ANGVA2U Info *01/2024. 11th January 2024 (for ANGVA members only)*

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1.0 Selected News / Articles

1.1 Thailand

PTT board agrees to extend NGV subsidies for most of next year

31st December 2024.

Energy Minister Pirapan Salirathavibhaga said he was urging the state-owned oil and petrol company, PTT Plc, to continue granting NGV subsidies for taxis, trucks, buses and general motorists next year.

Pirapan said on Sunday that this subsidy extension would serve as a New Year's gift from his ministry.

He said he had taken heed of calls from public transport operators as well as trucks and taxi drivers who submitted their complaints about high NGV gas prices on November 2.

In response, he said, he had set up a panel to consider measures to help them. The panel, which is chaired by Norkun Sitthiphong, proposed measures on NGV subsidies to PTT's board of directors and the board approved them on December 21.

Measures are different for different types of vehicles as follows:

Taxis

Cabbies who have registered for subsidies will be sold NGV gas at 14.62 baht per kilo from January 1 to June 30, and 15.59 baht from July 1 to December 31.

New registrations for the subsidies will be accepted in January and February. Newly registered cabbies will be eligible for the same subsidies from February 1.

PTT will also increase the ceiling for each cabbie from NGV gas worth 10,000 baht a month to 12,000 baht a month.

Buses

Throughout January, buses that have registered for the subsidy can buy NGV at the rate of 18.59 baht per kilogram.

New registrations will be accepted in the first two months of the year.

Bangkok buses can buy NGV at the rate of 14.62 baht per kilo from February 1 to June 30 and then at 15.59 baht from July 1 to December 31.

Provincial buses will be allowed to buy NGV at 18.59 baht per kilo from February 1 to December 31, 2024.

Trucks

Truck operators can register for NGV subsidies in the first two months of the year after which they will be eligible for discounts for six months. They will get 1 baht off every kilogram bought at stations along the NGV gas delivery pipeline and a 50 satang discount from other stations.

After that, the prices will float based on the price structure mechanism.

Car owners

General motorists will be allowed to buy NGV at 19.59 baht per kilo from January 1 to May 15, after which prices will float in line with the price structure mechanism.

Source: https://www.nationthailand.com/thailand/general/40034289

1.2 Thailand

Thai Smile moving from NGV to fully EV for bus fleet in Bangkok

4th January 2024. By Pattaya Mail.

According to CEO Kulpornphat Wongmacharpinya, 95% of the company's buses have already been decommissioned and an additional 57 NGV vehicles were decommissioned from the Pak Kret station on January 1, leaving only 16 NGV buses remaining to be phased out within this month.

Thai Smile Bus Co, part of the Thai Smile Group, is set to decommission its remaining natural gas vehicle (NGV) buses this month, moving towards a fully electric bus fleet in Bangkok. This transition aligns with the company's goal of achieving net zero emissions and supporting Thailand's low carbon emission efforts.

According to CEO Kulpornphat Wongmacharpinya, 95% of the company's buses have already been decommissioned. An additional 57 NGV vehicles were decommissioned from the Pak Kret station on January 1, leaving only 16 NGV buses remaining to be phased out within this month.

In its effort to modernize and increase efficiency, Thai Smile Bus plans to introduce smaller, eight-meter electric buses to complement its existing 12-meter bus fleet. This addition aims to increase the frequency of buses for Bangkok commuters, in line with the Transport Ministry's "Quick Win" policy to improve public transportation services.

Thai Smile's sister company, Thai Smile Boat, is also gearing up to resume electric boat services on the Metro Line within the first quarter of this year. Among these are boat tours for city residents to visit nine temples in a day or explore the Bang Krachao jungle oasis, known as the "lungs of Bangkok." (NNT)

Source: https://www.pattayamail.com/thailandnews/thai-smile-moving-from-ngv-to-fully-ev-for-bus-fleet-in-bangkok-449313

1.3 Nigeria

PCNGi Targets 1m Auto Gas Conversions By 2027

1st January 2024. By Abdullateef Aliyu

The federal government in its drive to boost a gas-powered economy has hosted the first-ever Compressed Natural Gas (CNG) Stakeholders and Investors' Forum with a…

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The federal government in its drive to boost a gas-powered economy has hosted the first-ever Compressed Natural Gas (CNG) Stakeholders and Investors' Forum with a target to achieve conversions of one million vehicles to gas by 2027.

