



**GIIGNL** - THE INTERNATIONAL GROUP  
OF LIQUEFIED NATURAL GAS IMPORTERS

**GIIGNL** Executive  
Committee  
**MARSEILLE**

APRIL 14-16 2024



## MINUTES OF MEETING GIIGNL 2024 EXECUTIVE COMMITTEE

Marseille (France)

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## Introduction

President Abiteboul declared the 53<sup>rd</sup> GIIGNL Executive Committee open. He thanked Engie for hosting this Executive Committee in Marseille. President Abiteboul also welcomed and thanked the participants and said a few words about the city of Marseille.

M. David – General Delegate of GIIGNL – provided important information regarding the unfolding of the Executive Committee.

President Abiteboul then welcomed newcomers to the Executive Committee: M. Hupka from Semptra Infrastructure, M. Chennoufi from Shell and Ms. Yao from Tokyo Gas. He also announced that apologies had been sent by members not able to attend the event.

## Item 1 – Approval of the Draft Meeting Agenda

M. David reminded the audience that the draft meeting agenda had been sent to members on February 8 and April 10 and was available on GIIGNL's website.

**No remark was made regarding the draft meeting agenda.**

M. David also reminded participants of the Executive Committee that they will comply with antitrust competition law guidelines posted on the GIIGNL website during the meeting.

## Item 2 – Approval of the Minutes of the Executive Committee held in Panama on May 22, 2023

M. David mentioned that the minutes of the last Executive Committee held in Panama in May 2023 were available on the organization's website and that no remark had been received.

**The minutes were approved.**

## Item 3 – Report on Membership and New Candidacies

Mr. David reported on membership and new candidacies, stating that, as of the day of the Executive Committee, GIIGNL was made up of 94 members (74 full and 20 associates) from 29 countries. Then, he announced that an application had been received from Dhamra, a regasification terminal in India. No remark was made regarding the application. It will be presented during the General Assembly in Hiroshima in October.

President Abiteboul mentioned that an application from the company NextDecade had also been received. He added, however, that the company did not fulfil the conditions to be a member of the organization given their lack of regasification capacity.

M. David concluded this item by saying that no resignation had been received.

## Item 4 – Preparation for the Election of the Next Executive Committee (2024 – 2026)

President Abiteboul talked about the reelection of members of the executive committee for the period 2024 – 2026, saying that elections will be held at the General Assembly in Hiroshima in October. He then asked the Vice President of each region to confirm their list of candidates.



M. Uchida – VP Asia – confirmed that the seven Asian Executive Committee members were willing to remain in their current roles for the next term.

M. Feygin – VP Americas – confirmed that the four American Executive Committee members were willing to remain in their current roles for the next term.

Ms. Azzimonti – VP Europe – confirmed that the four European Executive Committee members were willing to remain in their current roles for the next term.

President Abiteboul indicated that the composition of the next Executive Committee will be submitted to approval during the General Assembly in Hiroshima.

Then, M. David moved on to the election of the president and the vice presidents of the Bureau, he announced that the current Vice Presidents for Asia and Americas had accepted to candidate for another two-year mandate and reminded the audience that Ms. Azzimonti had been elected during the last General Assembly. He asked the Executive Committee if they agreed to renew the mandate of each Vice President for two years (including that of Ms. Azzimonti in order to keep the renewal of mandates aligned).

No objection was made and no member abstained.

**The motion was carried and the Bureau approved.**

## **Item 5 – Central Office Activities and Financial Results**

### **Central Office Activities**

M. David talked about the following central office activities:

- *Hirings*: M. David informed Executive Committee members of the two hirings taking place within the central office for a communication analyst role and an LNG analyst role (on a fixed term basis).
- *The Annual Report*: M. David briefly touched upon the annual report, its release date and its content.
- *Market Webinars*: Then, he talked about the market webinars organized by the central office and encouraged members to register for the upcoming one.
- *Study on New Gases*: M. David moved on to discuss a request for proposal for a study on the value chain of new gases. The study will allow GIIGNL to get an objective view on gases such as methane or ammonia. He explained the purpose of the study and mentioned that three proposals from consulting firms had been received. M. David indicated that the proposal from the consulting firm “Guidehouse” had been selected as the best option.
- *Hiroshima Statement*: M. David talked about the GIIGNL Hiroshima Statement, a project led by Tokyo Gas, which will be proposed to the public at a press conference during the upcoming General Assembly in Hiroshima. He explained that the idea behind the statement is to emphasize the importance of LNG as a solution fuel for a sustainable future.
- *LNG Protocol*: Then, M. David informed members that the central office had reactivated the “LNG Protocol”, an informal gathering of gas associations, and stressed the importance of such initiative given the upcoming elections for the European Parliament.
- *LNG Barometer*: M. David briefly discussed the LNG barometer, an industry survey the central office works on in partnership with the Oxford Institute for Energy Studies.



- *Study Groups:* He spoke about the commercial study group and technical study group meetings that took place during the year and the ones to come in 2024.

