The United Kingdom of Great Britain and Northern Ireland's submission to the United Nations Framework Convention on Climate Change on the Mitigation Work Programme, ahead of the second Global Dialogue

provided in line with the mandate given in November 2022¹



¹ Paragraph 14, Decision FCCC/PA/CMA/2022/L.17.

Introduction

The UK is pleased to present this submission that sets out priorities for the second Global Dialogue as well as outcomes for the CMA5 decision on the Mitigation Work Programme (MWP). It is vital for the MWP activities to **remain solutions-focused and lead to clear, collective next steps** on how to accelerate the ambition and implementation of current Nationally Determined Contributions (NDCs), long-term low emission development strategies (LT-LEDs), the domestic policies and measures underpinning this and inspire raised mitigation ambition to keep the global temperature rise below 1.5°C.

Content for the second global dialogue discussion

All discussions of the work programme should focus on what is collectively required to align with a 1.5°C pathway by reducing greenhouse gas emissions by 43% by 2030 compared to 2019 levels, achieving global peaking by 2025 at the latest² and implementing the objective of the MWP³.

The UK welcomes the second global dialogue's focus on accelerating the just energy transition across transport systems: with responsibility for approximately one quarter of the world's energy-related CO₂ emissions, there can be no delivery of a 1.5°C-aligned pathway without the rapid decarbonisation of the sector. The International Transport Forum's findings – that projections based on current policy commitments globally show transport emissions will reduce by only 3% by 2050⁴ - serve as a stark reminder of the need to increase ambition and scale up mitigation solutions and should serve as the basis for this dialogue.

This transition also presents a significant opportunity to inform our linked collective efforts to accelerate the transition away from unabated fossil fuels and deliver net zero energy systems by 2050. It is important to recognise that oil accounts for over 90% of road transport's overall energy consumption in 2022⁵ – and transport accounts for nearly 40% of the emissions from end-use sectors⁶. There is great mitigation potential as GHG emissions from the transport sector accounted for 23% of global energy-related CO₂ emissions and 70% of direct transport emissions came from road vehicles, while 1%, 11%, and 12% came from rail, shipping, and aviation, respectively⁷.

The UK welcomes the proposed sub-topics and would **encourage a cross-cutting focus on the need for Parties to develop and implement ambitious sectoral strategies and targets for domestic transport decarbonisation that align with NDCs, LT-LEDs and a 1.5C pathway**. We note the importance of keeping sectoral strategies and commitments under review, and drawing from best practice and solutions under existing sectoral collaborative initiatives, international organisations and resources available to Parties and non-Party stakeholders to inform this.

² Intergovernmental Panel on Climate Change (IPCC) report, Working group III Summary for Policy Makers (WG3 SPM), C.1, 2022.

³ Paragraph 1, Decision 4/CMA.4.

⁴ International Transport Forum, Transport Outlook 2023, p30, May 2023

⁵ International Energy Agency, World Energy Outlook 2022, pg. 148.

⁶ International Energy Agency, World Energy Outlook 2022, pg, 146

⁷ IPCC WG3 report, page 1052.

With transport currently the largest emitting sector in nearly half of all countries⁵, **the sector's decarbonisation must form a core pillar of Parties' mitigation commitments**. The outputs of the second Global Dialogue (GD2) and Investment-focussed event (IFE2) should **support and inform Parties on the impact and inclusion of transport emission mitigation measures in future NDC and LT-LEDs towards closing the emissions gap**. The UK notes the work of the UN Environment Programme and other non-Party stakeholders and collaborators in building capacity to this end.