Autogas conversion is one of the initiatives under the gas economy as the Presidential Compressed Natural Gas Initiative (PCNGi) rallied stakeholders to drive the initiative.

The occasion, among others, enabled stakeholders and investors the opportunity to assess the potential of Nigeria's CNG industry; evaluate government's ongoing efforts in advancing CNG as a sustainable fuel alternative for the nation; examine the regulatory framework vis-à-vis international best practices; and explore the economic opportunities that abound in the sub-sector in the committed transitioning to a gas-powered mobility system in the coming years.

Speaking on a "A Comprehensive Overview of Nigeria's CNG Ecosystem", Project Director and CEO of the Presidential CNG Initiative, Engr Michael Oluwagbemi, disclosed the federal government's plan to put one million gas-powered vehicles on the road by 2027, at an average annual rate of 250,000 vehicle conversions per year.

Others include the establishment of 40,000 auto gas conversion workshops; and the creation of 750,000 jobs by 2027, across the emerging CNG value chain.

Oluwagbemi noted that given the characteristics of CNG and its benefits as a cheaper fuel, the strategic vision guiding the initiative is to alleviate the cost of living for Nigerians by significantly reducing the cost of transportation, and ultimately improve the standard of living with a cleaner and safer fuel.

He said: "In all of these, our strategic objectives are very clear: How do we reduce the cost of transportation for the common man? How do we make Nigeria's gas work for him or her? How do we ensure that this gas working for Nigeria gives Nigeria an economic advantage?"

Mr Toyin Subair, another member of the PCNGi, corroborated the economic advantage of Nigeria adopting CNG as alternative fuel and reaffirmed that the transition is for the betterment of every Nigerian and the nation as an economy. "The good thing about this initiative is that we don't need to subsidise or buy imported petrol. We (Nigeria) have our own gas here, and the 6 million commercial vehicles (that will be converted) are ours. If we dive into this commercial opportunity, we'll bring down the cost of transportation for the average Nigerian," he said.

On his part, Dr Armstrong Takang, CEO of the Ministry of Finance Incorporated (MOFI), and member of the PCNGi Steering Committee, emphasised the crucial aspect of training engineers to implement the programme successfully.

Source: *https://dailytrust.com/pcngi-targets-1m-auto-gas-conversions-by-2027/*

1.4 Tanzania

Tanzania motorists switch to natural gas amid high fuel prices

2nd January 2024. By William Okeyo

Vehicles powered by Compressed Natural Gas (CNG) are on the rise in Tanzania. Aside from being cheaper than ordinary fuels, the drivers argue that the vehicles have lesser emissions.

Honest Mushi, a taxi driver said that to make US$40, a driver using petrol would spend at least US$16 on fuel. “You can’t compare that to someone using gas who spends just $8 and makes the same amount of money,” Mushi told CGTN Africa.

The Tanzanian government encouraged the switch that costs around US$800 per conversion, and plans on converting its fleet of vehicles from petrol or diesel to CNG.

The Tanzania Petroleum Development Corporation licensed 20 companies to build CNG filling stations and nine are expected by 2025.

A section of environmentalists hailed CNG as a cleaner fuel compared to diesel and petrol, but also pointed out some of its drawbacks.

“It still exacerbates the impacts of climate change from its extraction to its usage – because it is methane. Methane is more potent than carbon dioxide,” said Careen Mwakitalima, an environmentalist.

Source: *https://africa.cgtn.com/tanzania-motorist-switch-to-natural-gas-amid-high-fuel-prices/*

1.5 India

Industrial PNG consumption surges, CGD sales hit 35.34 mmscmd

6th January 2024. By Saurav Anand. ETEnergyWorld

The PPAC report detailed that Compressed Natural Gas (CNG) sales were recorded at 20.65 mmscmd, while Domestic PNG sales amounted to 2.65 mmscmd, and Commercial PNG to 0.67 mmscmd.

