Center for Strategic and International Studies

TRANSCRIPT

Event

"Methane Reductions: Connecting Data with Action"

DATE

Wednesday, September 28, 2022 at 2:00 p.m. ET

FEATURING

Manfredi Caltagirone

Head, International Methane Emissions Observatory, U.N. Environment Program

CSIS EXPERTS

Ben Cahill

Senior Fellow, Energy Security and Climate Change Program, CSIS

Transcript By
Superior Transcriptions LLC
www.superiortranscriptions.com

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

Ben Cahill: Hello, everyone. Thank you for joining us today. My name is Ben Cahill. I'm a senior fellow in the Energy Security and Climate Change Program here at CSIS. And I'm really pleased you all joined us today for this discussion about methane emissions and its importance to the global climate. It's a really important initiative to track methane emissions, to integrate data, and to use that data to spur action on methane emissions both in the energy sector and in other sectors.

And I'm really pleased to have as our special guest here Manfredi Caltagirone, who is the head of the International Methane Emissions Observatory, or IMEO. Manfredi, thank you so much for joining us. It's really great to have you here.

Manfredi Caltagirone: Thank you. Thank you, Ben. And thanks for the invitation and for the opportunity.

Mr. Cahill: Yeah. So I know it's been a really busy week already for you so far. There's a lot happening here in Washington, D.C. this week on methane and clean air initiatives. And we'll get into some of that. But to start, maybe you could just tell us a little bit about what IMEO is, the origins of the organization, and why it was created.

Mr. Caltagirone: Yeah. So the International Methane Emissions Observatory is an initiative by the United Nations Environment Program, where I do work, that really wants to scale up our activities on methane emissions, starting with the energy sector, and engage companies, governments and civil society organization to achieve the methane reductions that the science tell us – tell us are needed to be achieved before 2030, so in the next 89 months.

We do know that methane emissions are responsible for over a quarter of the global warming we're experiencing today. As you and the audience know, methane is a short-lived climate pollutant. So it says in the atmosphere for a little bit over a decade, but in this period it has a disproportionate greenhouse effect on the climate, and is considered to be 84 times more powerful than CO2 in increasing the global temperature. And so it's really a great opportunity, these two characteristics – the high potency and the short duration – make it an enormous opportunity to reduce the effect of global warming in the very near term.

So we absolutely need to work on long-term decarbonization, starting now and achieving it as soon as possible. But at the same time, under any decarbonization scenario we know that reducing methane emissions will allow to reduce the worst effect of climate change in the – in the short term.

Mr. Cahill: So last year was a really eventful time for methane-related activities. A lot of new initiatives were announced. I think that IMEO was one of the bigger

ones that came up in the run up to COP-26. So you mentioned the relationship between IMEO and the U.N. Environment Program, or UNEP. Can you explain that a little bit more? What's the relationship between IMEO and UNEP and the European Commission? And why did UNEP in particular think that it was important to house this program there?

Mr. Caltagirone: Yeah. So, well, UNEP has been engaged on mitigating methane emissions starting with the energy sector for many years. And mainly in the framework of the activities of the climate and clean air coalition. That is an initiative – a coalition that was launched by Secretary Clinton in 2014 to link the climate and clean air agendas in the ramp up to COP-15 in Paris. There was since – and one of the topics was short-lived climate pollutants, with – on those two aspects of climate and air quality benefits. So providing climate and air quality benefits while being mitigated.

We have been working with the European Commission for the last three or four years on methane emissions, and in particular on the revamping of an initiative that UNEP manages that is called the Oil and Gas Methane Partnership 2.0. That is an initiative that is a transparency initiative for oil and gas industry that currently comprises of almost 90 companies representing around 35 percent of global oil and gas production, but also with a focus on mid and downstream, so it's not only an upstream-focused initiative.

Under the OGMP 2.0, companies have committed to increase the accuracy of their – of their measurements and reporting of methane emissions in a very disaggregated level. So we're getting from companies asset-level emissions data determined based on an agreed methodology and with a commitment to get to measurements both at source level and sight level.

As you know, the typical reporting of emissions by oil and gas sector, by the oil and gas companies, and in general by governments, happens with the utilization of emission factors. There are standard amounts of methane; that is, every single piece of equipment is supposed to emit. And effectively the reporting was based on emission factors by activity factors.