Scaling up the electrification of vehicles (infrastructure, batteries and minerals)

As of 2019, the largest source of transport emissions is the movement of passengers and freight in road vehicles (6.1 GtCO₂-eq, 69% of the sector's total)⁸. Road transport represents 10% of global greenhouse gas (GHG) emissions, the second largest sub-sector source of GHG emissions globally after coal power, and its emissions continue to rise faster than any other sector⁹. **Decarbonising on-road passenger and freight vehicles therefore offers significant mitigation potential where the global transition to zero emission vehicles is already avoiding nearly 1.7 million barrels of oil per day¹⁰.**

To keep 1.5°C alive, the pace of decarbonisation and the global transition to zero emission vehicles (subsequently referred to as ZEVs – vehicles with zero emissions from tailpipe) needs to be drastically accelerated¹¹. To meet the temperature goal of the Paris Agreement, all new cars and vans sold must be zero emission globally by 2040 or by 2035 in leading markets and more countries and stakeholders need to set aligned targets, as guided by the ZEV Declaration¹², to get the sector on a net zero pathway. The Breakthrough Agenda report shows collective targets also accelerate cost reduction of ZEVs for consumers. Targets should be supported by clear implementation plans and policies from governments. In addition to cars and vans, enabling 100% zero-emission new truck and bus sales by 2040 globally will also be key. **Getting on track will require further electrification as part of holistic and sector-wide policies to reach net zero in the Transport sector¹³.**

In addition, without scaling up action globally, a two-tiered transition could also become entrenched where leading markets move more quickly to ZEVs: based on current trajectories, over half of global Internal Combustion Engine (ICE) vehicle sales will be in Emerging Markets and Developing Economies (EMDEs) in 2040, with the share of electric vehicles (EVs) on the road being 45% lower compared to leading markets. This will be insufficient to keep 1.5°C alive. The Zero Emission Vehicle Transition Council, co-chaired by the US and UK, is coordinating international

⁸ Intergovernmental Panel on Climate Change (IPCC) report, Working Group III contribution to AR6, April 2022, p.1056.

⁹ International Energy Agency, Clean Energy Progress 2023.

¹⁰ International Transport Forum, G20 High-Level Principles for Transport Decarbonisation, September 2023.

¹¹ The UK defines zero emission vehicles as vehicles that emit no greenhouse gases from the tailpipe. Specifically, the vehicle must have 0 g/km CO₂ according to the Worldwide Harmonized Light Vehicles Test Procedure (WLTP).

¹² <u>https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans</u>

¹³ International Energy Agency, World Energy Outlook 2022, p.148.

partners to strengthen international assistance, including through a Rapid Response Facility, partnership with India and a global roadmap to support Emerging Markets and Developing Economies to be launched at COP28¹⁴.

Strengthened international collaboration, cooperation and coordination is vital to scale ambition and accelerate the transition. **The Breakthrough Agenda** provides a coordination framework for scaling and joining up action across high emitting sectors like road transport, guided by recommendations from the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and High-Level Champions.

The Road Transport Breakthrough – which is co-led by India, the UK and the US governments – aims to make **ZEVs the new normal by making them accessible, affordable, and sustainable in all regions by 2030.** This includes a focus on demand signals, finance and investment, battery supply chains, charging infrastructure and trade in second hand vehicles.

<u>Collective actions for Parties and non-Party stakeholders to consider as part of efforts to accelerate</u> <u>sectoral decarbonisation:</u>

- Further strengthen international collaboration and cooperation across the five priority action areas of the Road Transport Breakthrough to join up actions across the sector.
- Commit to Paris-aligned phase out dates for the sale of new ICE vehicles 2040 globally (cars, vans as well as medium- and heavy-duty vehicles) and 2035 in leading markets (cars and vans). Supporting the ZEV Declaration is another key step that governments can take if this aligns with their domestic planning¹⁵. In addition to national governments, this request is also applicable to sub-nationals, businesses, investors and fleet operators, amongst others.
- On finance and investment, for countries, initiatives and the private sector to work with the Zero Emission Vehicle Transition Council (ZEVTC), the International Assistance Taskforce (IAT) and wider partners to further strengthen support for EMDE countries this decade – action that can lead to more countries benefitting from green economic growth, reduced GHG emissions, cleaner air and reduced oil dependency, amongst others.
- On infrastructure, we encourage international collaboration to enable infrastructure improvements so electricity grids can cope with the scale up, noting that this is a challenge for many countries.
- Ensure the grids that power ZEVs are decarbonised: Commit to significantly scaling up clean energy while phasing out unabated fossil power generation (with a particular focus on phasing out unabated coal power) as part of a wider effort to phase out unabated fossil fuels to achieve net zero in energy systems. Parties and non-Party stakeholders should aim to achieve this by 2050.