New Delhi: India's industrial sector's consumption of Piped Natural Gas (PNG) has seen a significant increase, contributing to the total City Gas Distribution (CGD) sales reaching 35.34 million standard cubic meters per day (mmscmd) in the six months from April to September 2023, according to the Petroleum Planning & Analysis Cell (PPAC).

The PPAC report detailed that Compressed Natural Gas (CNG) sales were recorded at 20.65 mmscmd, while Domestic PNG sales amounted to 2.65 mmscmd, and Commercial PNG to 0.67 mmscmd. The standout growth was observed in the Industrial PNG segment, registering sales of 11.37 mmscmd.

Comparing annual data, the fiscal year 2022-23 saw CNG sales of 7,001 mmscm, with a marginal dip in Domestic PNG to 470 mmscm from 959 mmscm in the fiscal year 2021-22. Conversely, Commercial PNG sales experienced a rise to 485 mmscm in the fiscal year 2023-24, up to September 23.

The data reflects a shift in India's energy consumption pattern, with the industrial segment displaying an increased preference for PNG amidst the nation's ongoing economic activities and energy requirements.

Source: *https://energy.economictimes.indiatimes.com/news/oil-and-gas/industrial-png-consumption-surges-cgd-sales-hit-353427-mmscmd/106557414*

1.6 India

GAIL, TruAlta to Establish 10 Biogas Plants

8th January 2024. By CW Team

In a collaborative effort, GAIL India and TruAlta Bioenergy have announced plans to establish 10 compressed biogas plants. This joint initiative, aimed at promoting sustainable energy solutions, aligns with the companies' commitment to environmental responsibility and the development of clean and renewable energy sources.

The establishment of compressed biogas plants underscores the strategic move towards reducing carbon footprint and fostering eco-friendly practices in the energy sector. GAIL and TruAlta's joint venture is anticipated to contribute significantly to the expansion of compressed biogas production, providing an alternative and sustainable energy source.

The announcement reflects the companies' proactive approach in addressing environmental challenges and embracing innovative solutions for clean energy production. As the world increasingly focuses on transitioning to greener energy alternatives, GAIL India and TruAlta Bioenergy's collaboration represents a noteworthy step towards creating a more sustainable and environmentally conscious future.

The joint statement made by GAIL and TruAlta on January 3 signifies their shared commitment to advancing the development of biogas projects. The initiative holds the potential to not only diversify the energy landscape but also contribute to a more sustainable and resilient energy infrastructure in the long run.

Source: *https://www.constructionworld.in/energy-infrastructure/oil-and-gas/gail-trualta-to-establish-10-biogas-plants/49060*

1.7 Germany

Rolande puts into operation its eighth bio-LNG station

27th December 2023. Source: Rolande

Rolande has opened a new bio-LNG filling station in Himmelkron, in Bavaria. Featuring two pumps, it is conveniently located on a key north-south route running from Scandinavia to the Mediterranean Sea. Moreover, its location at Frankenring 4b on the A9 highway between Munich and Berlin represents the most significant addition to Rolande’s public network of bio-LNG stations in Germany.

This is the company’s eighth bio-LNG station in this country. As with previous locations, Rolande leased the site from IDS (International Diesel Service), a European provider of fuel and fuel cards. The public, self-service filling station is accessible around the clock. With its

wide entrances and exits, it is ideal for heavy trucks and offers users a comfortable fueling experience. Its avant-garde design is specifically geared to the needs of LNG-powered trucks.

Rolande's stations are helping expand Germany's network of bio-LNG stations, which currently comprises 157 public facilities according to the German Energy Agency (DENA).

