when it comes to the human/community dimension of the OGMP 2.0 work and enhancing NOJVs engagement.

The EC proposed to companies to create **a document that demonstrates the commercial benefits of the OGMP 2.0** from their point of view, to be used to encourage policy makers to support their efforts.

There are **several entry points for attracting new members**. UNEP is in advanced discussions with a number of companies that would significantly increase the share of OGMP 2.0 coverage across segments. The EC and EDF are also making efforts to increase membership. Additionally, IMEO will help motivate industry in crucial countries such as the US, Japan, and Korea. Companies are also encouraged do more to recruit both their NOJVs as members directly, and their partners.