¹⁴ <u>https://zevtc.org/global-commitment/</u>

¹⁵<u>https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans</u>

• Ensure grids are strengthened to improve resilience and facilitate the uptake of electric vehicles. This would involve collaboration between Transport and Energy ministries and support from industry stakeholders.

Further inputs to draw on for the Global Dialogue:

- Cross cutting inputs from:
 - The Road Transport Breakthrough: Demand, Finance and investment (scaling support for EMDE countries), ZEV battery supply chain sustainability, Infrastructure, Trade conditions (with the latter also covering used vehicles).
 - The OECD International Transport Forum and its Decarbonising Transport Initiative.
 - The Zero Emission Vehicle Transition Council.
- On demand creation: Accelerating to Zero Coalition, which leads on the ZEV Declaration; Global Commercial Drive to Zero Programme which leads on the Global MoU on Zero Emission –Medium and Heavy Duty Vehicles; Mission Innovation and Clean Energy Ministerial Electric Vehicle Initiative (CEM EVI); EV100 and First Movers Coalition.
- On supply chains: the Global Battery Alliance, alongside the experiences of the World Economic Forum Circular Cars Initiative, SYSTEMIQ and United Nations Environment Programme, amongst others (including academia).
- On infrastructure: International Council on Clean Transportation (ICCT), alongside CALSTART, EV100 (HDVs), Green Grids Initiative, World Business Council for Sustainable Development (WBCSD) and CEM EVI, amongst others.
- The IEA notes that Thailand and Indonesia are also strengthening their policy support schemes, potentially providing valuable experience for other emerging market economies seeking to foster EV adoption. It would be helpful to have them present their experiences¹⁶.

Further inputs to draw on for the investment-focussed events:

- On finance and investment: the Zero Emission Vehicle Transition Council International Assistance Taskforce, who also recently carried out work to identify what the mismatches are between international assistance available in the road transport sector and the needs of Emerging Markets Developing Economies (EMDE) countries. This prior research, alongside the 2021-22 ZEV Regional Dialogues that convened nearly 50 EMDE countries, is informing the Global ZEV Transition Roadmap that is currently under development¹⁷. The Taskforce's current membership includes several country governments as well as the United Nations Environment Programme (UNEP), the World Bank, the World Business Council for Sustainable Development (WBCSD), FIA Foundation, the ClimateWorks Foundation, the IEA, IRENA, UN High-Level Climate Champions and UC Davis, amongst others. The Roadmap will be launched at COP28, the first of an annual political document that will outline the actions we will take as well as provide updates on progress made.
- The Mitigation Action Facility, established in 2012 by Germany and the UK, is a mid-sized, grants-based multilateral fund that supports developing countries to achieve transformational change in transport, industry and energy sectors. The UK recently

¹⁶ IEA, 2023, <u>Global EV Outlook 2023: Catching up with climate ambitions (windows.net), page 8.</u>

¹⁷ <u>https://zevtc.org/global-commitment/</u>

announced a further £100m commitment to the MAF, and welcome further donors contributing to this initiative to support the systematic transformations required to reach net zero. Projects can apply for up to £20m through annual calls for proposals.

Shifting to low- or zero-carbon fuels

Low carbon fuels – largely biofuels – are already delivering significant emission reductions in transport and will remain essential in our efforts to reduce GHG emissions in the sector. Currently, low carbon fuels are mainly used to reduce emissions from road vehicles by blending biofuels into petrol and diesel. In the road sector, biofuels offer an available and flexible resource to achieve immediate carbon savings.

However, given the availability of sustainable feedstocks with the potential to offer substantial lifecycle emissions savings is limited, **prioritisation across modes of transport is needed**. This will become particularly pertinent as the road vehicle fleet transitions to zero emission alternatives and deployment must be refocused on modes for which at-scale electrification is less immediate a solution, such as for aviation and shipping, with limited alternative options for liquid and gaseous fuels. Low carbon fuels also typically do not reduce tailpipe emissions of CO or NOx and thus do not offer the same benefits for improved air quality and health outcomes as ZEVs.