And there is a huge uncertainty both in the number of equipment that might exist in a facility. And you can imagine, for multinational companies, the number of facilities in which this equipment might be, but also that the emission factors are based on the assumption that everything goes well and that there is no failure in the system; there is no one that has left a tank open or forgot to close a valve.

And so, as in everything, things can go wrong. And emission factors don't capture that variability of emission to an extent that allows then companies

and governments and civil society to use this data to focus mitigation actions and to ensure to provide certainty about their actions.

So the engagement really started with the development of the OGMP 2.0. That was very much done in a collaborative fashion with a number of organizations,

including oil and gas companies, but mainly the European Commission and Environmental Defense Fund that has had a long experience of engagement, both with the oil and gas industry but also on the science of methane emissions.

And there was the realization that these data were useful, but we needed to connect them to the action that is needed to reduce emissions. So we didn't want to have an initiative that was transparency for the sake of transparency, but to really use it as a tool to then generate actions at different scale.

And so, through OGMP, through the science studies that IMEO funds and coordinates around the world, through the increasing capabilities of satellites' observations, we can create a common knowledge, a common language, that can be used by different actors to mitigate emissions.

And what we believe is that through IMEO, through the OGMP 2.0, we can bridge the ambition of initiatives such as the Global Methane Pledge that commits participants – the 122 countries that are now participating in this effort, that it commits, I was saying, to reduction of emission of 30 percent by 2030 compared to 2020 level. And we can bridge that ambition with the reality of asset owner and asset manager on the ground that are the one that effectively control the emission.

The oil and gas sector is not the only emitting sector of methane. As you know, there is in the fossil-fuel sector also coal mines are significant emitters. And in other sectors, agriculture, rice production and livestock and waste are significant contributors. But the fossil-fuel industry and the oil – the fossil-fuel sector and the oil and gas sector in particular is the sector with the highest reduction potential. And we know that between now and 2030, the heavy lifting on methane mitigation will have to be done by the fossil-fuel sector.

So this is where we're starting, with ambition to increase to other sectors. And again, bridging the ambition of the governments, the head of states, with the global methane pledge, with the reality of the operations on the ground.

Mr. Cahill: Yeah, so you've touched on a couple things that I want to come back to. You're getting data from governments. You're getting national inventories.

You're also getting company reported data, and data from scientific studies and satellites, so it's coming in from many sources.

Has anyone else who's looked at methane issues in the last year – I mean the volume of data is just – it's dizzying already, but it's going to get much bigger in the years to come.

So, let's break it down a little bit and talk about those different categories of data. Explain a little bit about OGMP 2.0 and the importance of getting that kind of granularity of company reporting?

So, you said something like 95 companies have signed up so far. What makes OGMP particularly important? What's the kind of the quality of the data that OGMP captures that other company reporting doesn't?

Mr. Caltagirone: Well, the Oil and Gas Methane Partnership 2.0 is the only measurement-based reporting system that is comprehensive and allows for a certain level of corroboration of the reported data by the companies through the work of IMEO and the integration with these other sources of data.

As I was mentioning, the companies have committed to report all their emissions from both their operated and unoperated assets with an increasing level of granularity and accuracy. So, as we were saying, most companies report data based on emission factors. We want to change that, and we want to make sure that the asset managers are engaged in these activities of data collection. Because at the end, asset managers, as most people in the oil and gas industry are nerds at heart, and if they see a problem, they'll want to fix it.

And this was –

Mr. Cahill: It's the engineering mentality.

Mr. Caltagirone: Absolutely. And I'm saying it with certain jealously being myself having a law degree.

So, the idea really is that we want to engage the asset managers in this process and not let corporate divisions in headquarter being the one pretending to count emission factors by activity factors.

And so, level four – so we have defined these five levels.

Level one is effectively a number.

Level two is dividing this number by some emission categories based on the MARCOGAZ or the IOGP categories.

Level three is what – more or less similar to what the EPA requires in the GHG reporting program in the U.S. So, based on emission factors at a source level.

Level four gets to measurements at the source level. We're not asking companies to report – to measure every piece of equipment, but we're asking companies to measure enough to develop an emission inventory that is based on measurements – considering their logo conditions, the type of equipment they have, the operations, and the processes that they've put in place.

