

WELCOME



89th INDUSTRY COUNCIL MEETING

Tuesday 19th November 2024

09am – 12pm Cape Town Time

Cape Town, South Africa

Westin Hotel, Ballroom East

Welcome

From the WLPGA President



Agenda

1	Welcome and approval of Draft Agenda and Minutes of Last Meeting (Lyon, 18 th June 2024)	10 min	T. Bertelli
2	Restatement of WLGA anti-trust guidelines	1 min	J. Rockall
3	Safety moment	5 min	B. Edja
4	2024 status and planning	8 mins	J. Rockall
5	Safety and Business Improvement (SBI) - Diversity – feedback from the Youth Council - The global challenge of partial and illegal cross-filling of cylinders	25 min	B. Edja
6	Advocacy (ADV) - Cooking for Life Africa – status - Making the case for gas molecules. Guest speaker Andrea Stegher, Vice-President of the International Gas Union	40 mins	E. Busscher

Coffee break

30 mins

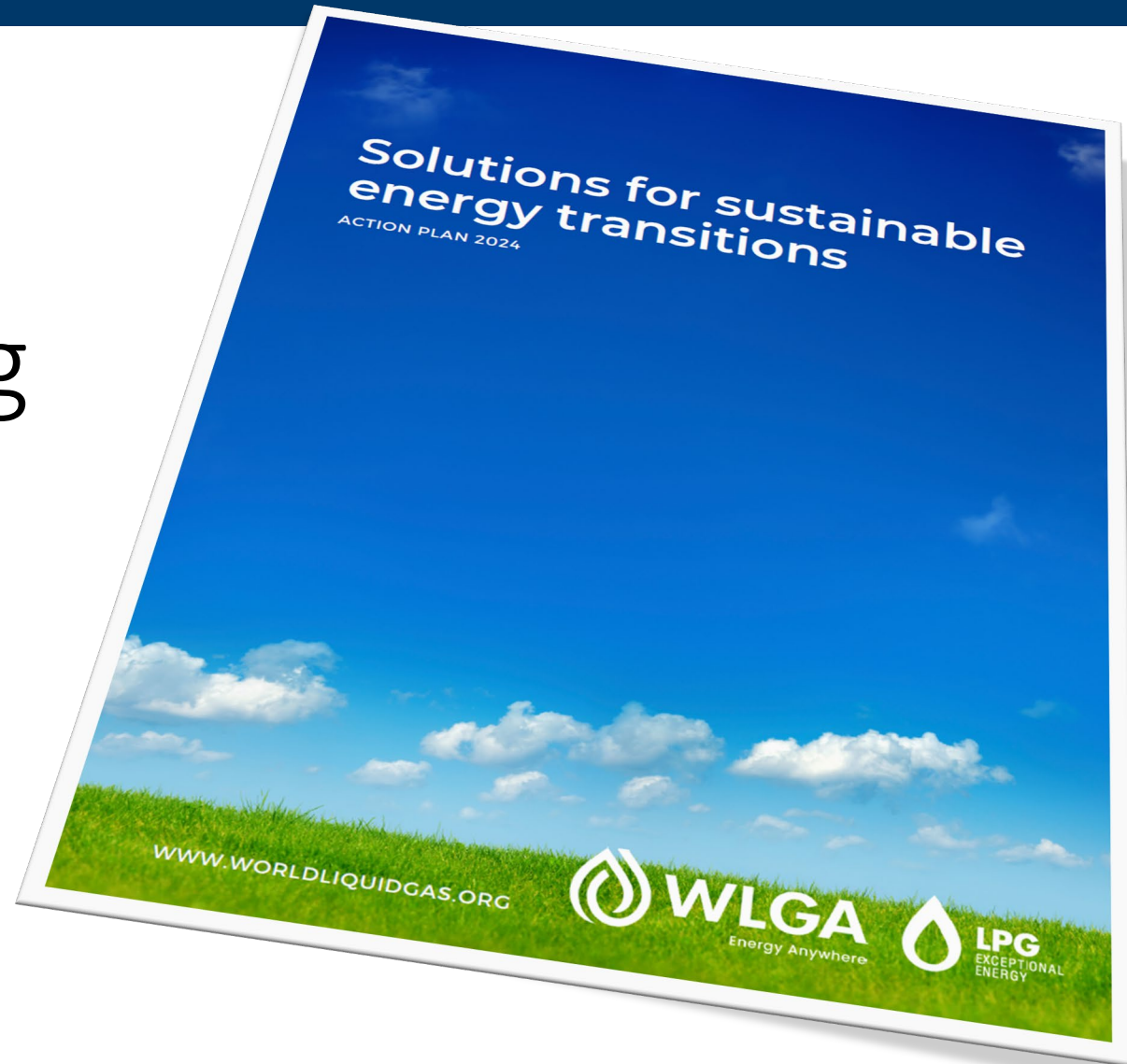
7	Sustainable Growth and Innovation (SGI) - Update on rLG activities - Decarbonisation scenarios - Strategic Innovation Summit 2025	40 mins	F. Ziegler
8	Communication and Awareness (COM) - Communications support to goals - LPG Week planning	15 min	C. Aguirre
9	President's summary and comments	5 min	T. Bertelli
10	Date and place of next meeting	1 min	J. Rockall

Safety Moment
Blaise Edja, Oryx Energies



Action Plan 2024 status and planning

- 39 projects across four goals
- 20 measurable quarterly targets
- €650k of core funding
- c. €1,000k of additional funding on renewables



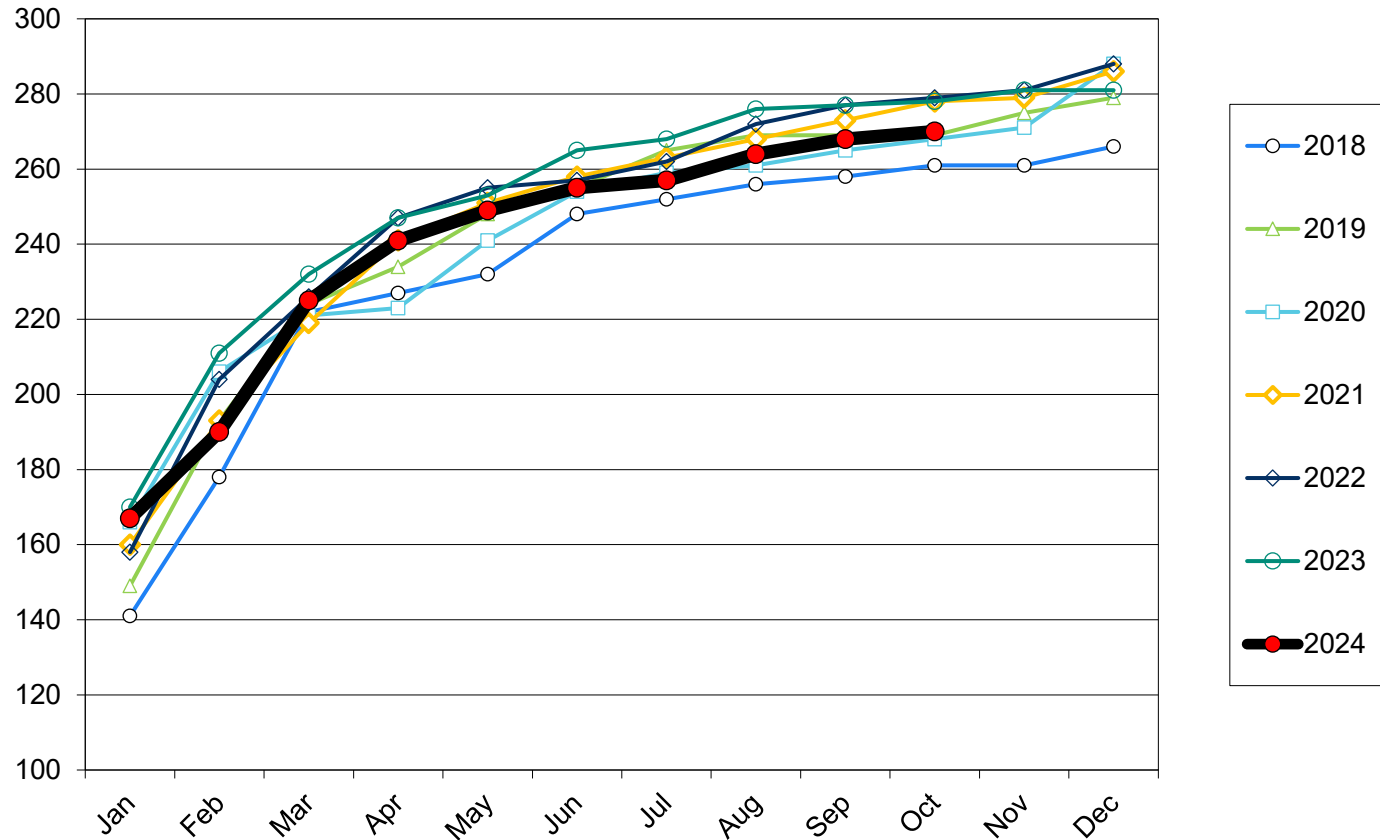
HIGHLIGHTS 2024

- ✓ New name for Association – WLGA fully implemented
- ✓ IEA Clean Cooking event in Paris – WLGA asked to represent the LPG industry
- ✓ Cooking For Life Africa Task Force created
- ✓ Successfully managed major advocacy campaigns with results exceeding targets
- ✓ New guideline on cylinder ownership produced
- ✓ Contract review for annual statistic successfully concluded
- ✓ Three new national WINLPG chapters launched
- ✓ Very successful innovation summit held in Washington DC
- ✓ Successfully achieved UN approval for blending up to 12% DME in LPG
- ✓ Liquid Gas Week Rio 2025 sales launched.



MEMBER PAYMENT HISTORY 2024

- ✓ 2024 membership payments are slightly behind last two years
- ✓ IC members increased to 47



MEMBERSHIP DEVELOPMENT 2024

In 2024:

11 new members including:

One A category
Four B category
Six C category

Seven new Industry Council Member in 2024:

Friedrich Scharr KG, Germany
Likitgaz, Turkey
OPIS, USA
Tomza, Mexico
Consigaz, Brazil
Sigma Cylinders, Lebanon
Gasco, Saudi Arabia

Member development needs focus

Targets for 2024:

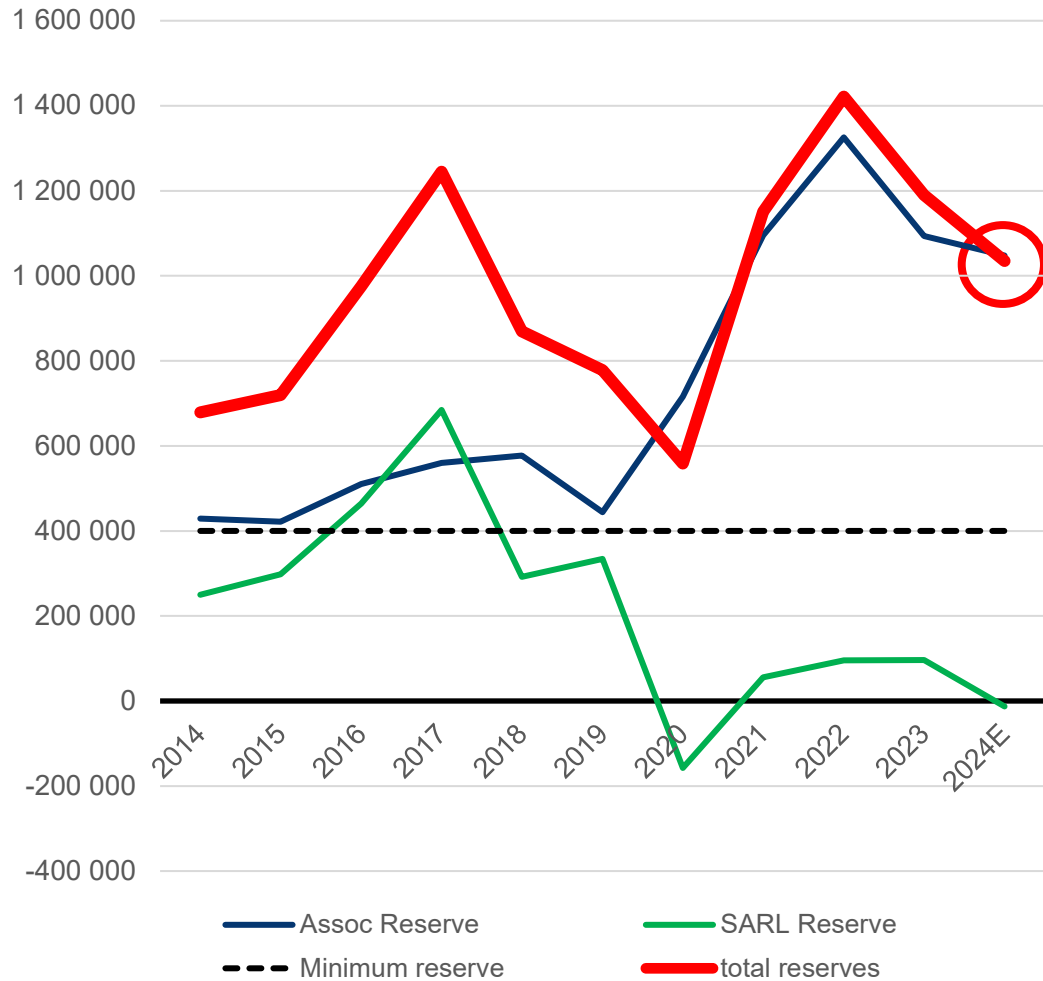
A category +1 

B category +5 

C category +10 

Industry Council +4 

RESERVES POSITION



Total reserves remain well above the minimum

- ✓ Cost management
- ✓ Strong membership (IC) development

But...

- ✗ Commercial (LPG Week) revenue below target
- ✗ SARL reserves (just) below zero – need to rebuild



Blaise Edja **Oryx Energies**

Safety and Business
Improvement Chair



The background image shows a person in a red safety suit and blue gloves working with a large, light-colored gas cylinder. The person's hands are on the top of the cylinder, possibly adjusting a valve or cap. The scene is set in an industrial or outdoor environment, with other similar cylinders visible in the background. The overall lighting is dim, with a blue tint overlaid on the image.