## Financial Results

M. David shifted the focus to the financial results of the organization.

### P&L

In EURO	2022 Actual	2023 Budget	2023 Actual
Revenues from Member Fees	993 516	995 500	984 669
Other Revenues			0
<b>Revenues</b>	<b>993 516</b>	<b>995 500</b>	<b>984 669</b>
Office rental	89 277	183 000	169 573
Labor cost (charges included)	483 896	700 000	721 066
Consultancy fees	105 539	160 000	153 920
Other charges	407 520	430 000	421 070
<b>Expenses</b>	<b>1 086 232</b>	<b>1 473 000</b>	<b>1 465 629</b>
Operating Income	-92 716	-477 500	-480 960
Financial Income	4 146		54 169
<b>Net Income</b>	<b>-88 570</b>	<b>-477 500</b>	<b>-426 791</b>

M. David started with GIIGNL's net income for the year. The net income stood at €-427,000, an amount that needs to be compared with the budgeted €-477,000 presented in Dubai. M. David explained this difference by financial capital gains related to the sales of marketable securities and the recovery of provisions on the marketable securities.

### Balance Sheet

Assets (in EURO)	Year 2023	Year 2022
Long term assets	49 570	46 281
Receivables	69 400	11 900
Other Receivables	494	13 873
Marketable securities	1 176 651	1 611 020
Cash & cash equivalents	138 093	158 015
Prepaid expenses	25 233	29 433
<b>Total Assets</b>	<b>1 459 441</b>	<b>1 870 522</b>

Liabilities (in EURO)	Year 2023	Year 2022
Retained earnings	1 564 290	1 652 860
Net income	-426 791	-88 570
<b>Total net equity</b>	<b>1 137 499</b>	<b>1 564 290</b>
Trade and other payables	229 607	169 773
Tax and employee-related liab.	76 825	136 460
Other debts	15 510	
Prepaid received	-	-
<b>Total Liabilities</b>	<b>1 459 441</b>	<b>1 870 522</b>

M. David presented the company's balance sheet and reminded the audience that, since GIIGNL is a non-profit organization, reserves must stand within one and one and a half year of operational expenses.

He informed the members of the Executive Committee that the accounts had been audited and validated by Ernst & Young and asked for the Committee's approval before final validation at the General Assembly.

**The Executive Committee approved the accounts.**



## Budget

In EURO	2022 Actual	2023 Actual	2024 Budget	2025 Budget	2026 Budget
Revenues from Member Fees	993 516	984 669	1 127 400	1 211 400	1 296 000
Other Revenues					
<b>Revenues</b>	<b>993 516</b>	<b>984 669</b>	<b>1 127 400</b>	<b>1 211 400</b>	<b>1 296 000</b>
Office rental	89 277	169 573	170 000	170 000	170 000
Labor cost (charges included)	483 896	721 066	490 000	510 000	550 000
Consultancy fees	105 539	153 920	190 000	170 000	170 000
Other charges	407 520	421 070	400 000	400 000	400 000
<b>Expenses</b>	<b>1 086 232</b>	<b>1 465 629</b>	<b>1 250 000</b>	<b>1 250 000</b>	<b>1 290 000</b>
Operating Income	-92 716	-480 960	-122 600	-38 600	6 000
Financial Income	4 146	54 169			
<b>Net Income</b>	<b>-88 570</b>	<b>-426 791</b>	<b>-122 600</b>	<b>-38 600</b>	<b>6 000</b>

	Increase	Fees Associate members	Fees Full Members
2025	+1200	12 100	13 100
2026	+900	13 000	14 000

M. David expressed the organization's intention to increase the fees in the coming years to stay in line with operational expenses, as stated in the bylaws. He proposed a 2-step increase, one increase of €1,200 in 2025 and an increase of €900 in 2026.

President Abiteboul described the need to have balance between revenue and expenses in the coming years.

Following a comment on increase in office rental costs, M. David and President Abiteboul explained the reason for the recent central office relocation and the subsequent increase in rent.

No objection was made regarding the budget. No member abstained.

**The budget and increase in fees were approved.**

## Item 6 – Amendment to GIIGNL Bylaws

President Abiteboul presented a proposal to amend the bylaws in order to simplify the election of the organization's Vice Presidents. Following the amendment, members of each region would be responsible for selecting a candidate for their region. The candidate would then be presented to the Executive Committee for approval.

No member objected or abstained.

The motion was carried, and the proposal will be submitted during the General Assembly in Hiroshima.

## Item 7 – Standing Groups: Proposals and Reports

### Technical Study Group

M. Decroes – chairman of the Technical Study Group (TSG) – reported that the TSG maintains around 45 members. The core team now includes new active members such as South Hook and Singapore LNG. The group is well-represented across various technologies, including onshore terminal operations, liquefaction terminals, and FSRUs. In 2023, the TSG held physical meetings in Barcelona and Japan.