Strong, evidence-based sustainability criteria for low and zero carbon fuels are essential to ensuring they deliver life-cycle emission savings relative to fossil fuel equivalents. Where low carbon fuels lead, directly or indirectly, to land-use change – such as deforestation – their life-cycle emissions can be higher than fossil fuels, making this an important action to consider alongside collective efforts to transition away from unabated fossil fuels. Programmes to incentivise the uptake of low carbon fuels in transport, such as in the UK's **Renewable Transport Fuel Obligation**, should promote low carbon fuels with the highest life-cycle emission savings, with strict sustainability criteria and where feasible derived from waste – which generally present higher lifecycle savings and reduce the risk of indirect land-use changes.

International aviation and maritime emissions¹⁸ each represent approximately 2%¹⁹ and 3%²⁰ of total global energy-related CO₂ emissions respectively. Their contribution to an accelerated just energy transition across transport will be heavily reliant on scaling up the development and deployment of zero and low carbon fuels.

Recent ambitious outcomes at the International Maritime Organization (IMO) include a target for net zero GHG emissions from international shipping by or around, i.e. close to 2050, and indicative checkpoints for GHG emission reductions for 2030 (20-30%) and 2040 (70-80%). Parties and non-Party stakeholders can take action to incentivise domestic production and deployment of low- and

¹⁸ International aviation and shipping emissions are not regulated by the UNFCCC framework and are under the remit of the International Civil Aviation Organization (ICAO) and International Maritime Organization (IMO) respectively, where valuable work has been undertaken regarding this sub-topic for international aviation and shipping.

 ¹⁹ ICAO Committee on Aviation Environmental Protection, Report on the feasibility of a long-term aspirational goal for international civil aviation CO2 emission reductions, March 2022, p4.
²⁰ Fourth IMO GHG Study, Executive Summary, 2020, p24.

zero-carbon fuels in Parties' respective aviation and shipping sectors, in addition to opportunities for international collective action.

<u>Collective recommendations for Parties and non-Party stakeholders to consider as part of efforts to</u> <u>accelerate sectoral decarbonisation:</u>

- Parties should ensure that the sustainability of low- and zero-carbon fuels is prioritised, and critical if they are to play a role in accelerating the just energy transition in transport systems.
- Holistic consideration of both (A) land-use change impacts from their production and (B) what may be the best use of a range of resources involved in their production to ensure the fuels deliver against decarbonisation and wider environmental objectives is essential.
- Parties should ensure programmes or initiatives aimed at incentivising the uptake of these fuels promote those with the highest life-cycle emission savings and account for other impacts on environmental, social and economic sustainability across the Sustainable Development Goals.
- Parties could, accounting for their own national circumstances, take a holistic and crossmodal approach to assessing demand across their transport sector and implement levers to direct supply accordingly, ensuring the most impactful use of constrained sustainable resources.

Further inputs to draw on for the Second Global Dialogue:

- The Biofuture Platform, an initiative of the Clean Energy Ministerial²¹ launched at the 11th Clean Energy Ministerial. The initiative through its Workstream on Biomass Quantification and Sustainability Governance is working to ensure appropriate roles for sustainable biomass in achieving net zero and climate-smart development goals; reduce sustainability risks for biomass production and use; and increase recognition that biomass is the foundation for more sustainable, inclusive and circular economies.
- The International Maritime Organization's (IMO) guidelines on lifecycle GHG intensity of marine fuels, allowing for calculation of total GHG emissions across the full lifecycle of marine fuels from production to use²².
- The Clean Skies for Tomorrow: Sustainable Aviation Fuel Policy Toolkit developed by the World Economic Forum and Energy Transitions Commission in close cooperation with the Clean Skies for Tomorrow SAF Ambassadors Group (Kenya, Netherlands, Singapore, United Arab Emirates, United Kingdom)²³.
- The work of the ICAO on establishing sustainability criteria for eligible fuels under the Carbon Offsetting and Reduction Scheme for International Aviation²⁴.

²¹ Biofuture Platform Initiative.

²² International Maritime Organization, Guidelines on life cycle GHG intensity of marine fuels (LCA Guidelines).