SAFETY & BUSINESS IMPROVEMENT SUPPORTING SAFE, EFFICIENT AND RESPONSIBLE BUSINESS

DIVERSITY – PRESENTATION FROM THE YOUTH COUNCIL

GLOBAL CHALLENGE OF PARTIAL & ILLEGAL CROSS-FILLING OF CYLINDERS



DIVERSITY IN THE INDUSTRY



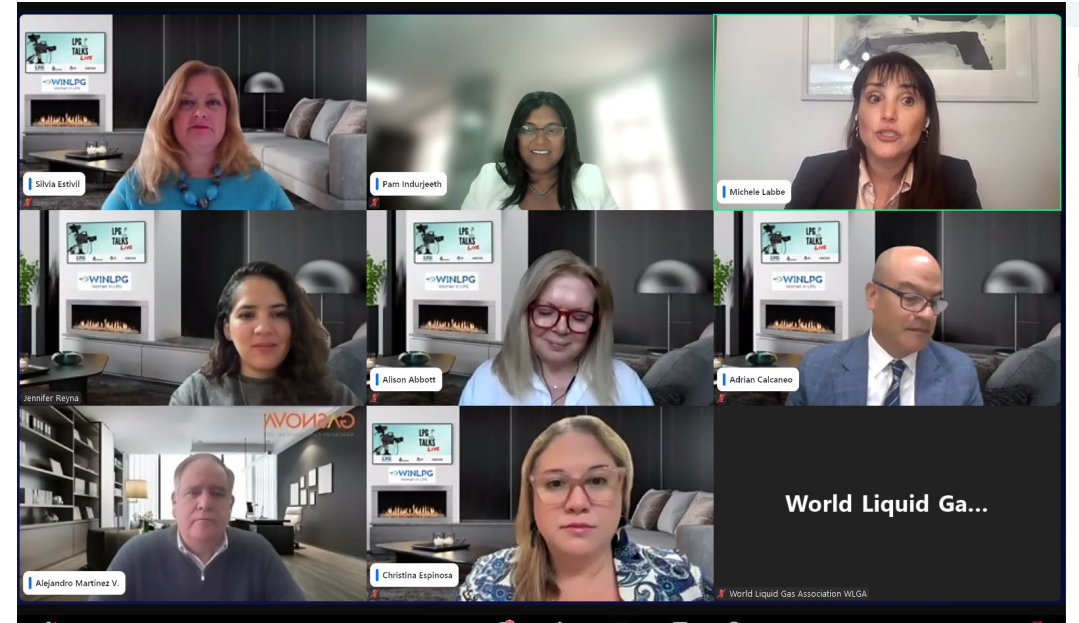
SBI 3.1 WOMEN IN LPG GLOBAL NETWORK



2024 HIGHLIGHTS (SO FAR)

- ◆ Almost 4,000 members globally
- ◆ Women Connect Webinars to be launched
- ◆ Second Spanish webinar held October
- ◆ New role models and Ambassadors
- ◆ Full details at

www.worldliquidgas.org/key-focus-areas/women-in-lpg/



FOURTEEN NATIONAL CHAPTERS



RECORD THREE NEW CHAPTERS IN 2024 - WINLPG TÜRKIYE

27th June in Istanbul

Thank you to Aygaz for hosting



RECORD THREE NEW CHAPTERS IN 2024 - WINLPG CHILE

Launched 19th August in Santiago, Chile

Thank you to Abastible, Gasco, and Lipigas for hosting



RECORD THREE NEW CHAPTERS IN 2024 - WINLPG TANZANIA

Launched 19th October in Dar es Salaam, Tanzania

Thank you to Tanzania LP Gas Association



WIN AWARDS JUDGING COMPLETED

💧 Three Awards:

Woman of the Year

Young Woman of the Year

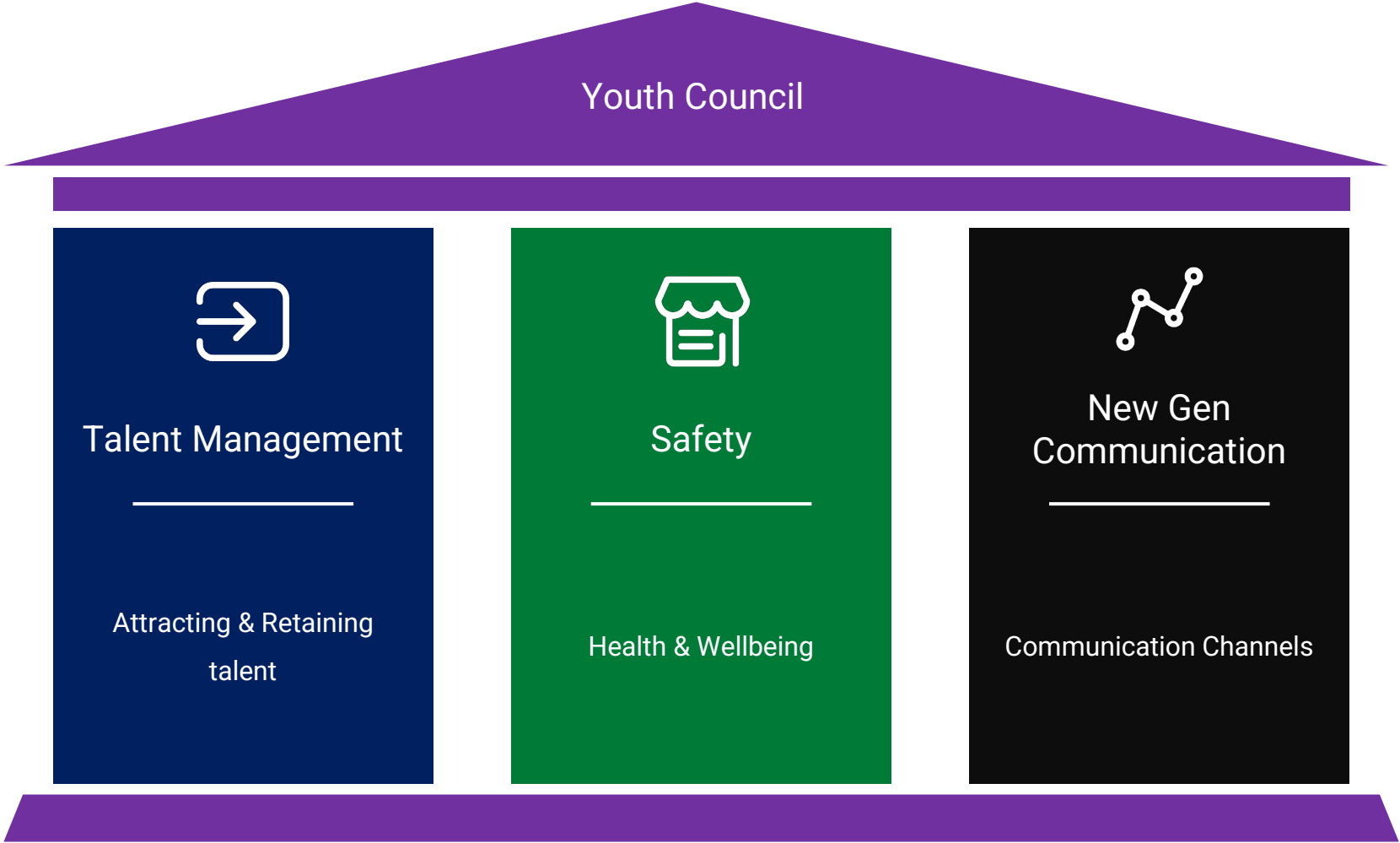
Technical/Groundbreaker Award

💧 **Our 2024 winners will be announced this week**

THE WLGA YOUTH COUNCIL



YOUTH COUNCIL STRUCTURE TODAY



KEY INSIGHTS FROM THE YOUTH COUNCIL SURVEY

Demographics

The Youth Council Survey included participants from all across the world. 61% of the people that answered have between 30 and 35 years old and 80% are managers. The results provide valuable insights into the demographics of LPG industry professionals.

Motivations

63% of participants in the Youth Council Survey are motivated by career advancement opportunities and 29% are motivated due to market/industry growth.

Satisfaction

The Youth Council Survey provides valuable insights into the satisfaction of LPG industry professionals. Results show high satisfaction levels (7,41) among LPG industry professionals.

CHALLENGES AND RECOMMENDATIONS

Challenges

The LPG industry faces several challenges, including market competition, regulatory issues, and technical challenges, as well as perception issues such as being seen as **old-fashioned, not well-known, and associated with fossil fuels.**

Sustainability Initiatives

To overcome challenges in the LPG industry, we recommend emphasizing sustainability initiatives and **the role of LPG in the energy transition** as a cleaner and more efficient fuel

Digitalization and Modernization

Adopting **digital tools, modernizing operations, and providing clear growth paths** and mentorship opportunities can help the LPG industry overcome technical challenges and improve efficiency.

Rebranding LPG as a Forward-looking Energy Source

Improving awareness and rebranding LPG as a forward-looking energy player can help overcome perception issues and increase the industry's appeal to the next generation of energy consumers.

NEXT STEPS: CONDUCTING A WORLDWIDE SURVEY AND GAINING COUNCIL SUPPORT

We propose conducting a global survey to understand the needs and perceptions of LPG industry professionals worldwide.

The survey will help identify common challenges and opportunities facing LPG stakeholders.

We need the support of the council to ensure the success of the survey and its findings.

The survey results will help guide the future of the LPG industry and inform industry decision-making.



SAFETY

- ◆ **Preparation of Safety Booklet covering various safety measures and innovations. The booklet emphasizes the role of technology, particularly AI and IoT, in advancing safety and operational efficiency**
- ◆ **Safety booklet covers the following:**
 - ◆ **Current Safety Practices: Includes regular safety inspections, comprehensive employee training, use of safety equipment, and adherence to regulatory standards**
 - ◆ **Holistic Safety Approach: Focuses on both physical safety and employee well-being, fostering a safety culture that engages all team members**
 - ◆ **Integration of AI: AI-driven solutions, such as real-time monitoring, predictive maintenance, and automated safety systems, enhance safety and efficiency in LPG operations**
 - ◆ **Innovative Technologies: Emphasizes using IoT and AI technologies for leak detection, process optimization, and supply chain management**
 - ◆ **Implementation Plan: Steps for integrating AI, including infrastructure setup, model development, and continuous monitoring**
 - ◆ **Challenges and Solutions: Addresses challenges like high costs, technical complexity, and data security, proposing strategic solution**
 - ◆ **Future of Safety: Aims to revolutionize safety standards through continuous innovation and proactive risk management**

Transforming LPG Safety through Artificial Intelligence and Machine Learning



Predictive Maintenance

- **Condition Monitoring:** Continuous monitoring to predict maintenance needs.
- **Failure Prediction:** Identifying patterns leading to equipment failure.



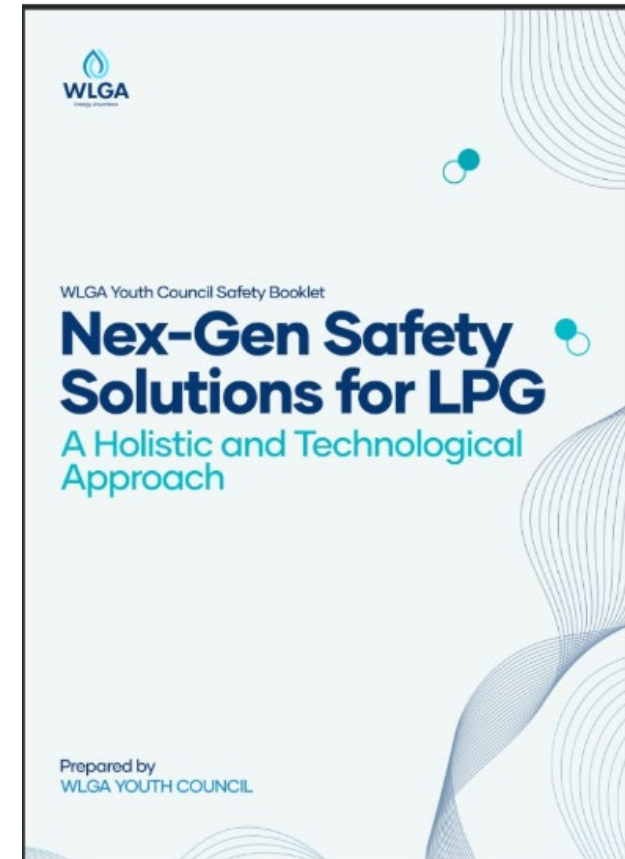
Safety Compliance and Risk Assessment

- **Regulatory Compliance:** Continuous monitoring for safety standards.
- **Risk Assessment:** Analyzing data to prioritize safety measures.



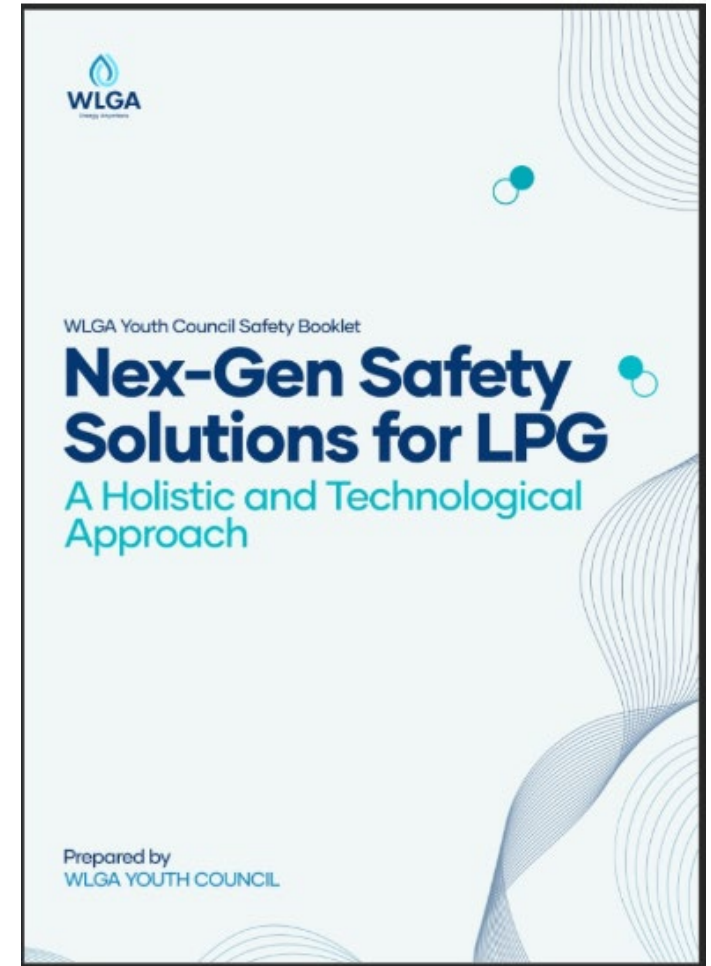
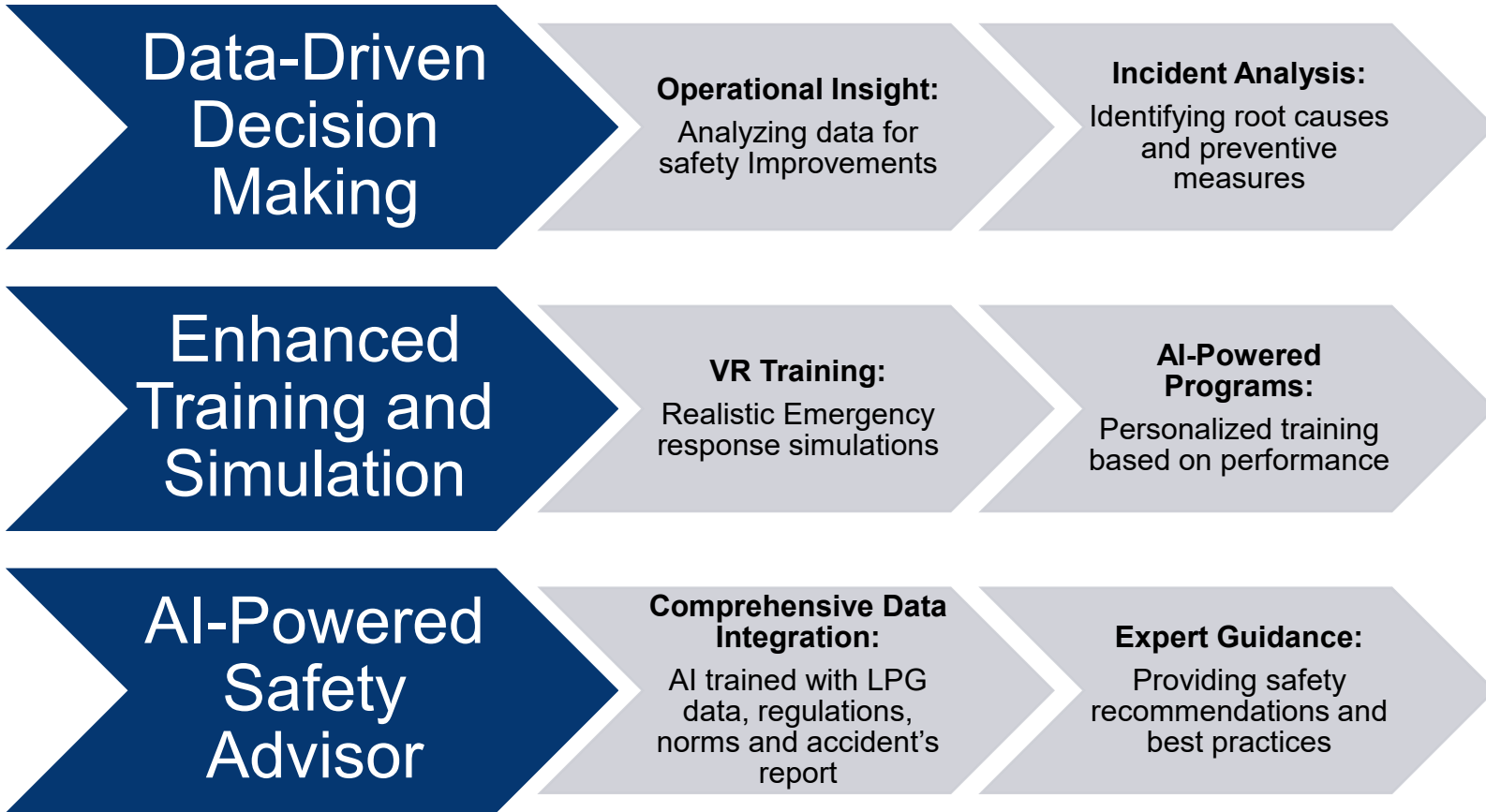
Enhanced Surveillance and Security

- **Drones and Robotics:** Inspections in hard-to-reach areas.
- **Video Analytics:** Detecting unusual activities and unauthorized access.