M. Decroes highlighted the different items on the TSG's agenda. The first one is related to safety, specifically process safety. They maintain a database of safety incidents at LNG terminals, review new incidents, and often form working groups to investigate further if needed. Lessons learned are shared with the entire LNG community through papers or safety alerts. The TSG continuously seeks to improve its safety database.

Environmental issues form the second agenda item. M. Decroes mentioned that the TSG has developed guidelines for terminal operators to manage methane emissions and is currently focusing on CO<sub>2</sub> emissions. They share best practices and collaborate with other gas associations to advocate for better environmental practices.

Health, Safety, and Environment (HSE), along with operational and maintenance efficiencies, constitute the third agenda item. M. Decroes gave examples of recent discussions, such as reducing flange leaks and addressing high-potential risks from unloading arms.

M. Decroes noted that the TSG regularly reviews and updates its publications and prepares new ones. They are planning updates to the LNG composition database and launching a working group on rollover in FSU/FSRU.

### **Commercial Study Group**

President Abiteboul announced that M. Chaveron – the chairman of the Commercial Study Group (CSG) – decided to resign from the chair of the CSG. He thanked him for dedication over the years and introduced M. Salokhe, from Shell, who will take over M. Chaveron's position.

M. Chaveron provided updates on the Commercial Group, it has around 20 to 30 active members who attend meetings and contribute to studies. Over the past year, they held two meetings, one hosted by Naturgy and the other by Tokyo Gas.

M. Chaveron emphasized that the group's activities are divided into three areas: ongoing business, enhancing efficiency and preparing for the future.

M. Chaveron touched upon advocacy, part of the ongoing business area. It involves regular meetings to discuss regulations and industry developments across different regions. The group aims to present a unified voice in consultations and studies as needed.

Regarding the "Enhancing Efficiency" area, M. Chaveron explained the work made during the year to update the GIIGNL standard Master Sale and Purchase Agreement (MSPA) from 2011. This effort involved members from companies like Engie, JERA, Naturgy, Shell, Tokyo Gas, and TotalEnergies, who collaborated to refresh and standardize the document to reflect current market conditions.

Looking ahead, M. Chaveron explained that the group plans to address new gases and decarbonization pathways, building on discussions from the last meeting in Tokyo. They aim to study how to incorporate methane emission reductions into contracts and will continue updating relevant documents.

### **Q&A**

President Abiteboul asked M. Chaveron about his view on a potential slowdown in momentum of the MRV framework.



M. Chaveron acknowledged the recent shift in focus to security of supply given recent events, however, he noted that members were making progress on this topic and that the MRV constituted an important KPI for most member companies.

M. Chennoufi confirmed M. Chaveron's point regarding progress made on the MRV framework and added that the next step should be to focus on offsetting, credits and the projects. He offered ideas such as organizing training seminars and looking at current practices in the airline industry (ex: Corsia) to facilitate the development of an LNG Industry Standard.

M. Chaveron added that feedbacks from members touched upon the credibility of certificates to offset emissions. Ways to incorporate this issue in a revision of the GIIGNL template are being discussed, he noted.

### **Item 8 – Asia: LNG Imports in Japan (*Ms. Yao from Tokyo Gas*)**

*Ms. Yao – Senior General Manager of the LNG Business Department at Tokyo Gas*

Ms. Yao began by explaining in detail Japan's energy mix and its historical reliance on foreign fossil fuels. Japan has made notable progress to incorporate renewable energy but remains heavily dependent on fossil fuels. Energy imports surged following the Fukushima nuclear accident in 2011 but have since declined, especially with the gradual restart of nuclear power plants and the rise of renewable energy.

Ms. Yao highlighted factors influencing Japan's energy imports in 2023, such as companies stocking higher energy reserves due to potential disruptions and mild temperatures affecting demand. Additionally, spot LNG prices decreased, impacting procurement strategies. Other factors include weak manufacturing demand, energy conservation awareness, and decreased home-staying.

Ms. Yao discussed the status of nuclear power plants in Japan post-Fukushima, with only a fraction restarted and many facing decommissioning or legal challenges. This uncertainty affects LNG imports significantly.

She then discussed Japan's strategic energy plan, which emphasizes safety, energy security, economic efficiency, and environmental sustainability, with a focus on diversification. The upcoming 2024 energy plan will likely prioritize nuclear power plant restarts, LNG usage, and new energy sources like hydrogen and ammonia.

Ms. Yao mentioned Japan's International Resources Strategy, published in 2020, which sets the goal of handling 100 million tons of LNG by 2030, including external trade, to bolster energy security and maintain market influence. Flexibility in LNG contracts is crucial for adjusting supply and demand and ensuring stability, she highlighted the importance of eliminating destination clauses in contracts to facilitate trading with international players.

Ms. Yao concluded with insights into Japan's LNG imports by country, procurement strategies, and the importance of flexibility amid market volatility. She stressed the continued significance of LNG in Japan's energy landscape, especially as the country navigates uncertainties in nuclear power and transitions to new energy sources



## Q&A

President Abiteboul thanked Ms. Yao for her presentation and asked her about the destination clause mechanism, to which Ms. Yao replied that removing the destination clause in contract would allow Japanese companies to trade LNG more easily.