²³ <u>Clean Skies for Tomorrow: Sustainable Aviation Fuel Policy Toolkit, November 2021.</u>

²⁴ <u>ICAO document: CORSIA Sustainability Criteria for CORSIA Eligible Fuels, November 2022.</u>

Improving Energy efficiency to accelerate just energy transitions in the transport sector

Improved energy efficiency can play an important role in reducing in-use transport emissions and delivering on broader objectives to reduce emissions and waste across the economy. Greater resource efficiency will also play a role. **Greater resource efficiency in vehicle manufacturing and use can be achieved** by supporting the design of lighter vehicles, with the dual benefit of decreasing the demand for input materials and fuel consumption. Further changes to vehicle design to, for example, reduce aerodynamic lag and rolling resistance (including the use of low rolling resistance tyres and monitoring tyre pressure to prevent underinflation) have also been shown to improve operational efficiency and reduce in-use emissions.

To better use global resources and reduce dependency on raw mineral supply during the transition to ZEVs, further research is also required to develop new battery chemistries with reduced percentages of rare materials, alongside research to advance battery recycling and reuse to promote a more circular economy. In the UK, this is being delivered through the UK Government-backed **Faraday Battery Challenge**²⁵.

Vehicle efficiency is also a consideration under the **Global ZEV Transition Roadmap** that is currently being developed – for COP28 – by the ZEV Transition Council-sponsored International Assistance Taskforce.

<u>Collective actions for Parties and non-Party stakeholders to consider as part of efforts to accelerate</u> <u>sectoral decarbonisation:</u>

- The Breakthrough Agenda Report 2022²⁶ recommended that governments should work together, and with industry, to agree harmonised standards to ensure sustainability and social responsibility along the electric vehicle battery supply chain, including the extraction and processing of minerals and the recyclability of battery modules. The report notes that, as a priority, these standards should minimise batteries' lifecycle emissions and the adverse social and environmental impacts associated with their production, seek to extend their durability and promote reuse, repurposing and recycling of their components.
- The Breakthrough Agenda Report 2023 recommended that governments jointly address priority areas for sustainable value chains including transport, trade and recycling bottlenecks for battery materials at the end of life, circularity-based product design and processing, and technical assistance for emerging markets and developing economies on electric vehicle battery end-of-life management.

Inputs for the Global Dialogue and investment-focussed event:

 The Working Party on Pollution and Energy (GRPE) – a subsidiary body of the World Forum for Harmonization of Vehicle Regulations – has adopted several UN regulations that help measure GHG emissions and mitigate climate impact²⁷. These include UN Regulation No. 133

²⁵ Faraday Battery Challenge.

²⁶ The Breakthrough Agenda Report 2022, p82, September 2022.

²⁷ Working Party on Pollution and Energy.

which defines target for recyclability, recoverability and reusability of vehicles during their design phase, to improve material circularity and reduce natural resources extraction.

• Global ZEV Transition Roadmap (see above).

Deploying and shifting to collective and non-motorized modes of transport (rail, urban public transit, cycling, etc.)

A cohesive, integrated and affordable net zero public transport network, designed for the needs of the passenger, will provide transport users with the choice and options to make sustainable endto-end journeys and enable inclusive mobility. Alongside measures to support cycling, walking and wheeling – such as funding and capacity-building to deliver safe and high-quality infrastructure, and making roads safer for cyclists and pedestrians – this will play a central role in facilitating zero- and low-emission travel in future net zero transport systems.

<u>Collective actions for Parties and non-Party stakeholders to consider as part of efforts to accelerate</u> <u>sectoral decarbonisation:</u>

- Parties that have successfully implemented measures to increase access to collective modes of transport should share best practice to support other Parties in successfully expanding sustainable transport choices for users.
- On non-motorized modes of transport, Parties and the relevant sub-national authorities should work to develop and deliver high-quality walking and cycling infrastructure schemes to provide users with sustainable transport choices and capture the wider range of benefits for health.