YC SAFETY PILLAR

Revolutionizing LPG Safety with Artificial Intelligence and Machine Learning



NEXT GEN COMMUNICATION

- ◆ **Pilot series of short-form videos through new gen modes**
 - ◆ In multiple languages and subtitles to show diversity across the group and connect with people globally
- ◆ **The pilot series of videos will cover a variety of industry specific topics such as:**
 - ◆ **Intro to the industry – LPG 101**
 - ◆ **New talent acquisition – Highlighting the wide variety of career opportunities in the industry**
 - ◆ **New technologies and innovation**
 - ◆ **LPG bridging the gap between fossil and renewable energy – Transition fuels**
 - ◆ **Social impact – Community involvement/support**

NEXT GEN COMMUNICATION

- ◆ **Short-form video is becoming an increasingly popular and effective method for communicating with younger generations**
 - ◆ **44% of marketers expected to use it in 2024.**
 - ◆ **73% of consumers prefer short-form videos to search for products or services.**
 - ◆ **57% of Gen Z prefer short videos to learn about products and services.**
 - ◆ **Short-form videos receive 2.5 times more engagement than long-form videos.**
 - ◆ **66% of marketers believe short-form content to be the most engaging format.**
 - ◆ **Additionally, short-form ranks #1 for return on investment ROI.**

The background image shows a person in a red safety suit and blue gloves working with a large, light-colored gas cylinder. The person's hands are positioned near the top of the cylinder, possibly adjusting a valve or handle. The scene is set in an industrial or workshop environment, with other equipment and structures visible in the blurred background. The overall color palette is dominated by blue and red tones, with a semi-transparent blue overlay across the entire image.

SAFETY & BUSINESS IMPROVEMENT SUPPORTING SAFE, EFFICIENT AND RESPONSIBLE BUSINESS

DIVERSITY – PRESENTATION FROM THE YOUTH COUNCIL

GLOBAL CHALLENGE OF PARTIAL & ILLEGAL CROSS-FILLING OF CYLINDERS

SUPPORTING SAFE, EFFICIENT AND RESPONSIBLE BUSINESS

GLOBAL CHALLENGE OF PARTIAL & ILLEGAL CROSS FILLING OF CYLINDERS

- 🔹 BRIEFING NOTE ISSUED
- 🔹 LPG INDUSTRY RELIES ON SAFE & FIT FOR PURPOSE CYLINDERS
- 🔹 OVER 2BN CYLINDERS IN CIRCULATION GLOBALLY (ASSET VALUE >\$50BN)
- 🔹 CYLINDERS ARE THE (SUSTAINABLE) PACKAGING FOR OUR PRODUCT
- 🔹 PACKAGING MORE EXPENSIVE THAN THE PRODUCT BUT...
- 🔹 CYLINDERS CAN BE REFILLED/REUSED OVER 100 TIMES IN THEIR LIFE
- 🔹 INCREASING EVIDENCE OF CYLINDERS BEING PARTIALLY & ILLEGALLY CROSS FILLED
- 🔹 THIS COMPROMISES SAFETY AND INVESTMENT





SUGAR 1KG -> 108

SUGAR 1/2KG -> 54

LOCAL RICE 5KG -> 40

Pearl Pulses

پولسہ 200 گم - 70 /
پولسہ 100 گم - 35

زر ماکارون

CONSUMER PURCHASING PATTERN – LITTLE & OFTEN



INCLUDES TRADITIONAL COOKING FUELS



INCLUDING KEROSENE

SUPPORTING SAFE, EFFICIENT AND RESPONSIBLE BUSINESS

BRANDED CYLINDER CIRCULATION MODEL RECOMMENDED (BCRM)

- CYLINDER CIRCULATES BETWEEN CONSUMER AND LPG FILLING PLANT
- CYLINDER GETS THOROUGHLY INSPECTED, CHECKED (& REQUALIFIED)
- CYLINDER EXCHANGE PROGRAMMES USE THIS MODEL
- CUSTOMER RECEIVES A DIFFERENT FULL CYLINDER
- GIVING CUSTOMER VIRTUAL OWNERSHIP
- ENCOURAGES INVESTMENT
- BUT A FINANCIAL BARRIER FOR THE CONSUMER





PARTIAL FILLING CAN UNDERMINE THE INDUSTRY

Pata Gas Kipimo Chako
unapo hitaji

Pata Gas Kipimo Chako
kwa bajeti yako

pimā
gas kipimo changu

Pata Gas Kipimo Chako
unapo hitaji

pimā
gas kipimo changu

pimā
gas kipimo changu

Pata Gas Kipimo Chako
kwa bajeti yako

pimā
gas kipimo changu

Pata Gas Kipimo Chako
kwa bajeti yako

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Pata Gas Kipimo Chako
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kwa bajeti yako

pimā
gas kipimo changu

Pata Gas Kipimo Chako
kwa bajeti yako

PIMA GAS CYLINDER + BURNER + STAND
 = KSH. 2,000/=

FREE SHOPPING BAG
 CALLENDER
 USER MANUAL
 PIMA GAS PEN
 WITH EVERY PURCHASE.

GAS REFILL FROM
 166 Grams KSH. 50/=

1 KG GAS KSH. 300/=

WELCOME!

pimā

gas kipimo changu

pimā Chako
eti yako

AND IT'S NOT NEW



GUIDE FOR CYLINDER OWNERSHIP, MAINTENANCE & FILLING

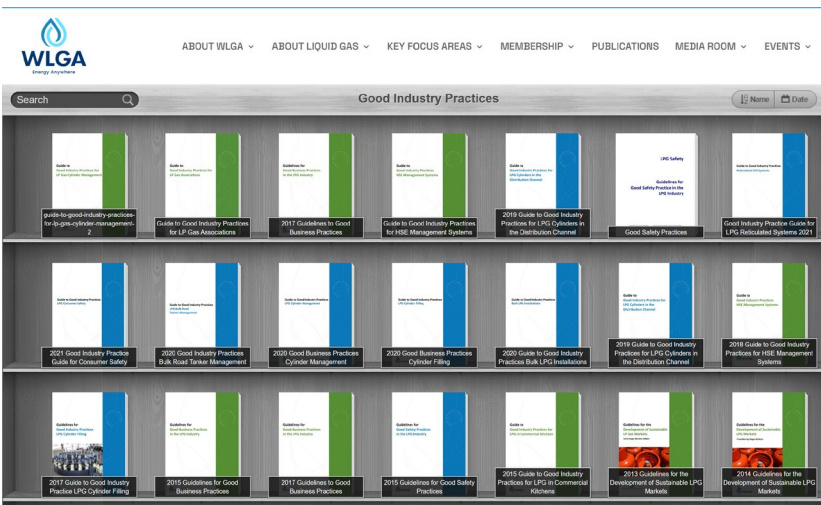
- SEVERAL WLGA REPORTS ON CYLINDERS ALREADY PUBLISHED
 - GUIDE TO CYLINDER MANAGEMENT (2013)
 - DEVELOPMENT OF SUSTAINABLE LPG MARKETS (2014)
 - REQUALIFICATION OF CYLINDERS (2015)
 - MANAGING THE LIFE EXTENSION OF LPG CYLINDERS (2016)
 - GUIDE TO CYLINDER FILLING (2017)
 - CYLINDERS IN THE DISTRIBUTION CHANNEL (2019)
 - LINK TO REPORTS: [Simply Safety - World Liquid Gas \(WLGA\)](#)



SUPPORTING SAFE, EFFICIENT AND RESPONSIBLE BUSINESS

CHALLENGE FOR THE WLGA IN 2025

- ACTIVITIES / INTERVENTIONS TO CURTAIL PARTIAL / ILLEGAL FILLING?
- WE HAVE THE PUBLICATIONS
- MORE ADVOCACY/WORKSHOPS?
- (SMALL COST) ALTERNATIVES FOR THE CONSUMER?





Blaise Edja **Oryx Energies**

Safety and Business
Improvement Chair





Esther Busscher **SHV Energy**

Advocacy Chair



Cooking for Life Africa

Status



Road Map for LPG in Africa

LPG's game-changing role in providing access to clean cooking fuels to Africa

Update on development of the Road Map – LPG Week 2024, Cape Town

November 2024

S&P Global
Commodity Insights





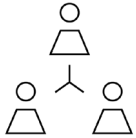
Intro to the CFLA

Overview of the Road Map

Scenarios for adoption

Summary of recommendations

Introduction to the Cooking for Life Africa task force (CFLA)



What is the CFLA?

- The CFLA is the principal vehicle through which the LPG industry will contribute to the International Energy Agency (IEA) Clean Cooking in Africa Summit and subsequent projects and initiatives, including COP29.
- The CFLA acts as any WLGA committee or working group under the authority and guidance of the WLGA Industry Council advising and supporting on strategic decisions, planning and related resources and budget implications.



What is the Road Map?

- The Task Force will oversee development of a Road Map for LPG in Africa.
- The Road Map will quantify the potential for LPG adoption and provide recommendations for regulators and non-governmental organizations (NGOs) to create an environment that unlocks that potential, specifically in Sub-Saharan Africa.



What is S&P Global Commodity Insight's (SPGCI) role?

- Gather feedback from WLGA members and partners.
- Analyze data and insights from our internal databases and existing publications (e.g. WLGA, IEA)
- Quantify LPG's growth potential and develop recommendations to achieve it.
- Develop a report for task force members and support external distribution.

Source: S&P Global Commodity Insights

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CFLA Members



Overview of the Road Map

Background

- The crisis
- The target
- The challenges
- The role of LPG

LPG as an abundant clean fuel for today

- LPG market dynamics
- LPG affordability and availability
- Social and environmental benefits of LPG as clean cooking fuel
- LPG access scenarios

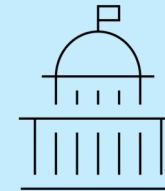
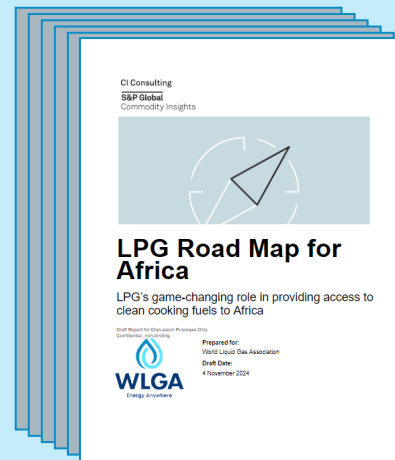
Foundations & Best Practices for an LPG-led solution

- Prioritize regulatory foundations
- Implement a consumer financing and payment plan
- Invest in infrastructure and roads

Approach



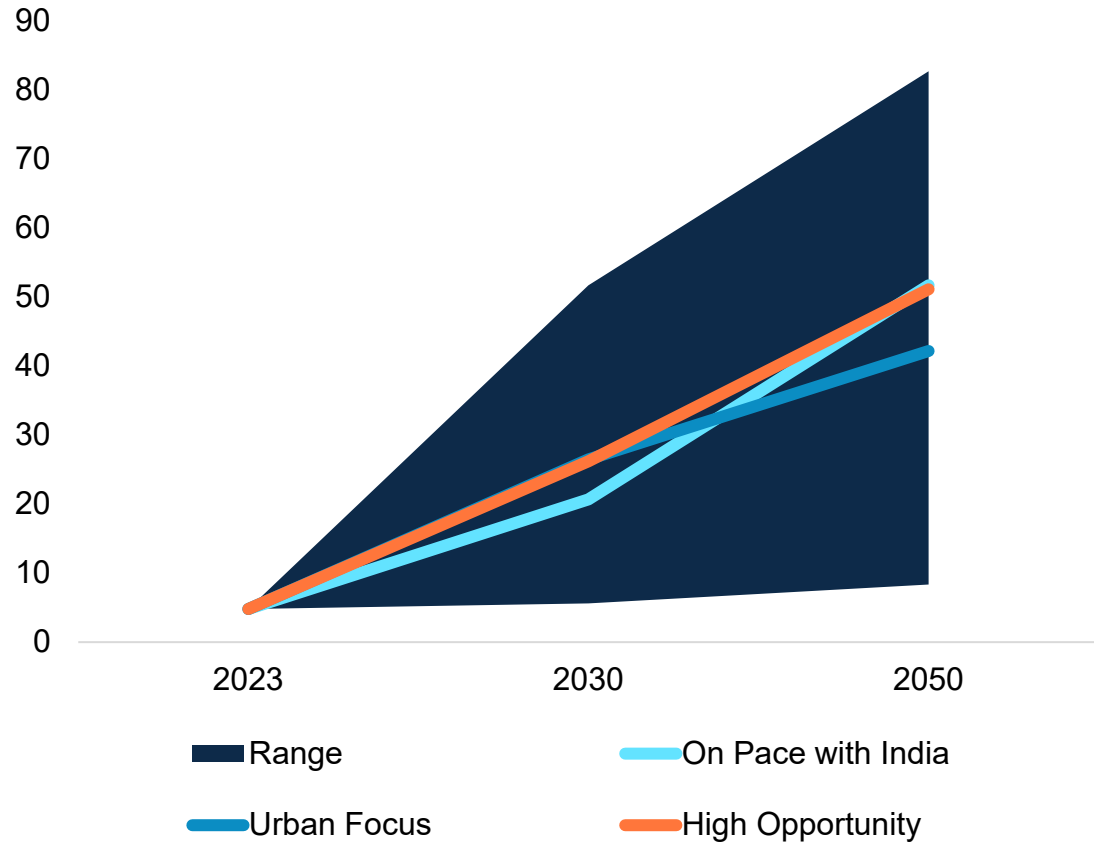
Leverage existing studies and moderate conversations with WLGA members and partners



Work with governments of focus countries to facilitate action on recommendations

Residential LPG Demand Scenarios, Sub-Saharan Africa

Million tons



Source: IEA Global Energy Outlook

© 2024 IEA

01

Low End of Range

This scenario projects current growth in LPG per capita consumption by country, assuming demand grows along with population, but limited back lack of investment and supportive policy. It formulates the bottom of our “range” of potential outcomes

02

On Pace with India

This scenario assumes that average LPG per capita in Sub-Saharan Africa grows from an average of 4 kg/capita to 10 kg/capita, the fastest five-year per capita growth that a developed country, particularly India, has accomplished. India’s twenty-year per capita growth is applied to 2050.

03

Urban Focus

This scenario assumes that Sub-Saharan Africa’s urban centers, which account for ~44% of the population, are prioritized for the switch to LPG throughout the forecast, reaching 25 kg/year in 2030 and 40 kg/year in 2050, while LPG consumption in rural areas remain at current levels.