A member of the audience then asked a question about the reason behind the level of power generation in 2030 under the 6<sup>th</sup> Strategic Energy Plan.

Ms. Yao provided information on the recent and future drivers of demand and talked about the soon-to-be-released Strategic Plan, which should provide important indicators for future power demand.

Ms. Liao – Vice President of CPC Taiwan – asked about the increasing importance of LNG imports for trading and not just self-consumption in Japan, to which Ms. Yao emphasized the need for flexibility in the market, which can be satisfied through trading. She also discussed the relationships with LNG sellers given changes in contract types, an important point, raised by Ms. Liao, to take into consideration.

President Abiteboul then provided valuable insights on the evolution of contract types and pricing mechanisms in the LNG industry and discussed the use of a destination clause from a legal point of view. Then, Ms. Liao gave her view on take-or-pay contracts and the elimination of the destination clause.

M. Nishizawa – Executive Officer at Jera – offered his point of view on the importance of trading to remain flexible in a market where demand can fluctuate significantly. He also provided explanations on take-or-pay contracts.

President Abiteboul then raised a point regarding financing of new liquefaction plants in a world where take-or-pay contracts are less frequent. Some members of the audience reacted to that point, one of whom emphasized the importance of stable cash flows for financing but also provided the example of fast LNG projects by New Fortress Energy where construction costs are lower and therefore require less financing.

M. Walker – General Manager at Cheniere – then touched upon the reduction in LNG imports in recent years, asking if this new, lower level should be expected in the future.

Ms. Yao pointed to rising energy-intensive industries such as AI and data centers, which will require additional power, however, she noted that upcoming government strategic plans should shed light on this matter.

## **Item 9 – Americas: US Government Pause on LNG Exports** *(M. Walker and M. Feygin from Cheniere)*

### *M. Walker – General Manager at Cheniere*

M. Walker addressed the temporary pause announced by the US in January on awarding non-FTA LNG export licenses to review the exports' impact on the US public interest. He started by acknowledging the uncertainty this pause introduces into the US regulatory environment, which is unhelpful for the industry. M. Walker broke down the situation into two components: the duration of the pause and the findings of the underlying reviews.



M. Walker highlighted that the government has indicated the pause will last months, not years, as announced by Energy Secretary Granholm.

Describing the impressive growth the US has experienced as an LNG exporter, from almost nothing in 2016 to between 12 and 14 BCF per day currently, M. Walker explained that periodic reviews by the US are not unprecedented. M. Walker noted that the US government does these studies periodically under the Natural Gas Act to determine that the level of exports they're permitting are in the public's interest. He presented a slide showing previous macroeconomic and environmental studies and described their effect on permit approvals.

Finally, M. Walker discussed the varying impacts of the pause on different projects, showing a chart with the FERC status of various projects. He noted that projects with FERC approvals awaiting DOE approvals are most affected by the pause, while those further back in the queue are less impacted.

#### Q&A

Ms. Yao informed the audience that this topic had been covered a lot in Japan and asked M. Walker if there was any political motive behind the pause, in his opinion. He answered that there must be some political aspects behind the decision given that US elections are going to take place this year.

Ms. Yao then brought the question of other Southeast Asian countries into the debate, pointing to the uncertainty and volatility the US policy brings upon them. M. Walker acknowledged the uncertainty brought by the policy, nonetheless, he expressed his belief that this study will lead to the same conclusions as the previous ones and that the benefits of exports should be demonstrated.

Ms. Liao gave her perspective on the pause, bringing an alternative view to the discussion. She touched upon several important topics such as the way of doing business with the United States as a non-FTA country and the importance of such permit pause for economic and environmental reasons.

M. Neviaski – CEO of Global Energy Management and Sales at ENGIE – followed up by mentioning the shifting place of fracking and environmental concerns on the global agenda. He added that the attention on the carbon content will be fiercer in coming years.

Several members of the audience discussed the importance of US exports in their supply and the possibility to source LNG from other country to satisfy demand if the US were to reduce exports. M. Nishizawa acknowledged that other options were available but noted the uncertainty brought by the US policy on exports, he also mentioned the letter his company wrote to the US government regarding approvals.

#### *M. Feygin – Executive VP at Cheniere and VP Americas at GIIGNL*

M. Feygin then gave his point of view on the situation, he emphasized that such regulatory reviews are routine and were expected due to the rapid growth of LNG production and advancements in methane emission science and lifecycle analysis. He pointed out the political motivations behind the timing of the pause, suggesting it was aimed at pandering to an electoral base and driven by John Podesta, John Kerry's successor.

Despite the pause, M. Feygin noted that periodic reviews by the DOE are not unprecedented. He highlighted the significant increase in US LNG exports, from minimal levels in 2016 to 12-14 BCF per



day, and the expectation of further growth. M. Feygin provided historical context of previous DOE studies.