And then, we add these on – we add on to these – it's called level five – that is the reconciliation of these source level bottom-up measurement-based inventory with site-level measurements, so that – to make sure that the sum of the parts that were identified with the level four measurements and estimations are in the realm of comparable with the emissions that get observed, again, at the site level – so the whole emissions in the atmosphere from a certain location.

And this is really a revolution for a number of reasons. First, with engagement of the Urban Commission and Environmental Defense Fund, we managed to convince companies that it was important for them to take responsibilities not only for the emissions that they directly control – so the emissions coming from operated assets, but also those in which they have financial interest – and not necessarily a direct operational control, again.

But also, that it was important for them as a community to be more credible and to show the larger community the efforts that they were taking to reduce the emissions and make sure that as long as oil and gas are part of the energy mix, their environmental performance is as – is as high as possible, at least on the methane side of things.

So, I guess these are the main characteristics. There are, again, I think around 85 companies at the moment – a combination of international oil companies, independents in the U.S. We have had in particular an influx of U.S. companies over the last few months of which we're particularly excited about, but also of national oil companies that is an important piece of the methane puzzle. So we need to make sure that we engage not only the leading companies but we engage the larger community. We do provide them with a certain degree of credibility, and in exchange we require, again, granular data and engagement on making sure that the reduction happens as fast as possible and in a way that can be trusted by the community.

Mr. Cahill: OK. So let's talk about some of the challenges of integrating all this data. I think that IMEO is still a relatively small organization; I know you've been

funded for about five years, I believe, with the secretariat. But obviously this requires a lot of brainpower and a lot of computing power to integrate all this data and make sense of it. So can you talk about how you're tackling that within the organization and especially how you're partnering with different scientific and research organizations around the world to do that?

Mr. Caltagirone: Yeah, absolutely. I mean, this is really a collective effort, right? So UNEP is providing the infrastructure and we're building this infrastructure to be able to store and analyze and anonymize, in certain case, data, and the idea is really to create policy-relevant science that provides the level of granularity that is

necessary for producing countries to target better the regulation, for companies to understand where to start mitigating which piece of equipment, what type of facilities first, but also for consuming governments to say well, we have climate commitments and we want to import oil and gas for the next foreseeable future but we want to make sure that the methane associated with that – with that product is minimized to the extent possible.

So, effectively, we're building the infrastructure. We're working with a large piece of the scientific community, mainly, at the moment, on performing measurement studies around the world. We have, at the moment, a campaign ongoing on measuring the offshore facilities in Angola and in Gabon, the first time ever that there is a measurement study done with scientific – with all the scientific criteria, with the transparency aspect, you know, ensuring transparency in Africa. There has been some action from companies, but again, not in a way that would contribute to the larger understanding. We have a campaign going on on coal mines in Australia. We have another one starting next month in Poland and plans for additional studies in Colombia, in Oman, in Canada, and so on. So these are all – they're certainly not performed by U.N. stuff; they're done by university research organizations because there is where the expertise lies and so we shouldn't reinvent the wheel.

At the same time, we are leveraging the increasing, you know, remote-sensing capacity represented by satellites – TROPOMI, the satellite from the European Space Agency – but increasingly other commercial – other public satellites such as PRISMA from the Italian Space Agency or EnMAP or commercial satellites such as GHGSat and eventually Carbon Mapper and MethaneSAT from Environmental Defense Fund.

So what we're – we're building a database, effectively, that is going to be able to collect and connect these data and you should think of these as different images of a larger whole. Steve Hamburg, the chief scientist of the Environmental Defense Fund and also the chair of the Scientific Oversight

Committee of IMEO, describes it as taking pictures, more pictures of an elephant and having them to put them together –

Mr. Cahill: Piece them together.

Mr. Caltagirone: Yeah, exactly, to get a picture of the whole and – rather than, you know, the specific, you know, foot or tail or whatever. And so this is effectively what we're doing. We're then comparing it with a mission factor with National Inventories, which is the way the governments report their emissions to the UNFCCC, under the UNFCCC process. We don't want to use these data – we don't want to – we don't want to be perceived as a gotcha organization. This is not the aim. The aim is not to point finger at anyone. But the point is to understand how these data can be then better used to better – to have – to represent a better picture of

emissions in the different countries, and to have the granular enough data that allows to – as I was saying – to then target and focus mitigation action.