In opening the Himmelkron station, Rolande has intensified its efforts to establish a pan-European bio-LNG network. The provider already operates a closely knit network of filling stations across the Netherlands and Belgium and aims to add more stations in Germany. In doing so, Rolande will continue adhering to its expansion strategy in order to optimize the accessibility of LNG and bio-LNG for transport companies, and plans to invest consistently in the expansion of filling stations in these three countries.

Jolon van der Schuit, CEO of Rolande, said: "Bio-LNG is the perfect fuel for heavy trucks. It reduces carbon emissions by up to 100% compared with diesel fuel and is fully traceable. Bio-LNG offers other advantages too. Using local waste streams promotes a circular economy, the range of bio-LNG-fueled vehicles is comparable with traditional fuels, and fast refueling times enable efficiency in day-to-day transport operations."

Source: *https://altfuelscg.com/en/infrastructure-and-supply/rolande-puts-into-operation-its-eighth-bio-lng-station-in-germany/*

1.8 Germany

Westfalen Group switches to Bio-LNG for climate-friendly heavy-duty transport

2nd January 2024. By Anthony Wrighton

Heavy-duty vehicles (HDVs), such as trucks, city buses and long-distance buses, are responsible for more than 25% of GHG emissions from road transport in the EU and account for over 6% of total EU GHG emissions (European Commission)

Germany-based technology company in the energy sector Westfalen Group (Westfalen) has announced that Bio-liquefied natural gas (LNG) will replace its fossil counterpart at its four Westfalen LNG filling stations in Münster, Herford, Herne and Cologne.

Produced from upgraded and liquefied biogas, Bio-LNG could support Europe's journey towards sustainable mobility.

Compared to diesel, fossil LNG can save around 20% of CO2 emissions in heavy-duty transport, whereas Bio-LNG enables savings of up to 100%, according to Andre Stracke, Head of Mobility at Westfalen.

"In addition, hardly any nitrogen oxides and fine dust are released during combustion. This makes the fuel very attractive for our customers who want to offer their freight services more sustainably."

Customers that have already converted their fleet to LNG could also use Bio-LNG to meet demand for more sustainable logistics.

The decision to switch to Bio-LNG originates from a deal between Westphalia and revis bioenergy GmbH that was established in March 2023.

Münster-based Westfalen generates biomethane from regionally produced waste and residues before it is liquefied to create Bio-LNG.

Liquefaction reduces the volume of the gas by 600 times, greatly increasing the energy density.

According to studies, by 2050 Bio-LNG can reduce greenhouse gas (GHG) emissions in the transport sector by 95% to 174%.

"Collaborations with strong partners like revis are essential for the transformation to low-emission mobility," said Julian Janocha, Head of Gas Mobility at Westfalen.

"Converting the four existing locations to Bio-LNG is an important milestone for Westphalia. Wherever customers report needs to us, we also strive to further expand our Bio-LNG filling station network," he added, before revealing that additional locations are already being planned.

Research published by the European Biogas Association revealed that EU production of Bio-LNG is set to increase tenfold by 2030 from 2020.

EU LNG heavy-duty transport is expected to reach 280,000 units in the same period and – using a 40% Bio-LNG mix with LNG – will help reduce the carbon dioxide (CO2) emissions from those trucks by 55%.

Speaking at the release of the report, Harmen Dekker, Director of the EBA, called BioLNG 'scalable for tomorrow', adding, "It is a sustainable and cost competitive carbon neutral fuel if we take into account all positive externalities of the Bio-LNG value chain."

Source: *https://www.gasworld.com/story/westfalen-group-switches-to-bio-lng-for-climate-friendly-heavy-duty-transport/2132046.article/*

1.9 India

UltraTech enables green mobility for clinker with electric trucks

8th January 2024. Published by Evie Gardner, Editorial Assistant. World Cement

Giving a significant boost to 'green mobility', UltraTech Cement Limited, India's largest cement and Ready-Mix Concrete (RMC) company, has introduced five electric trucks for transport of clinker from its integrated cement manufacturing unit Dhar Cement Works, located in Madhya Pradesh, to its grinding unit Dhule Cement Works, located in Maharashtra.