The impact of the pause on various LNG projects was discussed, noting that projects awaiting DOE approvals are most affected, while those further back in the queue are less impacted. M. Feygin expressed confidence that Cheniere's projects would proceed on schedule once the approval process resumes.

He addressed the broader transformation in the US energy sector, emphasizing the shift from coal to gas-fired generation, which has significantly reduced CO<sub>2</sub> emissions. M. Feygin also mentioned the growing importance of renewable energy and the expectation that gas for power generation will peak and then moderate due to increased renewable capacity.

Regarding regulatory compliance, M. Feygin supported the methane rule, asserting that compliance costs are minimal and necessary for effective regulation. He criticized the notion that the methane rule would harm independent producers and argued that compliance is essential for responsible industry operation.

M. Feygin concluded by acknowledging the DOE's challenge in managing the large number of approved LNG projects and anticipated that the current review and new requirements would be completed by early 2025. He emphasized that the functional review is necessary and manageable, despite the politically motivated timing.

President Abiteboul and Ms. Liao briefly touched upon the recent earthquake in Taiwan, a topic unrelated to this item but potentially consequential for the Taiwanese LNG industry.

### **Item 10 – Securing Reliable Supply – Is Global LNG Investment Faltering ? (M. Stoppard from S&P Global)**

*Michael Stoppard – Global Gas Strategy Lead at S&P Global*

M. David introduced the speaker for the session on the state of global LNG Investment, M. Stoppard – Global Gas Strategy Lead at S&P.

M. Stoppard presented a detailed analysis of the LNG market, covering short-term, medium-term, and long-term perspectives.

In the short term, M. Stoppard noted the market reset triggered by the loss of Russian gas, leading to increased LNG imports into Europe and a significant reduction in European gas demand. He highlighted that the market balanced through demand reduction rather than increased supply and noted the flexibility and responsiveness of LNG to price changes.

Looking ahead to the medium term, M. Stoppard discussed the expected influx of new LNG supply and its potential to change market dynamics. He raised the question of whether this period would be characterized by catch-up to previous underinvestment or oversupply. He defined a well-supplied market as one where prices come under pressure but LNG supply continues at normal levels, contrasting this with an oversupplied market where demand cannot meet supply, leading to reduced LNG production. He forecasted a well-supplied market from 2025 to 2030, with temporary oversupply periods possible.

M. Stoppard also addressed the significant growth in liquefaction and regasification capacities, emphasizing the challenges in forecasting LNG demand due to varying utilization rates. He



anticipated that emerging markets in Asia would absorb more LNG, potentially reducing Europe's share.

In terms of investment and contracts, he highlighted the record levels of LNG infrastructure under construction and the recent trends in long-term contract commitments. M. Stoppard observed that while US contracting slowed, Qatar increased its market presence, and Europe began making long-term commitments.

Regarding regulatory issues, M. Stoppard discussed the US Department of Energy's temporary pause on export licenses, suggesting it could prioritize serious projects and ultimately benefit the industry. He noted the substantial growth in US LNG export capacity despite the pause and expected the US to remain a key LNG exporter.

In the long term, M. Stoppard presented various scenarios for the future of coal, oil, and gas, emphasizing gas's relatively positive outlook compared to other fossil fuels. He highlighted the significant growth potential in non-OECD markets, which would drive future LNG demand.

#### Q&A

M. Chennoufi asked a question about the method used to get the numbers presented by M. Stoppard as well as his view on the increasing use of artificial intelligence and cryptocurrencies, to which M. Stoppard replied.

M. Feygin gave his point of view on the increase in electricity demand resulting from the use of new technologies such as data centers, cryptocurrencies and artificial intelligence and impact on power grids, citing ERCOT to support his argument.

M. Walker discussed previous comments, giving his thoughts on M. Stoppard's data calculation method, AI and cryptocurrencies. Then, he asked M. Stoppard to clarify his 2030-2040 view on LNG supply and his thought on the industry beyond this timeframe.

M. Stoppard explained the method he used to come up with the numbers he presented.

M. Walker then asked about the likelihood of each scenario presented by M. Stoppard. M. Stoppard explained that his firm did not apply probabilities to each scenario but noted that the Base case scenario is the one that members should use, the Green scenario should be seen as a stress test and the Net Zero scenario should be treated as a backcast rather than a forecast.

#### **Item 11 – Europe: Evolution of European Regasification Infrastructures** *(Ms. Nicoli from Elengy, M. Meot from Engie and M. Summers from Shell)*

*Nelly Nicoli – CEO of Elengy*

President Abiteboul introduced the first speaker for the next session, Ms. Nicoli.

Ms. Nicoli shared a presentation on the evolution of European regasification capacities, emphasizing the rapid development over the past two years. The presentation began with a graph illustrating the record use of LNG imports in Europe, highlighting an increase in terminal utilization rates (60% average in 2022) and a significant rise in imports, particularly in Germany.