04

High Opportunity

This scenario assumes that LPG per capita consumption grows to 25 kg/year in 2030 and 40 kg/year in 2050 in the countries this study has identified as “High Opportunity” while the remainder of Sub-Saharan African countries grow at a BAU pace.

05

High End of Range

This scenario assumes that all of Sub-Saharan Africa increases LPG consumption per capita to 25 kg/year, the average consumption for African households using LPG burner stoves, by 2030 and 40 kg/year by 2050, reflecting a mature and ubiquitous LPG market and access to LPG as a clean cooking fuel. It formulates the top of our “range” of potential outcomes.

Summary of recommendations

Prioritize regulatory foundations

Promote the cylinder recirculation model (CRM)

Promote cylinder safety regulation

Foundations for competitive and effective fiscal policy

Promote enforcement and regulatory compliance

Implement a consumer financing and payment plan

Foster partnerships

Court non-traditional financing

Expand pilot projects and promote financial technologies

Carbon markets

Widespread access to micro-financing

Invest in infrastructure and roads

Attract foreign investment

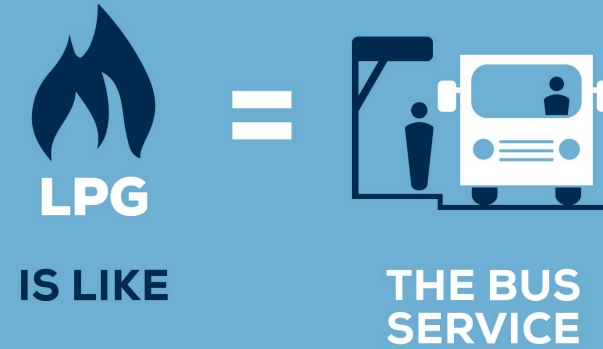
Prioritize urban infrastructure projects

Long-term infrastructure policy

S&P Global
Commodity Insights

Making the case for gas molecules

FURTHER TOGETHER



**Guest speaker:
Andrea Stegher
Vice-President
International Gas Union**





Esther Busscher **SHV Energy**

Advocacy Chair





Coffee Break





Fabian Ziegler **DCC Energy**

Sustainable Growth and
Innovation Chair



AGENDA

- Updates on rLG activities
 - Renewables WG1 - rLPG, rDME
 - rDME HSE WG2 - Safety, Technical, Operational and Environmental Aspects
- Decarbonisation Scenarios
- Strategic Innovation Summit 2025

THE WLGA RENEWABLES GOVERNANCE - MEMBERSHIP

Steering Committee 2024, 7 + 1 members

- ◆ DCC, Fabian Ziegler (Chair)
- ◆ SHV Energy, **Patrick van der Voort**
- ◆ UGI, Markus Dreier
- ◆ PERC, Tucker Perkins
- ◆ Ultragas, Aurelio Ferreira
- ◆ Suburban Propane, Michael Stivala
- ◆ Elgas-Linde, Gareth O'Brien
- ◆ WLGA, James Rockall



Additional members:

Current SteerCo members to help seek new members (also for additional funding contributions)

STEERCO STEER ON KEY ISSUES

1. **WG2 rDME HSE Resourcing**

- WG2 rDME HSE chair: no candidates identified, Nikos covering since July
- WS4 Appliances & Equipment lead: no candidates identified, Nikos covering since July
- The options of ceasing activity temporarily or of recruiting external consultant were not maintained.
- SHV Energy and DCC Energy committed to propose by January 2025 candidates to fill the vacancies

2. **Non-drop-in blends, up to 100% rDME**

- WLGA (WG2/WS5, non-drop-in blends) has no mandate yet to work beyond drop-in
- Growing interest from members / stakeholders, interest to explore flex-fuel appliances and blends of LPG/DME up to 100% DME
- To be discussed again in future SteerCo meeting following preparation and proposal from WS5

3. **Planning & Budget**

- Inputs currently being received from WGs and WSs, proposal with funding request will be prepared for the next SteerCo meeting



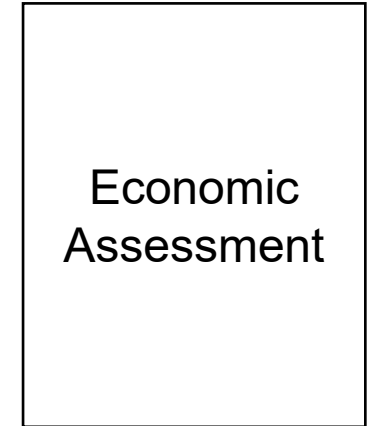
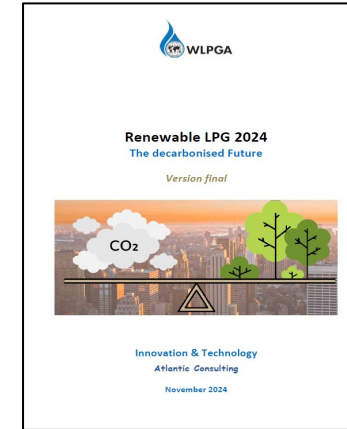
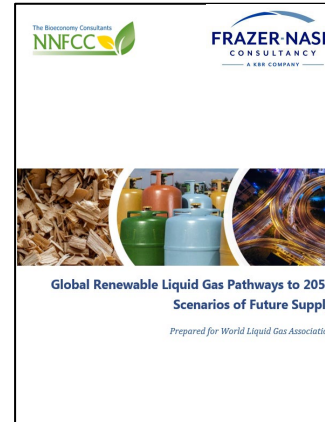
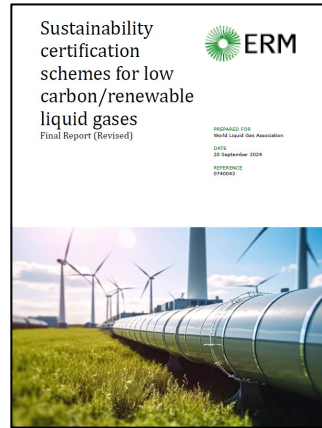
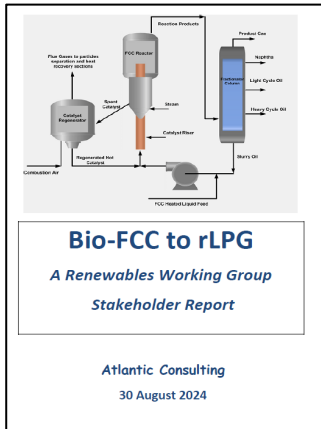
THE RENEWABLES WORKING GROUP WG1

RENEWABLES WG1 ACTIVITIES

#	Projects	Deliverable	Status
1.	Bio-FCC to rLPG	Report	Completed
2.	Sustainability Certification for RLG	Report	Completed
3.	Global RLG Pathways 2050	Report	Near Completion
4.	rLPG The decarbonized future	Report	Completed
5.	rLG Economic Assessment Toolbox	Toolbox	Terms of Reference

** Activities on CCSU would formally start via WS3 after completion of Phase 1 (White Paper) of Decarbonization Roadmap*

VALUE FOR MEMBERS



Value for Members

In view of recent developments in Brazil, the report responds to member's interest regarding the merits of producing rLPG at FCC in refineries. The report critically looks at the attractiveness of the pathway for refiners to produce & sell rLPG fractions to the LPG sector.

The report explains the requirements for RLG sustainability certification in regulated and voluntary markets. The report also scans key policies that impact RLGs in geographies (EU, UK, USA, Japan, Brazil) that are advanced in terms of sustainable fuels deployment.

The study provides a view on liquid gas industry future in terms of RLG pathways that can show promise. It also makes a case for policy and government support to unlock the supply potential considering feedstock availability & competition from adjacent sectors.

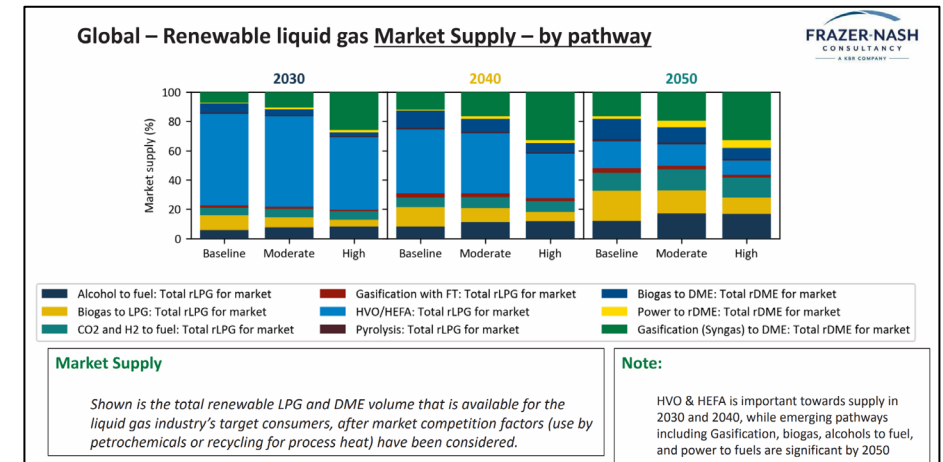
The report provides descriptions of RLG production technologies and captures relevant market developments with regards to plant capacity, number of projects, etc. Elements from the report feed into the Projects Map at WLGA website.

The toolbox would enable members to compare LPG industry's sustainable and low carbon solutions on cost basis with competing alternatives in different applications such as heat pumps & EVs.

GLOBAL RLG PATHWAYS TO 2050

#	Key Deliverables	Status
1.	Pathways description and assessment	Completed
2.	Feedstock analysis & literature review	Completed
3.	Modelling Report	Completed
4.	Synthesis Report	After LPG Week

Findings from the Global Pathways Report will be presented in Session 3 on Wednesday.

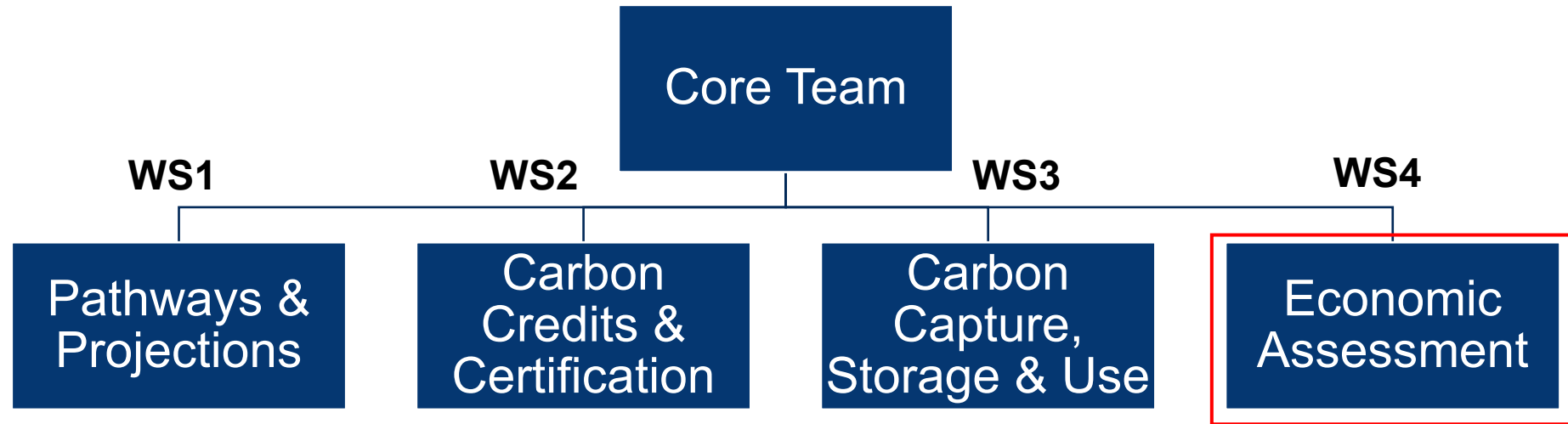


HEADLINES FROM GLOBAL PATHWAYS REPORT

- In the most **optimistic scenario**, between **60-120 LPG-equivalent Mt is possible (88 Mt)**, but is dependent upon strong supportive policy frameworks and access to feedstocks.
- Without strong supportive policy frameworks, there is a significant risk that renewable **liquid gas production may only reach less than a quarter of its potential capacity**.
- Furthermore, without these supportive policy frameworks, there is a risk that feedstock and product competition will restrict the market supply available to liquid gas sector
- Renewable liquid gases have the potential to save **up to 238 Mt of CO₂eq every year by 2050**
- Beyond 2050 **global production could reach upward of 200 LPG-equivalent Mt**



WORKING GROUP – NEW WORK STREAM (WS)



Please nominate representatives from your organizations should you have interest to get involved in this project!

**Please share your wish list of
projects that we should prioritize and
execute in 2025!!**

Note: We would be working on the Work Plan for 2025 in the weeks following LPG Week.

GLOBAL SCIENCE CONFERENCE GSC 2024

- GSC 2024 Cape Town, Friday 22nd Nov. 2024
- Submissions received: 15
- Accepted for presentation: 11
- All as per plan

Dr. Keith Simons, Chief Technology Officer, Futuria Fuels chairing the conference

All members to communicate the event in their networks and encourage participation



Global Science Conference – GSC2024
22nd November 2024

CALL FOR PAPERS



About the Global Science Conference (GSC)

The GSC is the unique venue to present and discuss scientific developments related to the production of renewable, recycled and sustainable liquid gases. LPG Week 2024 in Cape Town will host the second GSC, bringing together research scientists from both academia and industry around the world. As the only global conference devoted exclusively to scientific developments relevant to the production of renewable Liquid Gas, LPG and DMG, the GSC is the ultimate stage for discussing early-stage research and scientific breakthroughs relevant to the industry and the wider academic community.

GSC will take stage in Cape Town on Friday 22nd November 2024 in front of an expected audience of over 200.

Why Submit a Paper?

All accepted papers and presenters will receive significant visibility and exposure, including:

- > Presentation during GSC2024
- > Additional visibility via all LPG Week social media channels
- > Full LPG Week waived access for presenters
- > Opportunity to compete for the GSC Innovation Awards
- > Publication on the LPG Week website

WLGA GSC Awards

The WLGA Global Science Conference Award will be given to the most outstanding scientific contribution.

An additional award will also honour contributions from an early-stage researcher (under 35 on the day of the conference).

With a wealth of benefits to the winners, this is your opportunity to showcase a paper and take home the ultimate prize in renewable Liquid Gas production science.

The GSC Awards will be granted to the GSC2024 winners chosen from the papers that will be presented during LPG Week 2024.

The countdown to GSC2024 is on!