To ensure reliable transportation, UltraTech has also set up three charging stations, one at each of the units and one enroute. The transportation of clinker using these five electric trucks in place of fossil-fuel based trucks will help to reduce transport emissions by about 680 MT of CO2 annually.

Mr. K C Jhanwar, Managing Director, UltraTech Cement Limited, said, "At UltraTech, we are committed to driving sustainability across the value chain of our operations. It is heartening that we have been able to accelerate our progress on sustainable transport. The successful pilot of electric trucks, in addition to the CNG and LNG trucks already deployed in our operations, is a significant step in our efforts to enable 'green mobility'."

UltraTech is committed to enabling sustainable transport and has pledged to deploy 500 electric trucks and add 1000 CNG/LNG vehicles in its operations by June 2025 as part of the Government of India's eFAST initiative. Towards this objective, UltraTech is engaging with its logistics partners for the deployment of CNG and LNG trucks to replace conventional diesel vehicles. UltraTech is among the first cement companies in India to have introduced 'Green Logistics' in the form of CNG vehicles in 2021 and LNG vehicles in 2022. Through concerted efforts with logistic partners, the Company currently has more than 390 CNG trucks and 50 LNG trucks operational across 17 manufacturing units.

Source: https://www.worldcement.com/indian-subcontinent/08012024/ultratech-enables-green-mobility-for-clinker-with-electric-trucks/

1.10 Finland

Finland's Gasum inks e-methane deal

9th January 2024. By LNG Prime Staff

Finnish state-owned energy firm Gasum will buy e-methane from Nordic Ren-Gas to supply it to its customers in the heavy-duty road transport sector and the maritime industry.

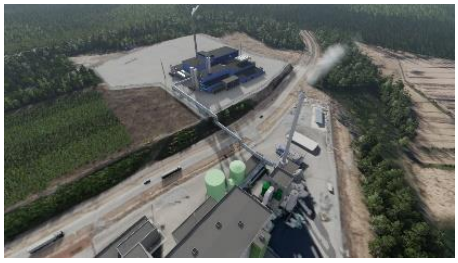

Image: Nordic Ren-Gas

Gasum and Nordic Ren-Gas have signed a long-term sales and purchase agreement whereby Gasum will buy all of the e-methane produced by Nordic Ren-Gas at its Tampere power-to-gas plant from 2026 onwards.

The plant in Tampere will produce annually 160 gigawatt hours (GWh) of e-methane, according to a joint statement.

Moreover, it will produce e-methane using renewable electricity from Finnish wind power and biogenic CO2 captured from existing power plants.

In the power-to-sas process, hydrogen is first produced using renewable electricity and water.

Hydrogen is then further processed into e-methane by combining it with biogenic carbon dioxide.

Gasum said e-methane will replace fossil fuel usage in transportation, maritime, and also industrial sectors.

The firm said the fuel is fully interchangeable with natural gas and biogas. When it is liquefied it is likewise fully interchangeable with liquefied natural gas (LNG) and liquefied biogas (LBG).

This means that it can be transported through already existing infrastructure – trucks, ships, pipelines, Gasum said.

E-methane can be directly used in gas engines currently running on natural gas, biogas, LNG, or LBG/bio-LNG and it can be blended in at any ratio, it said.

Gasum's strategic goal is to bring 7 TWh of renewable gas yearly to the Nordic market by 2027.

The firm operates a network of LNG filling stations for vehicles. It also supplies LNG to vessels via a fleet of chartered bunkering vessels.

Source: *https://lngprime.com/europe/finlands-gasum-inks-e-methane-deal/101846/*

1.11 International

Alternative Fuels: What Makes Sense Today?

9th January 2024. BY PETER KELLER

File image courtesy SCF

Facts are important. Even if the facts are uncomfortable or inconvenient. The industry is starting to understand that methanol is no silver bullet solution for shipping's decarbonisation challenge contrary to the claims of certain operators.