Inputs for the Global Dialogue and investment-focussed event:

- IEA, IRENA and High-Level Champions Breakthrough Agenda report.
- The Global Facility to Decarbonise Transport (GFDT) a World Bank trust fund that is supported by the UK and other donors is providing technical assistance across a range of transport segments and transport-related challenges.
- The Transport, Health and Environment Pan-European Partnership (THE PEP) on Active Mobility under the United Nations Economic Commission for Europe.

The second investment-focussed event

This provides an opportunity to **expand discussions on the intersections between the transport and energy sector** and **draw on the experiences of sectoral initiatives in investment that accelerate the clean energy transition** (see our previous submission where we recommended presentations and inputs from relevant initiatives). Alongside this, there are also benefits in having:

Discussions on how to build out investment-ready projects that deliver on current NDC targets and provide further confidence to raise mitigation ambition. This can focus on energy and transport targets and policies, and support efforts to improve enabling conditions. Here we would encourage Parties to share the challenges they are experiencing

in their current NDCs to help inform how to improve them so that NDCs and any LT-LED updates can be investment-ready. Best practice is also captured on the NDC Partnership Global Practice Database.

• Discussions that consider what are the **challenges and opportunities for scaling up private investment** to shift the sector away from non-electric vehicles and improve energy efficiency.

Examples from the UK:

- The commercially smart deployment of regulation is a critical lever for providing the private sector with clarity on future demand and pathways to support developing their business plans. We are driving investment through regulation across the transport sector including committing to all new cars and vans sold being fully zero emission by 2035, and establishing a SAF mandate to boost their production and deployment.
- Alongside regulation, government support is essential to facilitate decarbonisation, particularly where technology is nascent. We are investing heavily in R&D, including our zero emission road freight demonstrators to deploy hundreds of zero emission trucks and required infrastructure into service into UK logistics fleets and establish an evidence base for industry's future investment decisions.
- Funding interventions must be designed with commercialisation at their core. The UK Government's £400m+ Local Electric Vehicle Infrastructure Fund (LEVI) was developed with input from financial institutions to ensure government money targets market failures and incentivises increased private sector investment.
- Guided by the first Breakthrough Agenda report, which recommended the international community urgently strengthen the support on offer to EMDEs and mobilise large-scale investments into the deployment of ZEV technologies this decade members of the ZEV Transition Council (including the UK) and wider international partners launched an initial package of work at COP27. This consisted of a political Global Commitment to strengthening support in the road transport sector, the ZEV Rapid Response Facility, the ZEV Emerging Markets Initiative and a new ZEV Country Partnership model (with the first Partnership launched with India). The upcoming Global ZEV roadmap outlines the collective actions to strengthen support for EMDE countries this decade, building on work from COP27. Across this, mobilising more support and increasing the quality of support, are urgent priorities.

CMA5 decision

The SBI and SBSTA have been asked to recommend an annual decision on the MWP for consideration and adoption by the CMA, starting at its 5th session²⁸. To support the scaling up of action and ambition, and ensure the MWP can deliver to its highest potential, this decision should include:

- <u>A reference to events and activities under the MWP this year:</u>
 - Welcome the work done so far and participation of Parties and non-Party stakeholders.
 - Acknowledgement of the co-chairs' presentation of key MWP findings and actionable solutions to the annual ministerial round table on pre-2030 ambition (MRT), and any views expressed by Parties and non-Party stakeholders.
- <u>Guidance to the MWP co-chairs on how to improve this work programme and improve on</u> <u>decision 4/CMA.4, as highlighted by Parties at SB58.</u> This includes:
 - Ensuring sufficient participation from experts and non-Party stakeholders at dialogues
 - o Sufficient preparation time ahead of each dialogue
 - Timely publication of agendas and reports
 - \circ $\;$ Providing further direction for regional dialogues.
- Best practices, opportunities and actionable solutions that can be urgently scaled up:
 - Acknowledgement that current NDCs are not yet in line with global modelled mitigation pathways for limiting warming to 1.5°C or well-below 2°C and action is needed to increase both the mitigation ambition of 2030 NDCs and the implementation of measures to achieve their targets if we are to keep 1.5°C in reach. This would include ensuring NDCs are 1.5°C aligned, covering all greenhouse gases (GHG) and have absolute, economy-wide targets.
 - A global commitment to address the need to peak global GHG emissions immediately and by 2025 at the latest as required to limit global warming to 1.5°C as part of current NDCs.
 - A commitment to accelerate the global transition away from unabated fossil fuels, support further actions that accelerate the phase out of inefficient fossil fuel subsidies by 2025 (such as encouraging Parties to report on their efforts to do so), accelerate the phase out of unabated coal power generation in line with the IPCC's 1.5°C pathways, end new unabated coal power generation projects immediately and enhance energy efficiency measures for this decade.
 - A commitment to enhance international cooperation to collectively increase the world's installed renewable energy generation capacity by three times 2022 levels by 2030 to 11,000 GW.
 - Recollection of the COP26 and COP27 invitation for Parties to consider further actions to reduce by 2030 non-carbon dioxide GHG emissions, including methane,