Ms. Nicoli noted a 95% utilization rate for her company's LNG terminals in France in 2022, despite a slight decrease in 2023. She reflected on the 2018 forecasts for LNG consumption and regasification



capacities, which predicted stability and low growth. In contrast with the 2018 forecast, she noted that the recent crisis had led to a substantial increase in regasification capacities worldwide, with Europe commissioning numerous new terminals, many of which are floating storage and regasification units (FSRUs).

The European infrastructure operators demonstrated flexibility and rapid response to the increasing demand resulting from the energy crisis, exemplified by the quick commissioning of the Eems Energy terminal in the Netherlands. Germany, which lacked LNG terminals at the start of the Ukrainian crisis, now has several FSRUs.

Ms. Nicoli discussed the shifting focus from upstream LNG markets to optimizing send-out and emphasized the importance of security of supply, flexibility, and the energy transition. She highlighted the need for developing green gases, adapting terminals to new roles, and maintaining insurance value.

Looking ahead, Ms. Nicoli outlined a vision for her company, anticipating continued strong demand, the development of bio-LNG and e-methane, and the adaptation of terminals for new roles, including CO<sub>2</sub> export and green molecule import hubs.

In conclusion, Ms. Nicoli argued that Europe does not have too much regasification capacity, citing aging terminals, the flexibility of FSRUs, and the necessity for diversified energy sources. She stressed the importance of green gas development, reducing methane emissions, and the strategic value of LNG terminals in the energy transition.

#### *M. Meot – Head of Gas/LNG Analysis at Engie*

President Abiteboul thanked Ms. Nicoli for her presentation and introduced the next speaker: M. Meot.

M. Meot focused on the three to five-year outlook for European gas demand and regasification capacity. Reflecting on the peak of the 2022 crisis, he noted a significant price spike that led to a substantial demand reduction, particularly in the residential, commercial, and industrial sectors, comparable to a winter 2°C warmer than average. Industrial demand fell by 25% in late 2022, with a limited recovery since then.

A mild winter, especially in Q1, helped offset the recovery in demand. As a result, gas storage levels have remained high, currently at 60% capacity, which is 25 percentage points above average. This high storage level has led to a drop in prices, providing Europe with a buffer and increased security of supply. Meanwhile, demand outside Europe, particularly in China and India, has rebounded significantly.

Looking ahead, M. Meot discussed potential deficits in LNG supply for Europe in the coming years, due to expected halving of Russian flows and growing LNG demand outside Europe. By 2027, new LNG volumes from the US and Qatar are anticipated to address these deficits, though uncertainties such as weather and supply outages remain.

Regarding European regasification infrastructure, utilization rates in 2022 reached 85% of non-congested capacities, nearly full utilization when accounting for logistical issues and maintenance. The addition of FSRUs has increased capacity, with expectations of doubling regasification capacity between 2021 and 2028. The projected utilization rate is around 65%, higher than pre-crisis levels but lower than in 2022.



Finally, M. Meot highlighted the estimated ownership of regasification capacities in Northwest Europe by 2029, with portfolio players holding nearly 30%, European utilities 20%, and Qatar Energy almost 25%.

*M. Summers – Senior Vice President LNG marketing and Trading at Shell*

President Abiteboul thanked M. Meot and briefly commented on his speech. He then introduced M. Summers.

M. Summers addressed the impact of increasing renewable energy penetration on European gas consumption, focusing on the changing role of gas in balancing the variability of renewables. In Spain, where renewables account for about 50% of capacity, gas is used to manage fluctuations in wind and solar power generation. In the Netherlands, which has significant solar capacity and wind generation ranging from 5% to 60%, gas steps in when renewable output drops, as seen in the November and December period.

M. Summers noted that European gas demand had peaked, while LNG demand remained strong due to declining indigenous production and the reduction of Russian gas supplies. Recent terminal investments have effectively replaced lost supply capacity, demonstrating impressive responsiveness.

Looking forward, M. Summers highlighted the importance of supply and contracting, emphasizing security of supply. He noted the increasing need for LNG and the flexibility of the supply reflected by the growing importance of the spot market. According to M. Summers, there is still a significant gap in LNG supply that needs to be addressed.

M. Summers also discusses the growing role of LNG in various sectors, such as marine and road transportation, as part of the decarbonization process. The demand for LNG in the marine sector is expected to grow from 1 million tonnes to 10 million tonnes by 2030, with the number of dual-fuel vessels doubling. This underscores the intertwined nature of LNG infrastructure and the transition to greener energy solutions.

## Q&A

M. Walker pointed to the importance of LNG infrastructure as an insurance policy and asked about ways to communicate this aspect to the public.

Ms. Nicoli explained that the strategy is to emphasize the need for LNG infrastructure for the supply of green gases and diversification. M. Summers also pointed to the possibility of repurposing existing infrastructure to import other products and to security of supply. M. Summers and M. Meot also briefly touched upon capacity constraints.

Ms. Liao asked Ms. Nicoli about the potential of e-methane in Europe. She also asked M. Meot about supply in Europe in the coming years and the region's concerns regarding US permits.