When you burn methanol (CH3OH) in a marine engine, you emit CO2. The chemical composition of methanol is a fact. And this alleged 'silver bullet' is, in fact, a fossil fuel. Methanol adopters talk about green methanol, but grey methanol is all that is available on the market today. Its lifecycle or Well-to-Wake emissions are estimated at around 14% higher than VLSFO due to the energy needed to produce methanol.

The small amount of "green" methanol recently bunkered by an early mover was made from biomethane – not renewable hydrogen – using a valuable green fuel, biomethane, as a feedstock. This green methanol production process is wasteful, consuming a scarce green resource to make a more expensive marine fuel.

It takes six to seven times more renewable energy to turn biomethane into biomethanol compared with simply liquefying the same bio-methane to make bio-LNG (or liquefied biomethane). This green energy could be put to better use.

In the next 10 – 20 years before green hydrogen production really scales, green fuels and their associated feedstocks will be scarce. Taking biomethane, an existing green fuel, and using it as a feedstock in an inefficient process which loses 35 percent of the green energy to create bio-methanol makes no sense.

Further, if we look at the properties of fuels themselves, to carry the energy equivalent of one tonne of bio-LNG onboard, ship operators will need to bunker almost three tonnes of bio-methanol. In short, more space required for fuel means less capacity for cargo. The rationale of these demonstration projects escapes logic.

The industry needs to act now with solutions that make a difference today. The declaration by the CEOs of Maersk, CMA CGM, Hapag-Lloyd, MSC, and Wallenius Wilhelmsen at COP28 emphasises the urgency of accelerating the transition to greener fuels and creating the regulatory conditions to achieve this. While regulation is vital, LNG coupled with other proven technologies can start shipping's decarbonization journey now and continue to its zero emissions destination as greener forms of LNG such as bio-LNG and e-LNG become available at scale.

We cannot hope that there will be better answers decades down the road. University College London (UCL) estimates that every year of inaction this decade will add an extra $100 billion to the cost of shipping's decarbonisation. This sum is dwarfed by the potential cost of climate-related damages to the wider society if shipping fails to cut emissions. GHG emissions are cumulative, and the longer we wait to reduce them the tougher, and more expensive, the decarbonization challenge will be.

When we discuss fuel choice today we must consider the full gamut of investments in vessels, engine technology, fuel production and availability, distribution, storage and supply. Other factors - such as safety for crew and port communities; energy density and onboard space requirements; and pilot fuel demands - are daunting and wide-ranging questions that need to be considered in an absence of reliable information. Clearly when there is so much uncertainly, the industry needs to create options but it should be wary of placing bets. LNG is a known quantity with a clear and proven pathway forward.

In terms of what we can and should be doing right now, improving energy utilization coupled with realistic and practical solutions must be considered first. The LNG Pathway, when used together with other proven technologies which exist today, adds to the benefits gained and results in real carbon savings, not theoretical future benefits that are dependent upon unproven technologies and significant future investments.

Peter Keller is the chairman of Sea-LNG.

The opinions expressed herein are the author's and not necessarily those of The Maritime Executive.

Source: *https://maritime-executive.com/editorials/alternative-fuels-what-makes-sense-today*

1.12 Europe

Eurogas and NGVA combine resources to advance EU transport decarbonisation

5th January 2024.

Trade associations Eurogas and the Natural and bio Gas Vehicle Association (NGVA Europe) have agreed to combine their resources for more efficient representation of gaseous fuel use in the European transport sector, effective from 1 January this year.

The move comes in light of the recent Green Deal legislative package, which the organisations said has confirmed the increasing importance of gaseous fuels for decarbonising transport, particularly in the areas of road and maritime transport.

In this context NGVA Europe has merged with Eurogas to improve understanding of the possibilities for biomethane, hydrogen and natural gas to deliver decarbonisation of transport as society moves away from oil.

Moving forward, Eurogas will continue to provide knowledge on the decarbonisation of the gas sector, the optimal usage of gases in the energy mix and the role of gas in transport, as well as coordinate with all actors in the g-mobility value chain to maximise the efficiency of emissions reductions.

