

## **35th Meeting of GAC WS2**

### **Online meeting, 28 May 2021**

The co-chairs welcomed the attendees to the meeting and indicated that a modification requested to the last version of the minutes of the previous WS2 meeting was implemented. They welcomed the four speakers coming from a broad geographical (from Sakhalin in the East to USA in the West) and institutional range to discuss the issues of decarbonisation and the future role of green and/or carbon-neutral LNG and what will be the challenges the industry will face and has already been facing in this area.

#### **Vincent Demoury (GIIGNL)**

Mr. Demoury indicated that renewable energy is becoming increasingly important, for example the largest LNG importing countries have increased their penetration of renewables by more than 70% over the last 10 years. Despite the fact that LNG is recognised as efficient energy source in bringing security and diversification of supply, greenhouse gas emissions are becoming increasingly scrutinised and this is pushing the LNG industry to provide greater transparency on the emissions of the LNG chain and to provide solutions on the decarbonisation of the value chain.

He added that most of the emissions (CO<sub>2</sub> & methane) are occurring downstream, at the combustion phase, while for instance regasification terminals are considered as very low emitters within the gas value chain. He then defined what is carbon neutral LNG, stating that this is the offsetting of residual emissions from the LNG chain through the purchase of carbon credits. It is the result of 4 main drivers:

- 1) Policy & regulation for lower carbon energy solutions,
- 2) Companies' own agenda and shareholders requirements,
- 3) The mounting requirements from the financial community,
- 4) A commercial drive to respond to customer requirements.

He indicated that GIIGNL produced a first report on LNG and carbon offsetting in June 2020. He mentioned that the "carbon neutral" term doesn't mean that the cargo does not produce emissions, but that the GHG emissions from the full value chain (from well-to-wheel) have been offset through the purchase of credits and that this notion of "carbon-neutral" must be extended to cover methane emissions as well. Mr. Demoury also stated that the region requesting carbon neutral LNG has been mostly Asia (N-E Asia) up to now, while Europe bought its first batch in March 2021. He added that LNG is the leading commodity in terms of carbon neutral energy trade and he highlighted some challenges:

- a lack of consistency in the methodologies used to calculate emissions;
- a lack of homogeneity in the stages of the chain which are offset;
- the characteristics of the credits that are used;
- no common terminology for green LNG or carbon neutral/offset LNG which could create a lack of confidence.

He presented the issues in terms of reporting.

Mr. Demoury believes that a robust energy framework for LNG should look as follows: at each stage of the value chain, emissions should be quantified and translated into a CO<sub>2</sub> equivalent. There should

be a consistent framework that allows any contributors of the LNG value chain to report their emissions intensity. Primary data should be used wherever they are available while secondary data should be taken from recognised audited bodies. The reporting of the data must be consistent, accurate and documented.

To create a robust MRV (Monitoring, Reporting, Verification) framework, GIIGNL created a steering committee of companies involved in carbon neutral LNG and a Task Force of 35 experts for which the goal is to define a set of common principles for the quantification of GHG emissions from the LNG chain as well as common criteria for offsetting.

He pointed out at the main challenges for carbon offsets: credits have different characteristics, different levels of quality or prices and, in many countries, the framework is not yet mature. He added that the additionality of emission reductions is key while co-benefits and the ability to mobilise many projects at low-cost are essential.

The first challenge is to have a consistent LNG-specific MRV framework, if possible aligned with existing and recognized frameworks. It should also be adaptable and quickly implemented. LNG is a global market and future developments should keep that in mind.

### **Alexander Singurov (Sakhalin Energy Investment Company Ltd. (Sakhalin Energy))**

Mr. Singurov stated that his company is committed to develop definitions and different methodologies to measure emissions and confirmed that, in terms of structure of GHG emissions, the biggest part comes from the combustion of the fuels. Over the past 10 years, the amount of gas flared at onshore facilities has been significantly reduced by improving the reliability of the LNG plant, optimizing startup procedures, and the frequency of scheduled shutdowns of the integrated gas chain, while process optimization and efficiency improvements have also reduced the number of CO2 equivalent.

Sakhalin LNG is achieving already good results, but is committed to go over boundaries. He indicated that the LNG landscape is rapidly changing and that the development must be monitored as it is difficult to predict which technology will win in the energy transition. He added that LNG will be a reliable partner in the future. But the company has created sustainable visions for Green LNG strategy. Four workstream were established:

- 1) Nature Based Solutions
- 2) Integrated Gas Chain Energy Efficiency
- 3) Carbon Low/Neutral LNG Cargos
- 4) Long term strategies and alternatives.

According to climate change research, Russia is well placed for decarbonisation and could compensate for 700 million tons of CO2 per year. In this regard, Sakhalin Oblast started a pilot project to become carbon neutral by 2025. However, some decarbonization aspects have to be taken into account to deliver that. Significant reductions in GHG are possible through capital construction and modernization projects, elimination of currently lacking regulatory mechanisms from the State and business practices, integration with international practices of methodologies and existing carbon footprint assessment systems, and also readiness of local equipment manufacturers for increased environmental requirements.