We have commitments from the European Space Agency, but at large from the Committee of Earth Observation Satellite, CEOS, to support the work of IMEO. And so we're negotiating with different space agencies about preferential access to their data, or to have a slightly wider ability to task. The Canadian – the Canadian government has made available to IMEO all the data provided by the – you know, collected by GSAT. And we're hoping to increase the community that will be providing data to IMEO, for exactly the reason you were mentioning.

We're on the verge of a data revolution. There will be an avalanche of data that will be available to the community. And this is very, very exciting, but also represents a risk because if you're allowed to pick and choose which data you want to show, and you want to – you want to highlight, you might – you might mislead the public about your – and regulators – about the actual performances of the facilities. And we think it is important to have an independent and trusted entity. And, well, we think that IMEO can represent this independent, trusted entity, including because it is – it is an entity in a U.N. organization, and therefore serving all parties and not any specific one in particular.

Mr. Cahill: Yeah. Can you talk a little bit more about the theory of change in that regard, and a little bit about how the data's going to be placed in the hands of governments, regulators, maybe even companies themselves. I know it's early days, but are you starting to think about the platform and the way that you want to make that data available to everyone, almost in near time, potentially?

Mr. Caltagirone: Yeah. Well, yes. We certainly want to – we want to ensure transparency.

Mr. Cahill: Maybe that's the long-term vision.

Mr. Caltagirone: Yeah, well, let's see. There will be certain data that we'll be able to share quicker than others. And then there will be announcements about a system of systems that we're trying to present by COP-27 that will be using different remote sensing instruments to identify very large emissions sources and try to promote mitigation of those. But it's important to put those into the context of a larger hold, right?

So these ultra-emitters, as they're called, so those emission sources that are more than 25 tons per hour, represents around 8 to 10 percent of the emissions. And it's a great thing to mitigate but, again, it's only 10 percent of the total emissions from the oil and gas sector. So we need to make sure that as we work on the tip of the iceberg, we also set up an infrastructure for the remaining 90 percent or so.

So, yeah, the data will be public. Will be public starting probably at a regional level or a national level. But we want to increase this granularity and this accuracy. The main objective of IMEO is to promote the reduction of emissions in the oil and gas sector by 75 percent by 2030. That is what science tells us we need to do, as we were saying earlier. But the main output of our work will be a global, public dataset of empirically verified methane emissions at, as I was saying, an increasing level of accuracy and granularity.

And the objective is really to make sure that the different parts of the ecosystem that is much larger than UNEP, and the oil and gas companies, and that indeed includes national governments from both the consuming and producing countries, NGOs, civil society, the general public has enough information to act, depending on their capabilities and their control of emissions. So oil and gas companies we expect will be using this data to target and focus mitigation actions across their facilities. As I was saying, government might use it to better target regulation, to understand better where the opportunities lie in the beginning, consuming governments from – to import or to prioritize import from certain jurisdictions rather than other. And the U.N., NGOs, and civil society have the role of holding the system accountable to their promises because we are seeing companies and governments, including coming up with very ambitious targets that we are very encouraged by but that, obviously, don't ensure that those reduction(s) will actually be achieved.

And so this is really the – the theory of change, again, is to create this data set, this public data set, and being able to connect it with those who have influence and ideally control the emissions that, in the case of the oil and gas industry, is the asset owners.

Mr. Cahill: Yeah. Yeah, I'm glad you highlighted this idea of trying to look at the demand centers and look beyond the United States and Europe to other regions, like Asia, that import a lot of natural gas, to see if there's a way to create a demand pull for less emissions-intensive natural gas –

Mr. Caltagirone: Absolutely.

Mr. Cahill: – and hopefully lead to a kind of ripple effect throughout the industry. That's something that we've worked on at CSIS in the past year.

So there are a lot of different parallel efforts throughout the energy sector to drive down emissions – shareholder pressure on companies, big government pressure. You know, with the Global Methane Pledge, governments have made commitments. They now need to make tangible progress toward doing this.