²⁸ Paragraph 16, Decision 4/CMA.4.

given that this is one of the fastest and most cost-effective tools available to limit global temperature rise to 1.5°C.

- An urge to Parties to step up efforts to collectively reduce global anthropogenic methane emissions by at least 30 percent below 2020 levels by 2030, including all GHGs in their NDCs.
- Agreeing further collective actions to be implemented by 2030 that align with reaching global net zero power emissions by 2040, to accelerate the transition to net zero energy systems.
- The findings of the IPCC WG3 report and other international organisations referenced above in this submission underline that action is needed to enable systematic transformations on transport, alongside other sectors. Therefore, a commitment that supports the global transition to net zero transport systems, noting the important role of the energy sector, will be aligned with our efforts to implement the Paris Agreement and keep 1.5°C alive. This could include a global commitment to scale up the number of new light, medium and heavy-duty ZEV sales, supporting efforts to achieve 100% sales of all new road vehicles being zero emission by 2040, and by 2035 for cars and vans in leading markets.
- Recognise the importance of improving national and cross-border transmission and storage networks and call on Parties to set up measures to accelerate the deployment of electricity network infrastructure.
- Global commitment to further international cooperation between Parties and NPS (including international organisations and the private sector) that promotes best practice and access to climate finance, including by enhancing global investment in clean energy technology deployment by 2030, such as grid investment to support the implementation and scaling up of renewables by 2030.
- Encourage further commitments emerging from the upcoming GD2 and IFE2 discussions to support sectoral decarbonisation across the energy and transport sectors, including challenges and opportunities is to strengthen international cooperation for emerging markets and developing economies in the road transport sector.
- Acknowledgement of the solutions that have been identified through the discussions and encouragement to Parties and non-Party stakeholders, including investors, to disseminate the solutions identified to inform NDC and LT-LED development and implementation.
- Links between the MWP, sectoral progress and other UNFCCC work:
 - This can inform how the MWP will implement the relevant outcomes of the GST and use GST outputs, including to inform NDCs.
 - This is also an opportunity to define how the MWP will inform the second GST and the annual pre-2030 ministerial outcomes to help set the direction for the next year of work under the MWP. Alongside this, the MWP can provide helpful information to the upcoming Just Transition work programme on national experiences.
- <u>Next steps:</u>
 - Get agreement for the Subsidiary Bodies to consider progress, including key findings, opportunities and barriers in implementing the work programme, to support the mandate for paragraph 16, 4/CMA.4 at each Subsidiary Body session between COPs.

- To ensure the MWP draws on the latest efforts to implement mitigation commitments, the UNFCCC Secretariat can produce an annual report on progress made to implement the systemic transformation outcomes in a timely manner. This can be discussed in future annual global dialogues under the MWP and the annual ministerial round table on pre-2030 ambition, starting from 2024.
- This report can be presented by the COP28 Presidency, UNFCCC Secretariat and relevant international organisations to inform discussions at the MRT and further UAE-IEA high-level dialogues on energy transition.
- The COP28 Presidency, the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and the UNFCCC could take forward further highlevel dialogues to build consensus between public and private sector energy decision-makers, along with scientists, the academic community and investors, around a 1.5°C-aligned energy transition and the enabling conditions needed to achieve them, and report back on these dialogues.