Ms. Nicoli explained that e-methane does not seem to be at the top of the agenda in Europe due to the level of maturity of the technology and competition from other molecules.

M. Meot discussed the uncertainties associated with future supply and demand and the need for the new wave of LNG coming from the United States.



## **Item 12 – Suez and Panama Canal Challenges** *(M. Bull from Kpler)*

*M. Bull – LNG and Shipping Market Consultant at Kpler.*

President Abiteboul introduced M. David Bull.

M. Bull discussed the geopolitical and environmental challenges impacting the Suez and Panama Canals and their effects on LNG transit.

Starting with the Suez Canal, he highlighted the geopolitical issue stemming from Houthi rebel attacks on vessels in the Red Sea, connected to broader regional conflicts. This has significantly reduced vessel transit through the Suez Canal, with a noted 30% decrease in total vessel numbers and a 73% reduction in LNG carrier transits by mid-January. Consequently, LNG vessels have avoided the region, opting for longer routes around the Cape of Good Hope or other alternatives, which increased transit times and CO<sub>2</sub> emissions. M. Bull noted that no LNG carrier had crossed the canal since January, except for one, which did during the day of the presentation, going from the US to Jordan to provide gas to Egypt.

Moving to the Panama Canal, the issue is environmental, he noted, with the Gatun Lake at its lowest level due to severe drought linked to the El Niño phenomenon. This has led to a reduction in the number of transits from 38 to 24 per day and restrictions on vessel size. The prolonged drought could result in 4000 fewer transits this year, with significant impacts on trade time and CO<sub>2</sub> emissions, given that Panama Canal routes typically save 16 million tonnes of CO<sub>2</sub> emissions annually compared to alternatives. M. Bull also described the alternative routes that LNG carriers can follow to reach their destination, noting that the last LNG carrier to cross the canal did so in January.

M. Bull observed that despite these disruptions, there has been no significant change in trade volumes for LNG carriers using alternative routes. Vessel utilization has increased, impacting freight and charter rates, which remain relatively high. The LNG fleet is set to grow significantly with 314 new vessels on order, driven by upcoming projects in Qatar and the US.

M. Bull concluded by saying that despite the challenges, the LNG market continued to function without major disruptions, with hopes for a return to more stable conditions as geopolitical and environmental issues are addressed.

### **Q&A**

M. Chennoufi asked about potential losses (boil-off, etc...) as a consequence of the Suez canal incident. M. Bull had not looked at this particular issue.

## **Item 13 – LNG and its successors: e-LNG and bio-LNG for Marine Fuel** *(M. Trad from CMA CGM)*

*M. Trad – Energy Transition Director at CMA CGM*

President Abiteboul introduced M. Trad from CMA CGM.

M. Trad discussed CMA CGM's substantial investments in dual fuel LNG vessels as part of its commitment to achieve net-zero emissions by 2050. The company is focused on transitioning to



LNG and then to bio-LNG and e-LNG, considering regulatory challenges and customer acceptability as crucial factors.

M. Trad described CMA CGM's decarbonization roadmap. CMA CGM aims to reduce emissions by 30% by 2030 and by 80% by 2040, requiring significant efforts and investments. The company is focusing on reducing energy consumption through R&D and digitalizing operations to minimize fuel use. CMA CGM has invested in 119 vessels with access to alternative energy, including dual fuel LNG and methanol vessels. The company also manages logistics operations and believes in electrification for trucks and other land infrastructure. He also noted that an aviation fleet will be part of the company's decarbonization strategy and mentioned a €1.5 billion fund to invest in renewable energy, supporting innovation and specific decarbonization projects. Examples include the Salamandre project in Le Havre with Engie.

Regarding CMA CGM's fuel mix, M. Trad explained that the company plans to rely on biodiesel initially, with LNG and biomethane increasingly playing significant roles. Over time, bioLNG and e-LNG will become essential for deeper decarbonization. While CMA CGM is exploring ammonia and hydrogen as potential future solutions, there are significant challenges related to safety, lifecycle analysis, and regulatory frameworks. These solutions are not expected to be viable in the immediate term.

M. Trad highlighted the flexibility provided by LNG and biomethane with regard to regulations and existing infrastructure, however, he stressed the importance of operational flexibility, particularly in terms of bunkering infrastructure for LNG. He emphasized the need for continued investment in bunker barges and infrastructure to maintain flexibility and resilience in the face of operational shocks.

Shifting the topic of discussion to biomethane, M. Trad listed 3 key factors to facilitate scalability, namely large potential production, a large grid and a very strong regulatory framework. M. Trad stressed the need for joint advocacy efforts to influence regulatory changes and increase acceptability of biomethane. He noted ongoing efforts with the World Shipping Council and CLNG to promote technological neutrality and regulatory acceptance. M. Trad also emphasized the importance of customer acceptability.

M. Trad concluded by reiterating the complexity of the decarbonization challenge and the importance of regulatory support and customer acceptability.