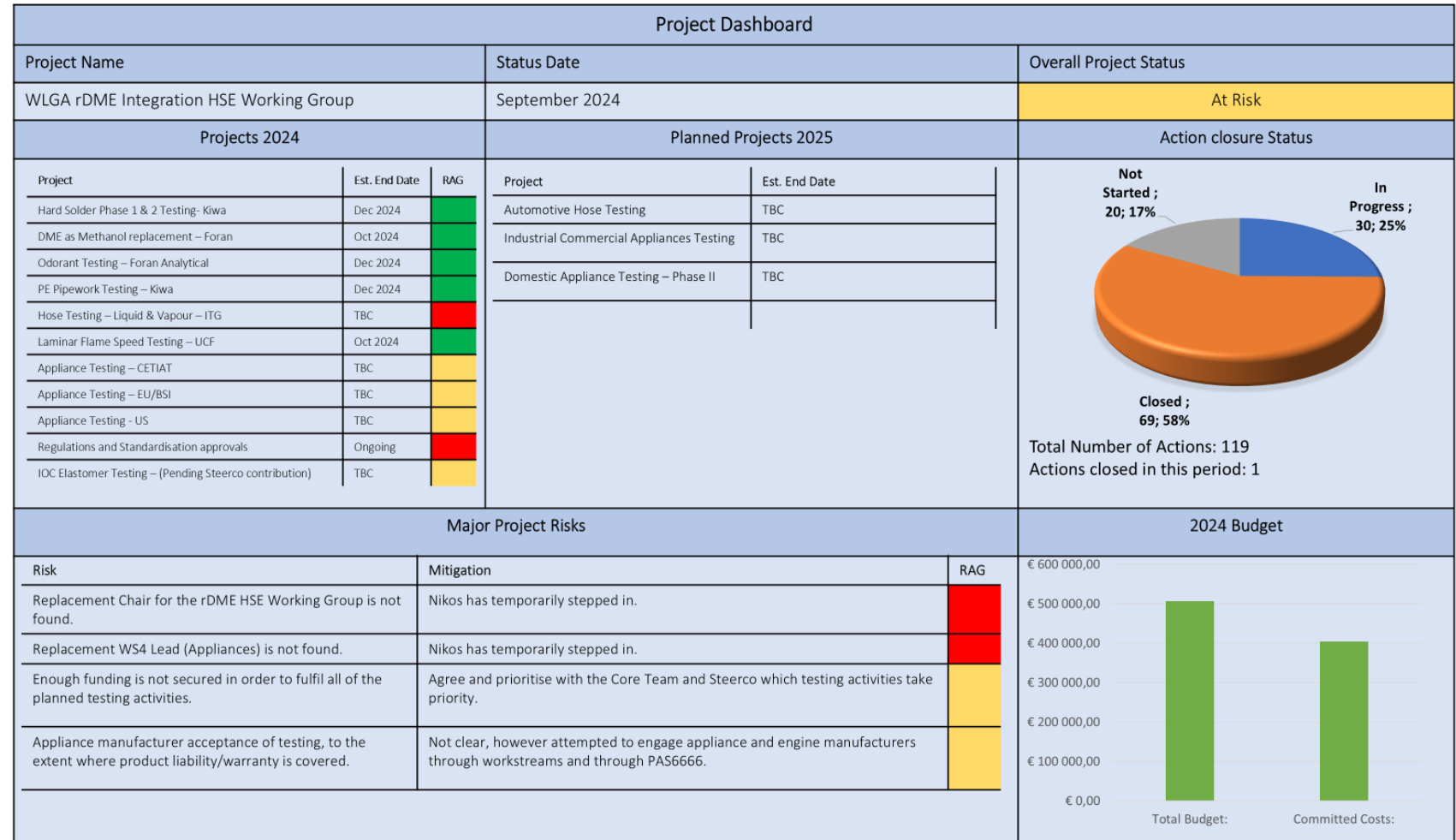


RENEWABLE DME (RDME) INTEGRATION IN THE LPG INDUSTRY

SAFETY, TECHNICAL, OPERATIONAL AND ENVIRONMENTAL ASPECTS WG2

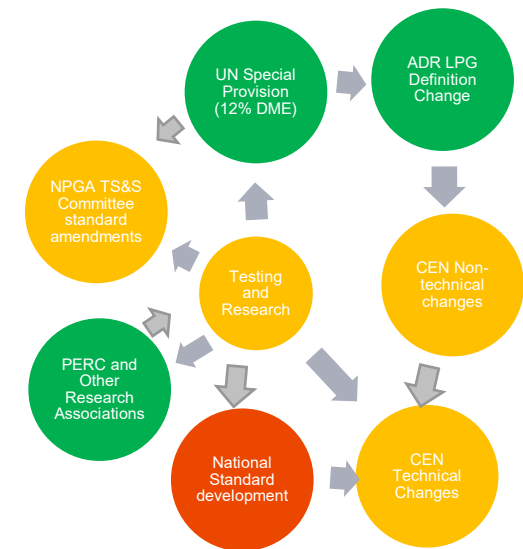
PROJECT DASHBOARD – GOOD PROGRESS

- 🔹 Risk Register actions drive activities
- 🔹 Some delays on testing, some others need follow-up, possibility also of discovering new issues
- 🔹 Assessment of existing/ legacy equipment now on focus
- 🔹 Dimeta disolution created serious resourcing issues



2024 PROGRESS OVERVIEW & HIGHLIGHTS – GOOD PROGRESS

- UN approval for inclusion of up to 12% DME in UN 1075 and UN 1965
- OEMs being engaged to participate in appliance testing, including CETIAT in France and other trials underway or planned in several locations
- Materials compatibility standardisation progressing
- Some developments in UK now stalled following DIMETA disolution
- Focus now towards downstream **operations** and **use**, assessment of existing and legacy equipment
- Appliance manufacturers acceptance of test results not a given, liability issues might create negative positions and exclusions in warranties
- The resourcing issues in the working group constitute a risk and must be resolved

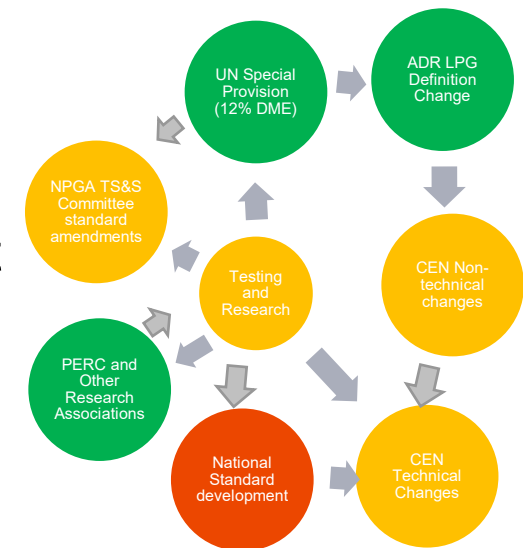


2024 PROGRESS OVERVIEW & HIGHLIGHTS – GOOD PROGRESS

- ADR: The proposed new LPG definition was not approved, a compromised approval is as below (existing wording in blue, new in red):

“Liquefied Petroleum Gas (LPG)” means a low-pressure liquefied gas composed of one or more light hydrocarbons, which are assigned to UN Nos. 1011, 1075, 1965, 1969 or 1978 only and which consists mainly of propane, propene, butane, butane isomers, butene with traces of other hydrocarbon gases. LPG assigned to UN Nos. 1075 or 1965 may also include not more than 12% dimethyl ether by mass”

- “Petroleum” still makes part of the new definition
- 12% rDME in LPG was not accepted in the new definition, however the text addition in red is still a positive step, even if DME is not a hydrocarbon, as the new definition maintains.





LIQUID GAS INDUSTRY DECARBONISATION SCENARIOS PROJECT

LPG Week 2024
Industry Council, 19 November 2024

www.worldliquidgas.org

DECARBONISATION SCENARIOS **PURPOSE & OBJECTIVES**

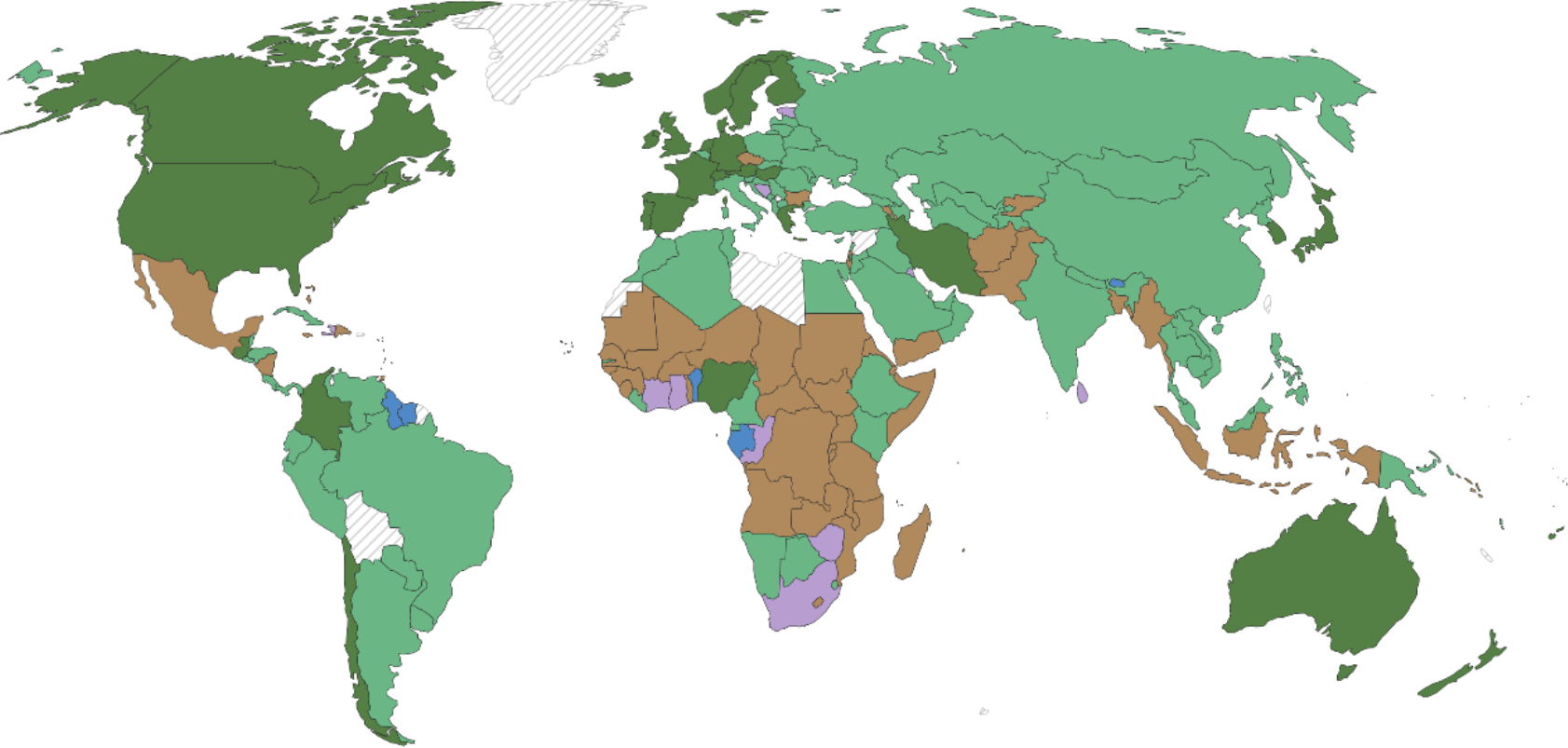
Purpose:

Demonstrate that the Liquid Gas industry is prepared to contribute to meeting decarbonisation goals and adaptable to meet market demands.

Objectives:

- ✓ Quantify the current state of emissions for the Liquid Gas industry across the supply chain.
- ✓ Visualise decarbonisation scenarios that could impact the Liquid Gas industry.
- ❑ Evaluate the “levers” that are available to further decarbonise the industry, and how those levers could be applied to meet decarbonisation targets in different geographies.
- ❑ Describe the role of Liquid Gas in a global, lower-carbon energy system.

NET-ZERO CARBON EMISSIONS TARGETS

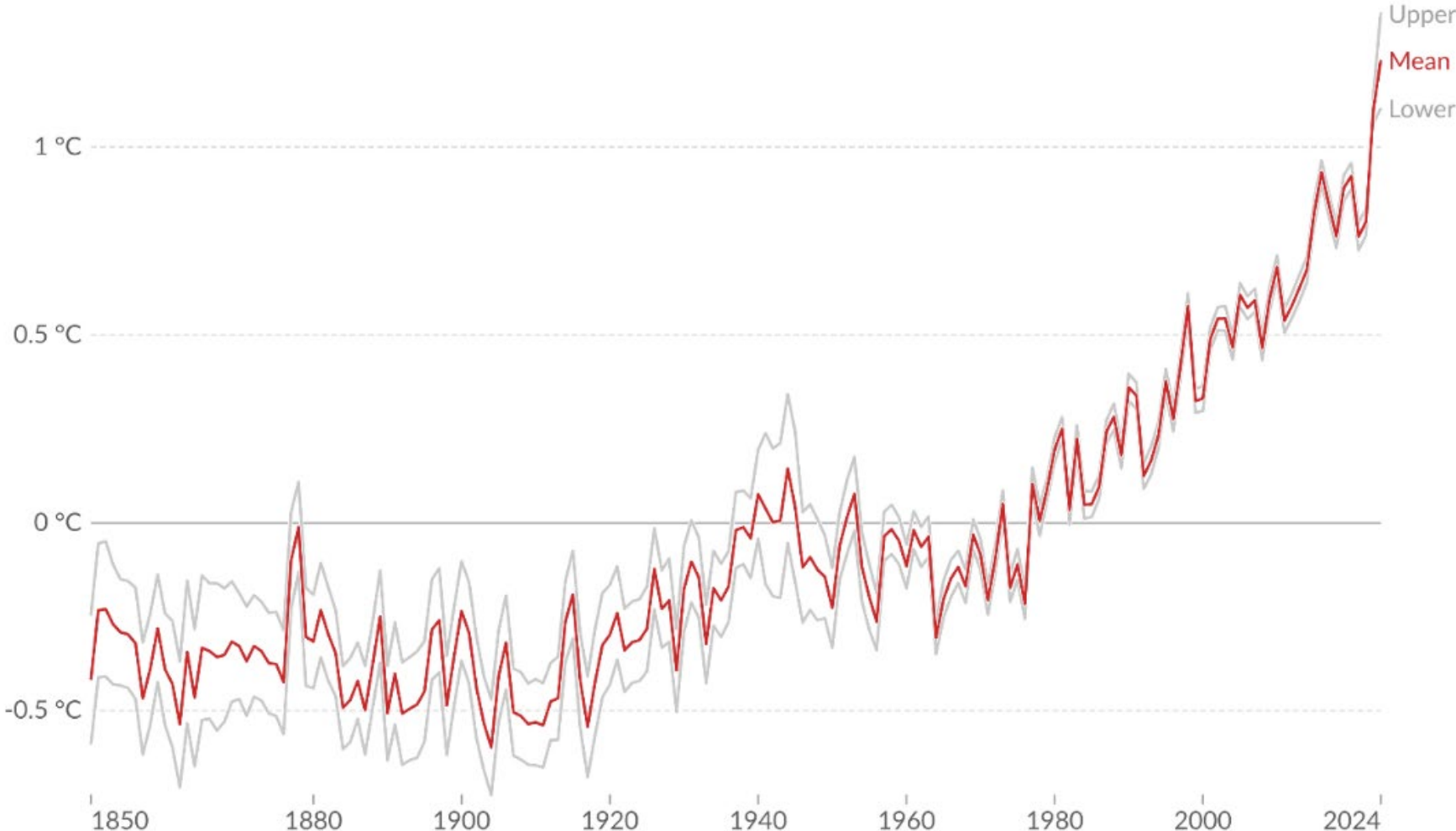


■ Achieved (self-declared) ■ Pledged ■ In Law ■ In Policy Document ■ Proposed ■ No data

Data source: Energy and Climate Intelligence Unit, Data-Driven EnviroLab, NewClimate Institute, Oxford Net Zero - Net Zero Tracker (2023)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