### **Dr. Lucy Burton (Gazprom Global LNG)**

Dr. Burton presented her company and indicated that Gazprom delivered the first carbon neutral cargo of LNG to Europe on the 8th of March (Russian LNG). The company offset the full life-cycle emissions (100%) for this cargo using a combination of high quality, certified carbon credits (VCS and CCB standards). She then mentioned some of the particular challenges they are currently facing: there are no standard legal documents for carbon neutral LNG; there isn't a proper regulatory framework; there is no common standard for the quantification of the carbon equivalence. She stated that another challenge is matching the physical nature of LNG versus the financial nature of the offsetting and that this operation requires different business areas to cooperate with and co-educate each other. The lack of price transparency for voluntary carbon credits is also an issue for determining 'fair value' in transactions.

She voiced her support for the GIIGNL initiative. She raised the question "who pays for this offsetting?" as this is an important question to help the market evolve. Indeed, if costs are not well allocated between players, the market will end-up with the wrong incentives and wrong outcomes.

She highlighted the difficulty of facing greenwashing accusations which are often levelled at the oil&gas industry, but recognised the urgency to act in this sphere and the necessity to contribute to the growth of the green LNG market to overcome some of the cons' of the abovementioned challenges.

She pointed out the importance of tackling methane emissions in the oil & gas sector as the technology to reduce significantly these emissions already exists and that this escaped gas could be monetised. She added that gas suppliers are better placed to tackle methane emissions than carbon as the latter are coming from the upstream while the carbon emissions are coming from downstream combustion.

She sees a collective opportunity for green LNG but there is a need for transparency in methodology and data. Operators should invest in technologies that are already proven and present reasonable payback and ensure that emissions can be offset when they cannot be avoided directly (through project specific information and high-quality offset markets). Funding needs to be unlocked through project financing, state backed projects, and the growth of tradable carbon/methane products to improve LNG's carbon footprint while waiting for longer term initiatives to evolve.

### **Mark Gyetvay (Novatek)**

Mr. Gyetvay presented the vision of his company, mentioning that they want to offer a realistic alternative to reach affordable and clean energy for many decades. Novatek's pathway forward is natural gas, as they believe that natural gas will play a leading role in the decarbonisation discussions for many decades. For his company, natural gas is not simply a transition or bridge fuel, but an integrated fuel source in a future energy mix. It has proven its reliability and security to meet the growing energy demand of the society and is the best way to phase out coal in power generation.

He added that Novatek will focus on producing ammonia, hydrogen and methanol as they believe that these clean products represent another avenue to decarbonise and capitalise on the existing infrastructure. Moreover, Mr. Gyetvay mentioned that his company aims at controlling the whole value chain to avoid relying on a third party to reduce the GHG emissions while being able to monitor, verify and report its carbon emissions.

As of today, the green LNG market is still developing and this trend will only grow if producers reduce their carbon footprint. In this regard, Novatek will build CCS projects, build renewable sources such as wind and solar and help contractors to create natural gas/hydrogen mixes. Novatek is also working with partners to develop technical solutions to further decrease CO<sub>2</sub> emissions by implementing the CCS technology. Mr. Gyetvay then presented the plan of Novatek for the upcoming years.

He concluded by stating that the green LNG market should not be seen as premium market, but as one step towards the evolution of LNG market globally. Russia has played a major role in decarbonising the European economy for more than 50 years with the pipeline deliveries of natural gas. LNG will also play a role in facilitating the decarbonisation of the EU. Renewables won't do the job alone.

The co-chairs thanked the panelists for their presentations and opened the floor for questions.

To the question why most carbon-neutral cargoes have been shipped to Asia and not to Europe, it was answered that there are several reasons: 75% of LNG volumes are delivered to Asia. Also, in Asia, there is a more pragmatic approach to reaching carbon neutrality and customers in Japan and China are demanding more effort from their energy suppliers for clean energy. Customers are also ready to pay for this carbon offset LNG.

To the question on how credible is the idea of carbon neutrality in LNG being outside the carbon border adjustment scope in the absence of verified and transparent data on offset, it was answered that the quality of carbon credits is not an issue specific to LNG. Why then should LNG be punished for untransparent offset since this issue is a global one. The awareness exists in the LNG industry, but this is not a simple LNG issue and should not get a different treatment.

It was mentioned that what is also needed for green LNG is credibility and transparency. The industry need more bottom-up and top-down measurement to procure accurate data than what is currently available.

To the question where we are in the process of standardisation approach, it was answered by the speakers that the majority of the LNG cargoes that were carbon neutral were offset with credits. So far these are the existing standards on the international market. But the industry is moving in the right direction in setting common principles. There are still debates at the national level to see what is acceptable or not in terms of standards and credit offsets.

The chairs thanked the speakers and the participants for their questions and participations to this meeting. One of the co-chairs has also mentioned in his final remarks that since both under pipeline gas transportation from Russia to Europe (as was demonstrated at some of the previous WS2 meetings) and through global LNG supplies to Europe (as it was demonstrated and multiply voiced today) it has been proven that up to 75-80% of GHG emissions through the international gas value chain came from its end-use (means in the EU) it seems to be of highest priority to eliminate GHG emissions not on the way of gas from Russia to the EU, but in its end-use in the EU. Thus it seems that discussion on green LNG challenges at the current WS2 meeting has provided additional indirect argument in favour of the following scheme of decarbonisation of Russia-EU gas value chain in regard to hydrogen: to continue supplying Russian gas to the EU through existing gas transmission grid and to produce hydrogen from this gas downstream the EU in the "EU hydrogen valleys", preferably by pyrolysis technologies (without direct CO<sub>2</sub> emissions), that should be speedy developed by joint undertakings of Russian and EU companies.