## Q&A

Ms. Liao asked M. Trad's point of view on the scalability of e-fuels, the scalability of biogenic CO<sub>2</sub> and alternative solutions to e-LNG and e-Methane.

Regarding scalability, M. Trad explained that there are currently very little affordable e-fuels, therefore it does not represent a practical solution. However, he explained that his company believes that bio-LNG and bio-methanol are scalable enough to address the first milestones of decarbonization, hence CMA CGM's decision to upgrade its fleet. Then, M. Trad briefly touched upon biogenic CO<sub>2</sub>, especially the uncertainty surrounding such technology. Finally, he addressed ammonia, saying that he doesn't see it a solution for the moment but maybe in the future. He described the challenges associated with ammonia and hydrogen and provided insights into the implications for the shipping industry.



Ms. Liao and M. Trad then discussed the presence of methane (CH<sub>4</sub>) in the different gases that will be used, the resulting CO<sub>2</sub> emissions and the guidelines issued by organizations in the shipping industry such as the International Maritime Organization.

#### **Item 14 – Economy of Hydrogen (*M. Boucly from France Hydrogène*)**

*M. Boucly – President of France Hydrogène*

President Abiteboul introduced the next speaker, M. Boucly.

M. Boucly started by presenting his organization. Then, he explained the importance of electricity in future energy consumption, predicting it will constitute 50-60% of final consumption, leaving 40-50% to be covered by renewable gases or renewable heat. Hydrogen, as a renewable gas, is expected to play a crucial role in decarbonizing various sectors and integrating renewables into the power system.

Hydrogen's applications include serving as a feedstock for refining, steel production, and ammonia, as well as an energy vector for hard-to-abate sectors like heavy-duty transportation (trucks, buses, railways, ships, and airplanes). M. Boucly discussed various methods of hydrogen production, emphasizing the mature technology of alkaline electrolysis and emerging technologies like high-temperature electrolysis and plasmalysis of methane. Currently, most hydrogen is produced from natural gas through steam methane reforming, but cleaner methods are being explored.

M. Boucly highlighted the challenges of hydrogen's low volumetric energy density, making its storage and transportation complex. Various storage methods were discussed, including tube trailers, liquefied hydrogen, and Liquid Organic Hydrogen Carriers (LOHCs).

M. Boucly noted the necessity of underground storage, particularly in salt caverns, and the development of a European hydrogen market, including new pipeline projects like MosaHYc between France and Germany. He mentioned the European Union's REPowerEU program to double hydrogen production and consumption targets by 2030, necessitating significant infrastructure development.

M. Boucly outlined the global dynamism in hydrogen strategies, with more than fifty countries having hydrogen roadmaps. He projected hydrogen production to increase from 90 million tons currently to 600 million tons by 2050, altering the geopolitics of energy.

Challenges for hydrogen include high costs, the need for technological neutrality, certification for a global market, access to clean and affordable electricity. M. Boucly questioned whether to produce hydrogen domestically or import it, citing a meta-analysis suggesting that external production's price competitiveness and availability are not guaranteed.

M. Boucly provided a comparative analysis of the costs of blue and green hydrogen production, concluding that green hydrogen can be competitive under certain conditions. He emphasized the systemic approach needed for hydrogen as an energy carrier, advocating for continued R&D and innovation to reduce costs and scale up production.

In conclusion, M. Boucly stressed the necessity of hydrogen for achieving energy transition goals, its versatility, and the need for a non-ideological approach to finding the best solutions.



## Q&A

Ms. Liao started a discussion on blue hydrogen, CCS and liquefied hydrogen, mentioning the first liquefied hydrogen carrier.

M. Boucly informed the audience on the challenges of liquefied hydrogen such as containment, new bunkering infrastructure and low density compared to e-fuels.

Ms. Liao touched upon the advantages that liquefied green hydrogen would offer and the disadvantages of ammonia. M. Boucly offered a counterargument, citing advantages for ammonia such as existing infrastructure and alternative uses.

M. Feygin pointed to an estimate presented during M. Boucly's presentation. M. Boucly answered.

M. Chennoufi asked a technical question focused on hydrogen refueling stations. M. Boucly answered and emphasized the importance of safety in the design of hydrogen facilities. He listed hydrogen refueling stations near Paris and talked about the development of hydrogen-powered cars.

M. Walker asked another technical question about refueling stations, to which M. Boucly replied.

## Item 15 – Next Meetings

M. David listed the organization's upcoming meetings, namely the Technical Study Group taking place in Groningen in May 2024, the Commercial Study Group taking place online in July 2024, the General Assembly taking place in Hiroshima in October 2024 and the next Executive Committee taking place in Chile in 2025.

M. Uchida from Tokyo Gas said a few words about the General Assembly his company will host, so did M. Bacigalupo from GNL Quintero about the upcoming Executive Committee.

## Item 16 – Any Other Business

No other business was mentioned.

**President Abiteboul declared the Executive Committee adjourned.**

## End of the Executive Committee