AVERAGE GLOBAL TEMPERATURES

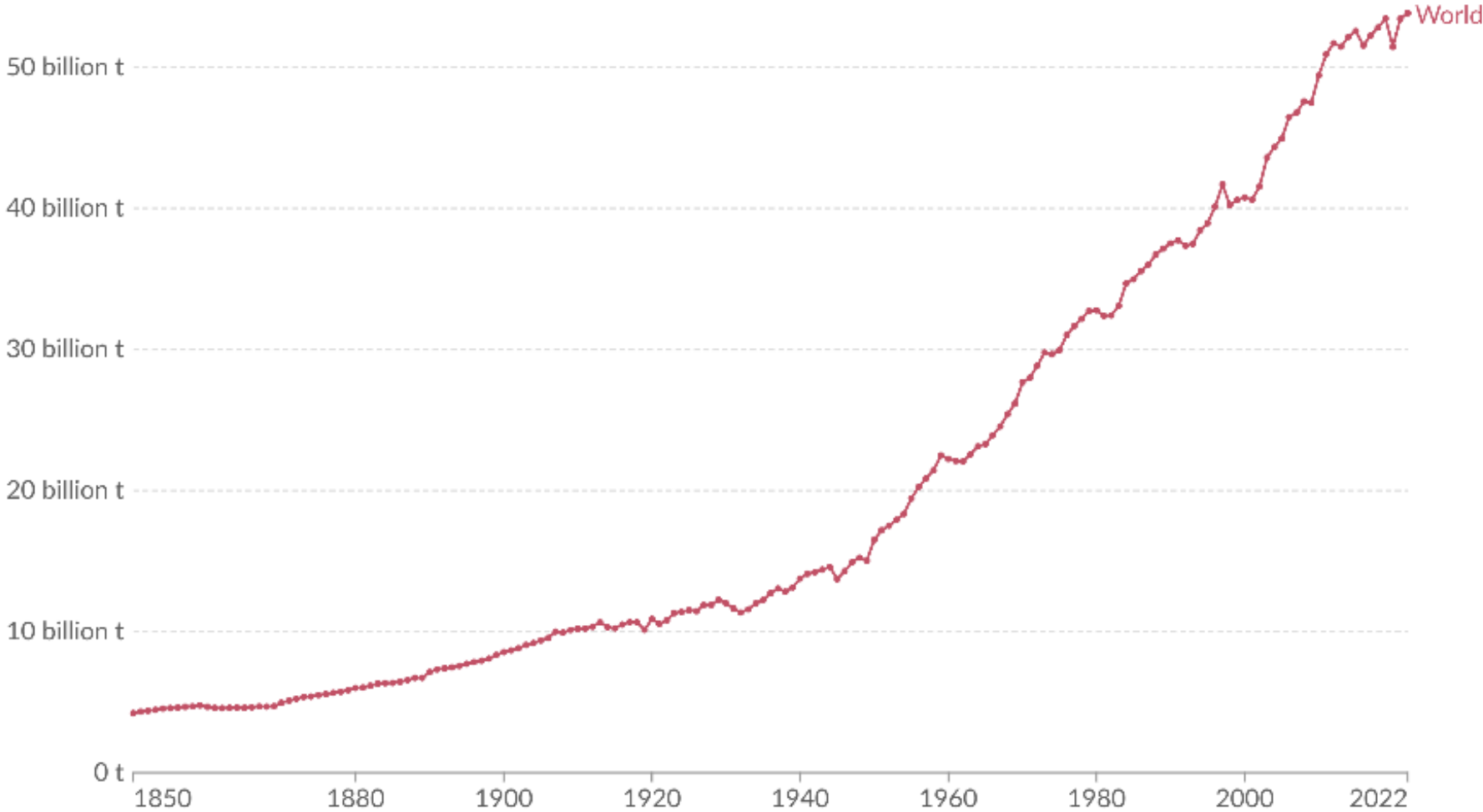


Data source: Met Office Hadley Centre (2024)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

Note: The gray lines represent the upper and lower bounds of the 95% confidence interval.

GREENHOUSE GAS EMISSIONS



Data source: Jones et al. (2024)

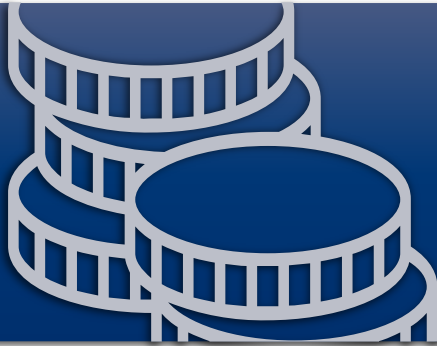
OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

Note: Land-use change emissions can be negative.

THE ENERGY TRILEMMA



Reliable



Affordable



Sustainable

Plausible decarbonisation scenarios must be based on a credible analysis of the energy industry.

IEA's annual World Energy Outlook is described as “the energy world's most authoritative source of analysis and projections.”

Its objective data and dispassionate analysis provide critical insights into global energy supply and demand in different scenarios and the implications for energy security, climate change goals, and economic development.”

Stated Policies Scenario (STEPS)

- A bottom-up assessment based on the prevailing direction of the energy system and current policy landscape.
- Global temperature increase rises to 2.4°C by 2100.

Announced Pledges Scenario (APS)

Net Zero Emissions by 2050 (NZE)

Stated Policies Scenario (STEPS)

- A bottom-up assessment based on the prevailing direction of the energy system and current policy landscape.
- Global temperature increase rises to 2.4°C by 2100.

Announced Pledges Scenario (APS)

- Assumes that governments will meet in full and on time all climate-related commitments that have been announced, including net-zero emissions targets and pledges in nationally determined contributions (NDCs).
- Global temperature increase is limited to 1.7°C by 2100.

Net Zero Emissions by 2050 (NZE)

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- A bottom-up assessment based on the prevailing direction of the energy system and current policy landscape.
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- Assumes that governments will meet in full and on time all climate-related commitments that have been announced, including net-zero emissions targets and pledges in nationally determined contributions (NDCs).
- Global temperature increase is limited to 1.7°C by 2100.

Net Zero Emissions by 2050 (NZE)

- Works backwards from the defined outcome of net-zero emissions by 2050.
- Global temperature increase stabilizes at 1.5°C to 2100.

ALIGNING WEO2024 AND THE LIQUID GAS DECARBONISATION MODEL

IEA WORLD ENERGY OUTLOOK 2024

Global NZE scenario does not include LPG breakout

LIQUID GAS DECARBONISATION MODELS

Extrapolate global NZE scenario for LPG using ratios

ALIGNING WEO2024 AND THE LIQUID GAS DECARBONISATION MODEL

IEA WORLD ENERGY OUTLOOK 2024

Global NZE scenario does not include LPG breakout

Combines LPG & Ethane for global scenarios

LIQUID GAS DECARBONISATION MODELS

Extrapolate global NZE scenario for LPG using ratios

Index the LPG+Ethane values and apply to LPG

ALIGNING WEO2024 AND THE LIQUID GAS DECARBONISATION MODEL

IEA WORLD ENERGY OUTLOOK 2024

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Does not include LPG data for each region

Extrapolate regional LPG data using product ratios

ALIGNING WEO2024 AND THE LIQUID GAS DECARBONISATION MODEL

IEA WORLD ENERGY OUTLOOK 2024

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Does not include LPG data for each region

Extrapolate regional LPG data using product ratios

No regional NZE scenarios

No regional NZE scenarios

ALIGNING WEO2024 AND THE LIQUID GAS DECARBONISATION MODEL

IEA WORLD ENERGY OUTLOOK 2024

LIQUID GAS DECARBONISATION MODELS

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Extrapolate global NZE scenario for LPG using ratios

Combines LPG & Ethane for global scenarios

Index the LPG+Ethane values and apply to LPG

Does not include LPG data for each region

Extrapolate regional LPG data using product ratios

No regional NZE scenarios

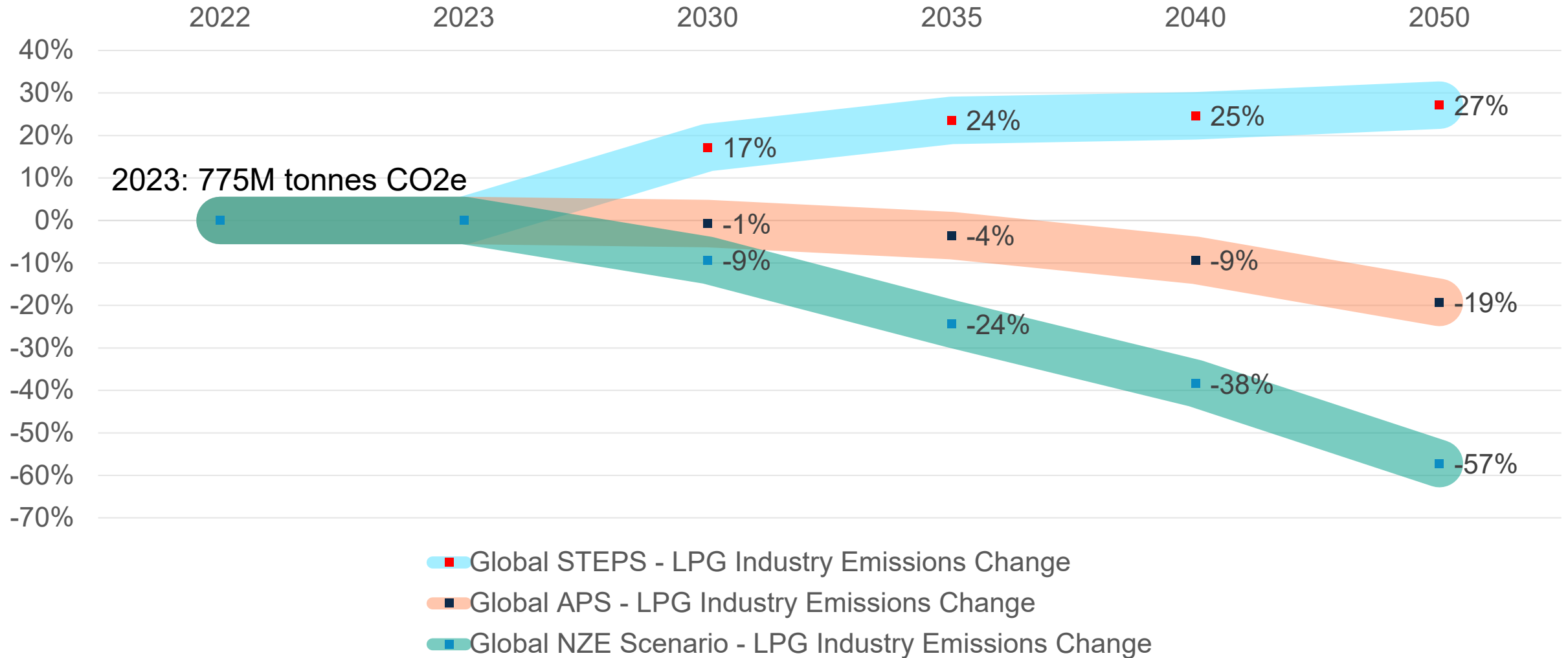
No regional NZE scenarios

Assumes reduced fossil fuel volumes

Assumes reduced CO2 emissions (**volumes x CI**)