Didier Holleaux, Eurogas president, stated: "Eurogas and NGVA have a long history of cooperation and collaboration. We have cosigned numerous position papers and cooperated to gather information and resources. This merger thus constitutes the culmination of increasing synergy which could only be improved by the two organisations merging to continue both Eurogas' and NGVA Europe's engagement with a stronger voice."

Timm Kehler, president of NGVA, added: "At a moment when critical policy is being made that will affect the sector for years to come, a strong voice for gas in transport is extremely important. Eurogas and NGVA Europe both support a multi-technology approach to decarbonisation of transport and encourage the scaleup of renewable gases so that they can effectively play their role in delivering this objective."

Source: *https://www.bioenergy-news.com/news/eurogas-and-ngva-combine-resources-to-advance-eu-transport-decarbonisation/*

1.13 Dubai. UAE.

COP28: key takeaways

15th December 2023. Article by Philipp Sauter, Max Planck Institute for Comparative Public Law and International Law, Heidelberg

This year's World Climate Summit in Dubai ends with a strong commitment to science

The joint final declaration references the latest IPCC report, specifically the 6th Assessment Report released this year. This is important, as it signifies that the global stocktake and the alignment of Nationally Determined Contributions (NDCs) by 2025 are grounded in the most current and robust scientific data available.

Philipp Sauter (2nd from left) was a member of the Max Planck delegation at the World Climate Summit in Dubai. © private

The emphasis on the IPCC report is reflected in the explicit reference to emission reduction targets: 43 percent by 2030 and 60 percent by 2035. The transformative shift away from fossil fuels, a landmark achievement of COP28, is expressly grounded in scientific evidence. All countries worldwide have now reached a consensus on this matter, including major oil-producing nations such as Saudi Arabia, Qatar, and Iraq.

In the final days of the negotiations, a notable momentum emerged. The decisive factor was the abandonment of the "phase-out" formulation, which was vehemently rejected by the oil-

producing countries during the negotiations. However, the substantial pressure applied by over 100 states, including the threat of allowing the COP to fail, revisiting the traumatic experience at COP15 in Copenhagen in 2009, prompted a shift in focus towards a "transition" as a face-saving solution.

It is worth noting that this transition represents just one component in an extensive set of measures, providing states with significant flexibility, especially in tailoring the specifics of the transition. At the same time, the language pertaining to subsidies has been moderated, and there is now recognition of a potential role for transitional fuels, such as e-fuels.

The two objectives of tripling the capacity of renewable energies by 2030 and doubling the pace of energy efficiency within the same timeframe are included in the broader framework of transforming energy systems. What these targets have in common is that states retain the autonomy to determine the specific approach, allowing each country to pursue its unique path.

The goal is predetermined, but the pathway to achieving it is flexible. However, there is no explicit differentiation between countries of the Global North and South, a point that drew criticism from the Global South, particularly Bolivia, during the final plenary session. While the entire document is not legally binding on an international scale (like the resolutions of the UN General Assembly), it employs language with a relatively high level of diplomatic binding force, using terms like "calls upon."

While the global stocktake and the energy transition, in particular, continue to dominate headlines, it is regrettable that there has been little tangible progress on Article 6 of the Paris Agreement. The disagreements regarding the functioning of emissions trading remain deeply entrenched. This unresolved issue will once again take centre stage at COP29 in Baku, Azerbaijan.

It will also be crucial for the global community to establish a new quantified target for climate financing. Additionally, countries are expected to submit their initial transparency reports, which will become a biennial requirement moving forward. COP29 assumes added significance as it marks the final meeting before countries submit their updated Nationally Determined Contributions (NDCs), which must reflect a heightened level of ambition compared to the existing NDCs.

Source: *https://www.mpg.de/21275331/key-outcomes-of-cop28?utm_source=Malaysian+Industry-Government+Group+for+High+Technology&utm_campaign=82b84c2065-EMAIL_CAMPAIGN_2023_12_28_09_22&utm_medium=email&utm_term=0_-82b84c2065-%5BLIST_EMAIL_ID%5D*

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