There's a lot happening in the United States, but also in Europe. And I wonder if you could just update us on, you know, your views on what's happening with the

proposed methane legislation in the European Union. I know that came out last December. There's been a comment period. The process is ongoing.

Can you just quickly explain what is the relationship of IMEO with that effort in Europe?

Mr. Caltagirone: Yeah. So IMEO and the OGMP in particular have been assigned in the proposed regulation by the European Commission. That has not been agreed yet, so we shall see what happens in the co-legislation process. But there is two main function. One is that the Oil and Gas Methane Partnership is taken as the basis of the methodology for companies to report emissions inside the European Union across the entire value chain; so not only upstream, but mid and downstream. And so, effectively, the European Commission has transposed these five reporting level and the methodologies that we have jointly developed into national legislation that we hope is going to be approved.

The second element is that IMEO has been requested to provide a verification role or a collaboration role about the data that will be reported to European Commission. It is not the only entity that will be doing so. But it's interesting, because it's the first time, to our knowledge, at least, that an international organization is assigned such a quasi-semi-regulatory role of – and again, we're not going to be able to say yes, company A has reported 10 tons of emissions. That is true. But we're going to be able to say whether that is in the realm of credible, right. Was there certainty associated with

those emissions that are reported, and whether there has been anything that can – that we can – that we have observed that would make think that this is not the right amount to be reported.

So it's a combination of the two things, is, on the one hand, the technical approach by the OGMP, but also the recognition of the importance of having this multinational independent entity that can, you know, corroborate the reports by the companies and by the governments. We – I understand I'm not really the right person to give you any insights other than what I read in the newspapers on where the process is. But I understand that both the Council and the European Parliament are working on this proposal. And we're hoping to have some further news towards the end of the year in terms of next steps. But the discussions are undergoing.

And indeed, I mean, the IRA in the U.S. is a very exciting perspective also on methane emissions, with the methane fee, so-called methane fee. The Canadian government has a longstanding target of reducing oil and gas emissions by 75 percent by 2030 and very recently launched its roadmap to do so, including the creation of a center of excellence on methane emissions. That seems to us having a very similar approach to the one that IMEO is taking.

So we're very excited to see, you know, actions happening at domestic level. And we hope to be able to leverage those different actions to make sure that, again, it's not only the leading – the leading companies and the leading countries that take action, but that there can be actions across the board. Because, again, to reduce 75 percent emissions by 2030, we need actions not only in specific jurisdictions but at global level.

Mr. Cahill: Yeah. Well, we just have a few minutes left, but maybe I can give you the final word. Can you talk a little bit about what you've been doing here in D.C. and about the kind of policy support and the questions that you think are – you're receiving so far and that you think will be important from the Washington perspective to help drive things forward a little bit?

Mr. Caltagirone: Yeah. So I'm here because of a conference that the Global Methane Initiative and the Climate and Clean Air Coalitions are organizing here in D.C. That is the Global Methane, Climate, and Clean Air Forum. I hope I got all the – all the different elements.

Mr. Cahill: I think you got it. I didn't want to attempt it, but I'm glad you did.

Mr. Caltagirone: (Laughs.) Thank you.

And there is – there is really an exciting opportunity also, including after COVID, to bring back the community around methane and to have a

discussion about where we need to go, including by – including sharing information about what countries are doing at domestic level. And so we've heard a lot from the U.S. and the EU and Canadian representatives, but also the government of Ghana and others about actions that it happening at domestic level.

And then it's a – it's a great opportunity to meet – to meet other part of the – of the community, including oil and gas producing companies that – or, exporting companies that export gas from the U.S. to other jurisdictions to highlight the importance of the oil and gas being a partnership for their business, and for being part of the solution to climate change and not only part of the problem to climate change.

And then we – you know, the opportunity of sitting with you and have a chat at CSIS. So I couldn't ask for more.

Mr. Cahill: Well, we're really glad that you came and spent some time with us today. You're doing really important work, so thank you so much for sharing the details in this context. And we will definitely keep in touch and look forward to hearing about the next steps.

So we'll draw things to a close here. To everyone who joined us online, thank you so much for joining. Stay in touch. Let us know what you're doing on methane emissions. And we look forward to seeing you at future events.

(END)