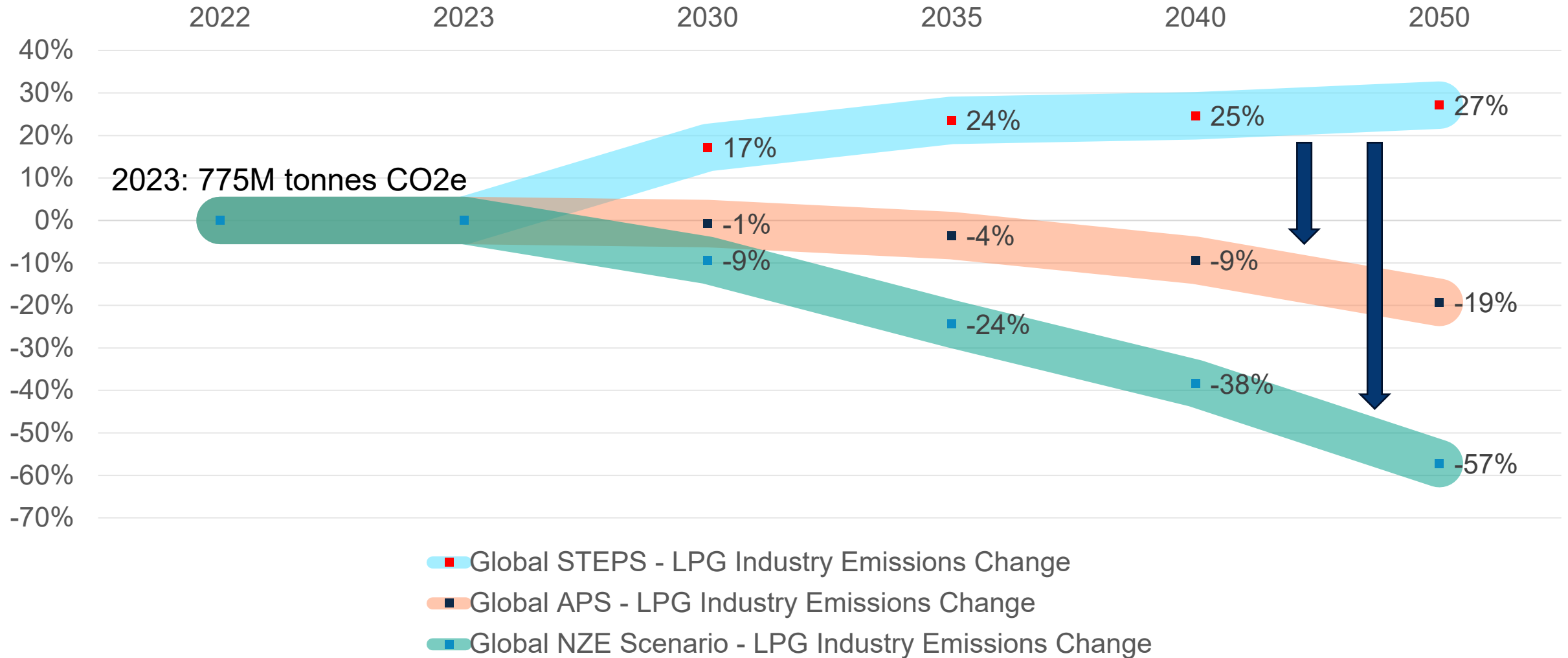
PRELIMINARY GLOBAL LIQUID GAS DECARBONISATION SCENARIOS

Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios



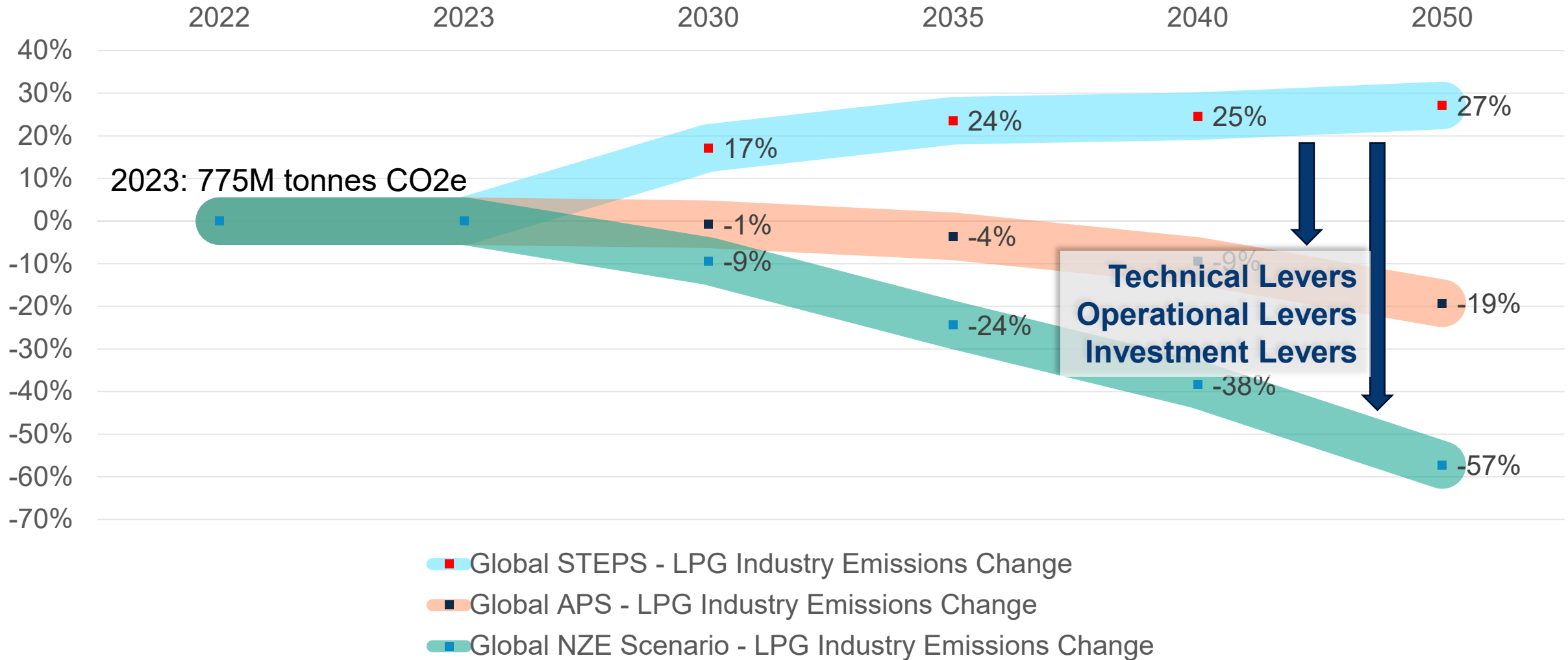
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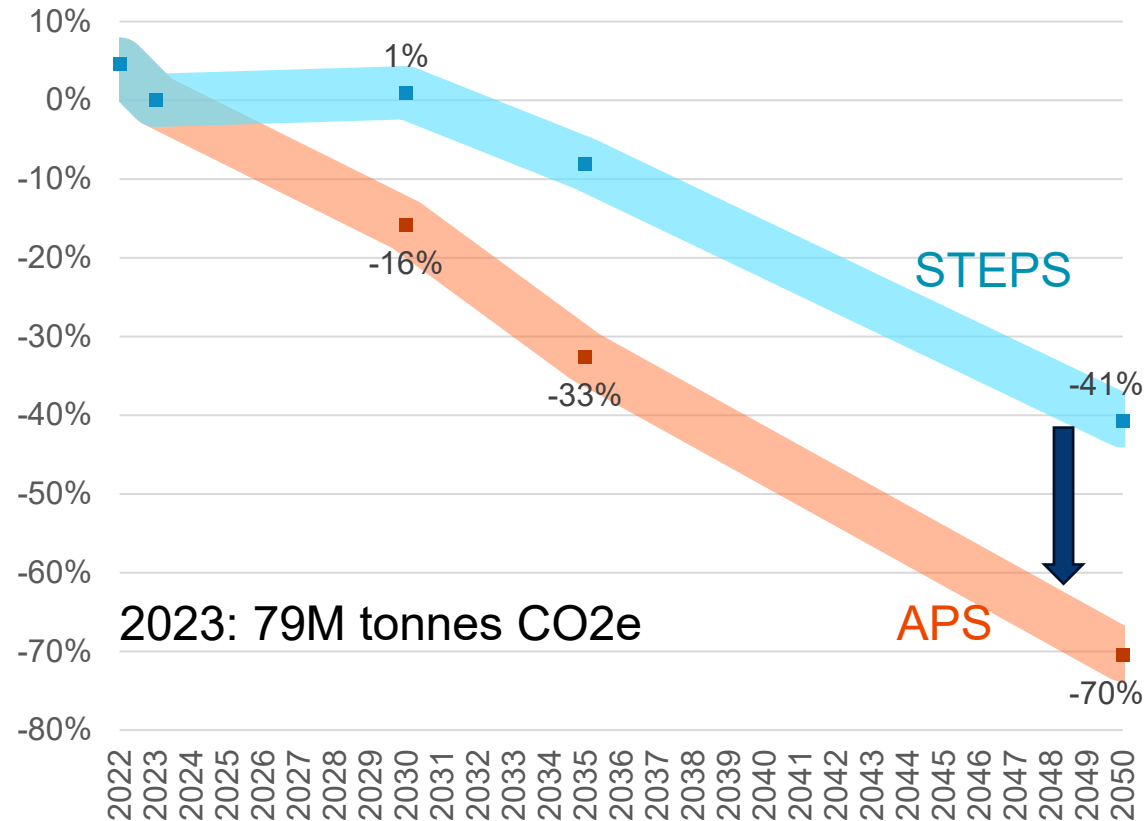
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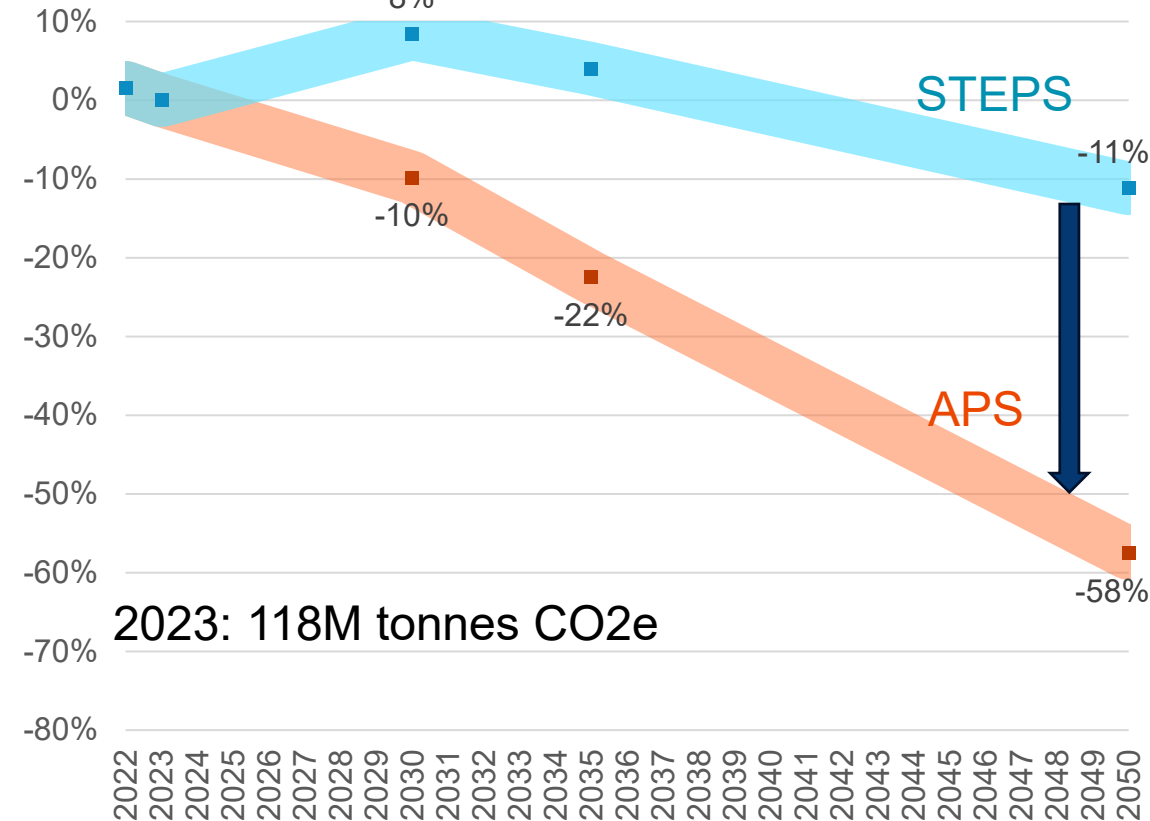


PRELIMINARY REGIONAL LIQUID GAS DECARBONISATION SCENARIOS

Europe - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios

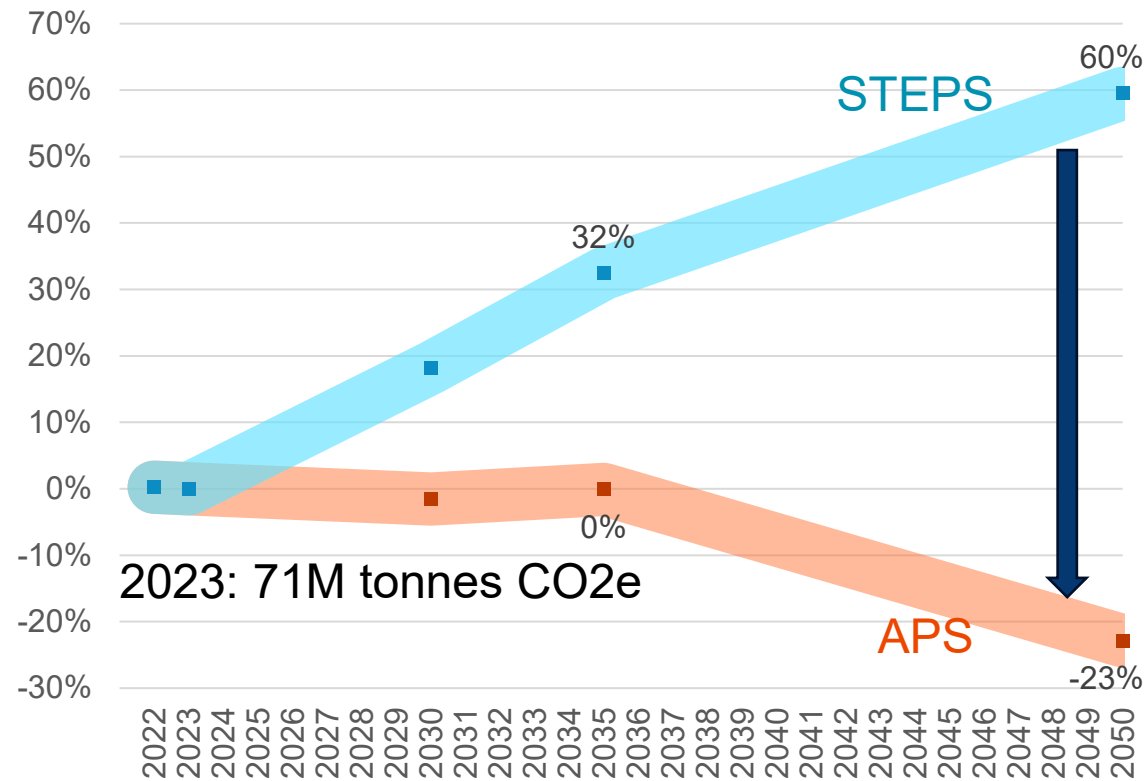


North America - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios

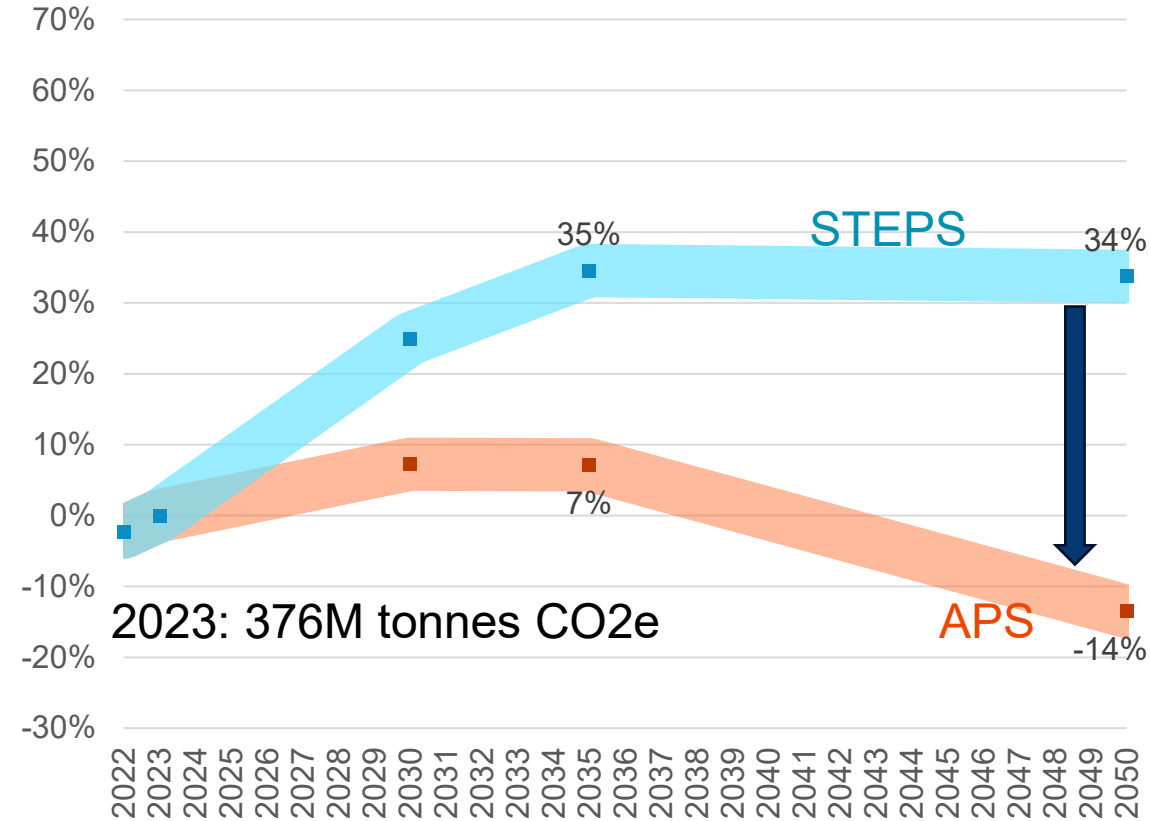


PRELIMINARY REGIONAL LIQUID GAS DECARBONISATION SCENARIOS

Central & South America - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios

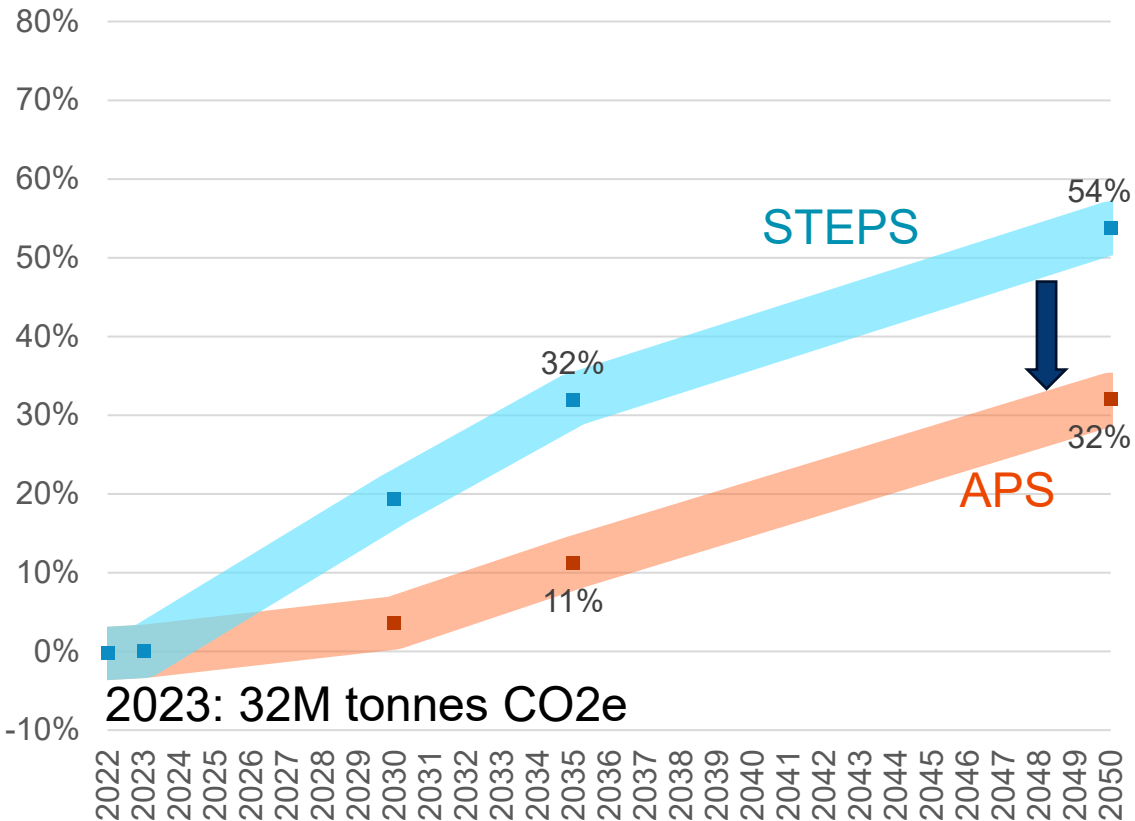


Asia Pacific - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios

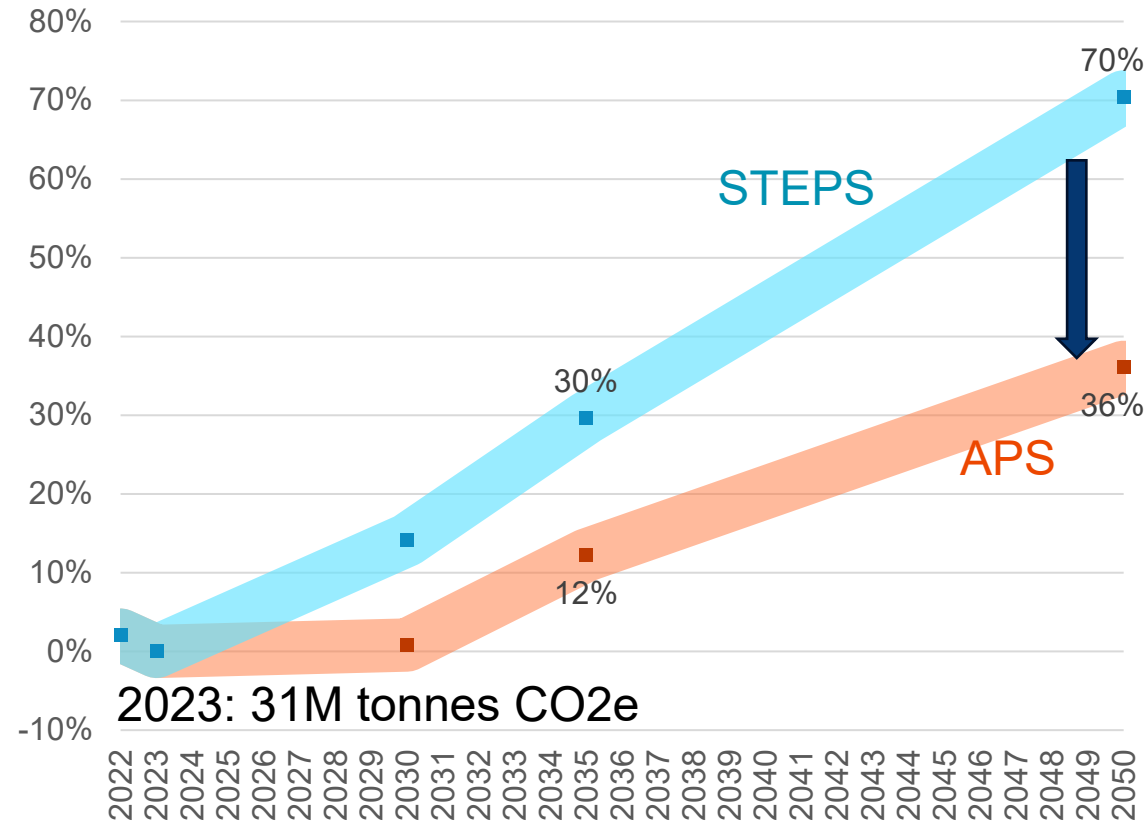


PRELIMINARY REGIONAL LIQUID GAS DECARBONISATION SCENARIOS

Eurasia - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios

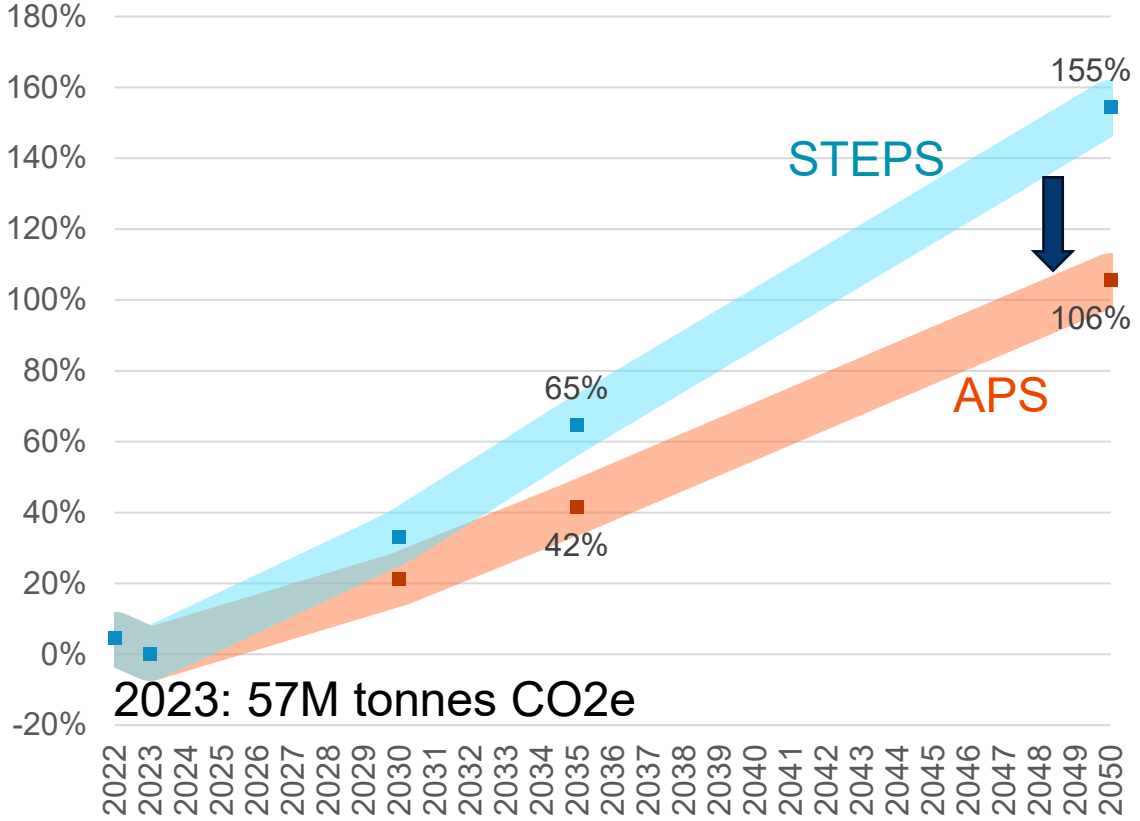


Middle East - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios



PRELIMINARY REGIONAL LIQUID GAS DECARBONISATION SCENARIOS

Africa - Liquid Gas Industry CO2 Emissions under IEA World Energy Outlook 2024 Scenarios



NEXT STEPS

1. Validate the Liquid Gas models.
2. Evaluate and quantify the impact of decarbonisation “levers.”
3. Continue drafting the report highlighting the role of Liquid Gas in a global, lower-carbon energy system.
4. Develop resource library
5. Act



EXECUTING ON INNOVATION

WORLD LIQUID GAS ASSOCIATION INNOVATION SUMMIT

*Week of 19th May 2025
Katowice, Poland*





Fabian Ziegler **DCC Energy**

Sustainable Growth and
Innovation Chair





Cristián Aguirre Gasco Chile

Communications Chair





COM 1.1

**Enhance Our Global Positive Image
(External Communications)**

COM 1.2

**Empower Our Own
(Internal Communications)**

COM 1.3

**Inspire Action
(LPG Week)**

A close-up photograph of a hand placing a puzzle piece into a larger assembly. The puzzle pieces are light-colored, and the hand is positioned on the right side of the frame. The background is a soft, out-of-focus pattern of puzzle pieces. The text is overlaid in the center of the image.

**the real reason why we are
the final slot and why we
are happy about it**

we're the glue



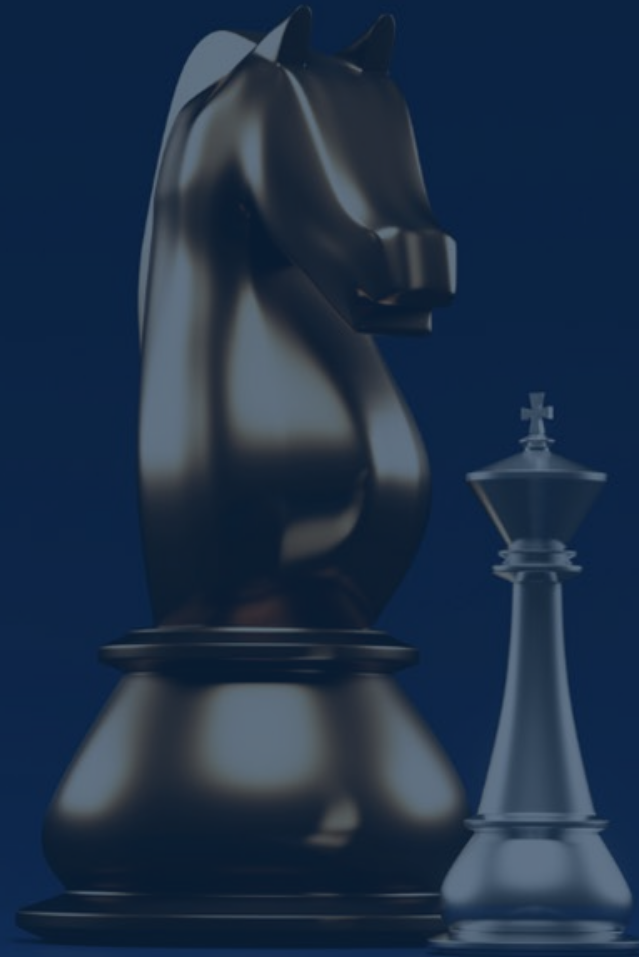
we make it all be heard





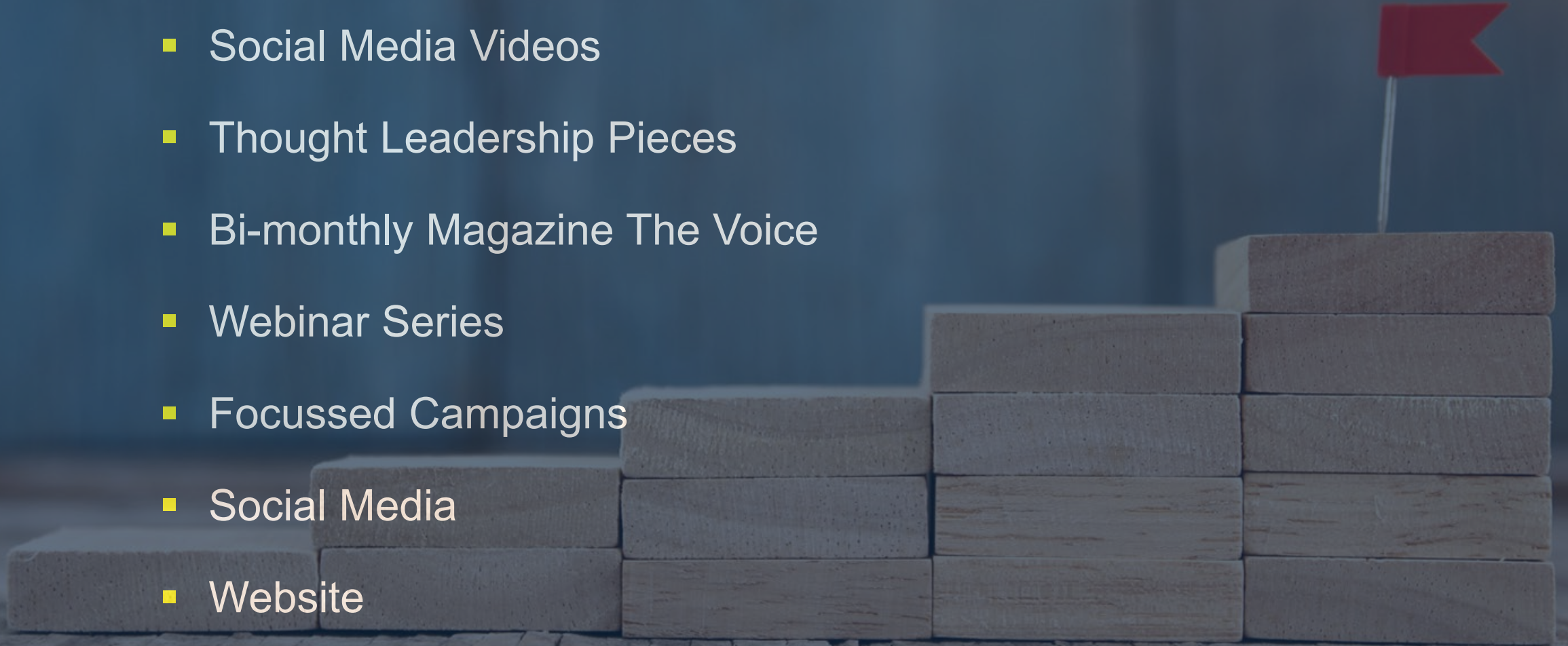
how?

what are our tactics?



the steps that get us there

- Collateral - Case Studies
- Social Media Videos
- Thought Leadership Pieces
- Bi-monthly Magazine The Voice
- Webinar Series
- Focussed Campaigns
- Social Media
- Website





**LIQUID
GAS WEEK**

Liquid Gas Week's Steps that get us there

- Event collateral and videos
- Website
- SoMe In-House and Paid Campaigns
- Communication toolkits
- Monthly Event Newsletter
- Bi-Monthly Liquid Gas Week News
- Communication Committees

LPG WEEK/2024 CAPE TOWN

ENERGY FOR ALL



2024/CAPE TOWN

LPG WEEK

18-22 NOVEMBER

The Global Liquid Gas Community in Action

ENERGY FOR ALL



www.lpgweek.com

Supporting organisation

- Return to South Africa after 17 years
- Honorable Minister Gwede Mantashe (MP),
Department of Minerals and Petroleum
Resources (DMPR)
- Mr Jacob Mbele, Director General of the
Department of Mineral Resources and
Energy (DMRE)
- 28 sponsoring companies, 1 knowledge
partner, 1 supporting organisation



mineral resources
& energy

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

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Special recognition to these companies



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Autogas Day



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LIQUID GAS WEEK 2025/ RIO DE JANEIRO

Delivering Energy for Life



Delivering Energy for Life



LIQUID GAS WEEK 2025/RIO DE JANEIRO

Inaugural Liquid Gas Week

- ◆ Marketing and commercialisation ongoing
- ◆ Latin America Day
- ◆ Three-day exhibition
- ◆ Exhibition almost 30% sold
- ◆ Registration opening early April 2025
- ◆ Be an event ambassador



ANOVA



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enhance your industry impact!

Collaborating Sponsor



Contributing Sponsors



LIQUID GAS WEEK 2026/ ISTANBUL

12TH – 16TH OCTOBER 2026



LIQUID GAS WEEK 2026/ISTANBUL

- ◆ **Istanbul Congress Centre - ICC**
- ◆ **Four Featured sponsors already**
- ◆ **Exhibition & Sponsorship sales kick off September 2025**
- ◆ **Mark your calendars: 12th – 16th October 2026**



AYGAZ

 **IPRAGAZ**

 **Milangaz**



Petrol Ofisi

A rectangular package wrapped in crumpled brown paper, secured with a light-colored twine string. The string is wrapped twice around the package, forming a cross with a knot in the center. The package is centered on a dark blue, vertically-grained wooden surface. The text "completing the package" is overlaid in white, bold, sans-serif font.

**completing the
package**



Cristián Aguirre Gasco Chile

Communications Chair



President's summary and comments





THANK YOU!

**NEXT IC MEETING:
TUESDAY NOVEMBER 19TH 2024 (AM)
IN CAPE TOWN, SOUTH AFRICA**

www.worldliquidgas.org