MWP Submission by the Arab Group September 2023

The Kingdom of Saudi Arabia, on behalf of the Arab Group, is pleased to submit views on opportunities, best practices, actionable solutions, challenges, and barriers to Accelerating the Just Energy Transition in Transport Systems, ahead of the second global dialogue to be held in Abu Dhabi.

According to the decision 4/CMA.4 (Matters relating to the work programme for urgently scaling up mitigation ambition and implementation referred to in paragraph 27 of decision 1/CMA.3), at least two global dialogues shall be held each year as part of the mitigation work programme (MWP), with one to be held prior to the first regular sessions of the subsidiary bodies of the year, starting at their fifty-eighth sessions, and one prior to the second regular sessions of the subsidiary bodies of the year, starting at their fifty-ninth sessions (November–December 2023), and that such dialogues should be conducted in hybrid format to allow both in-person and virtual participation

We welcome progress on the first global dialogue and thank the Co-Chairs, Amr Osama Abdel-Aziz and Lola Vallejo, for their tremendous efforts and for steering us to a successful First Global Dialogue. We look forward to similar progress on the Second Global Dialogue.

Context

The co-chairs have announced that the second global dialogue will address the theme of **accelerating just energy transition in transport systems,** with the following indicative list of subtopics for discussion:

- a) Deploying and shifting to collective and non-motorized modes of transport (rail, urban public transit, cycling, etc.);
- b) Energy and resource efficiency in the transport sector (design improvements, circular economy, and material changes, vehicle vintage, carpooling, etc.);
- c) Electrification of vehicles (infrastructure, batteries, and minerals);
- d) Shifting to low- or zero-carbon fuels (hydrogen, biofuels, biogas, compressed natural gas).

As with all dialogues, the **just** component of energy transitions must be at the heart of all discussions. With the impacts of energy transitions being felt differently across regions, it is paramount that **different national circumstances, equity considerations, and Common but Differentiated Responsibilities (CBDR),** all of which underscore what it means to have a just and inclusive transition, are emphasized and highlighted in order to avoid introducing new hardships and deepen inequalities.

With the above pillars acting as our guiding principles, the global dialogues must **ensure inclusivity of topics, solutions, and technologies** that are fit for purpose for different national and regional circumstances, needs, and priorities.

Principles

The MWP and all its dialogues and events should be operationalized as stated in the decision:

"Decides that the work programme shall be operationalized through focused exchanges of views, information and ideas, noting that the outcomes of the work programme will be non-prescriptive, non-punitive, facilitative, respectful of national sovereignty and national circumstances, take into account the nationally determined nature of nationally determined contributions and will not impose new targets or goals". Accordingly, the dialogues must be conducted in line with the mandated, as a focused exchange of views, information, and ideas, providing a platform to share best practices and experiences on voluntary settings, while avoiding:

- 1) Any policy prescription or calling for any actions following top-down approaches.
- 2) Outcome of scenarios and projections or targets set for specific dates for actions, as these are beyond the mandate of this program. Other processes such as GST can motivate a discussion, however, no UNFCCC process should impose a target against national sovereignty of countries including this program.
- 3) Infringing on nationally determined nature of the NDCs. The dialogues should rather incentivize party's ambitions through the investment-focused events, in particular to support developing countries implementation of their NDCs.

Accelerating Just Energy Transition in Transport Systems

Energy transitions in transport systems are not linear nor homogenous. However, the main purpose of the transitions is to achieve lower GHG emissions. There are various solutions based on national circumstances, available infrastructure, capabilities/capacities, and technology. The transitions should utilize all sources, technologies, and approaches (or mix of approaches) to achieve sustainable and affordable transportation, all the while addressing emissions.

With little research conducted on mitigation and adaptation strategies in the transport sector, we must address this topic with a comprehensive assessment of all determinants of a transition including cost-effectiveness, accessibility to technologies, future population, continuing growth in global transport demand, established/existing infrastructure and its associated urban fabric (built environment which creates path dependencies), economic, social and political feasibility, economic growth, cultural patterns, unintended outcomes, as well as regional differences and local contexts.

Moreover, decisions and actions must consider the social, economic, and environmental benefits and negative impacts. Transport planning, policy, and investment decisions should be based on the three sustainable development dimensions—social development, economic growth, and environmental impacts—and a full life cycle analysis.

Additionally, transitions in transport systems need to contribute to the achievement of the broader 2030 Agenda and Sustainable Development Goals that are connected directly and indirectly with transport, while minimizing tradeoffs.

All these factors, among others must be considered as we explore the subtopics below.

(a) Deploying and Shifting to Collective and Non-motorized Modes of Transport Discussion Elements:

Since transport is a derived demand, any discussion on shifting to collective transport and nonmotorized transport should also include designing cities to enable this shift. The IPCC states that "the causes for high modal share of NMT differ markedly between regions depending on their cultures and characteristics. For example, they tend to reflect low-carbon urban policies in OECD countries such as the Netherlands, while reflecting a lack of motorization in developing countries." This shows that the transportation conditions of both situations are different in many fundamental ways. Public transport requires commitment to form the cities for long term investment in infrastructure but also needs to ensure high density of both residential and commercial land-use around transit stations and disincentives car-use to encourage the commuters to make the shift.

Challenges and Gaps:

A challenge facing developing countries is the lack of public transport facilities, both in quality and quantity, to fulfill the demand. So, it is not possible to restrain the use of private vehicles when there is no effective alternative. Financing the infrastructure is also a constraint.

Cycling and other forms of micro mobility need, not only safe and well-designed infrastructure, pedestrian pathways, and mixed land-use to make destinations closer, but also better microclimate to encourage the shift, which often lacks in developing countries.

The impact of weather conditions on the mode choice is an important factor to consider. The Arab region for example, is exposed to extreme temperatures/heat which negatively affects public transportation and micro mobility such as cycling and walking.

Guiding Questions:

- 1. How can developing countries accommodate micro mobility and public transit in cities with extreme temperatures, inadequate public transport systems, lack of cycling and pedestrian infrastructure, issues of safety and security, and/or disintegrated transport systems?
- 2. How can we develop context specific solutions and encourage unique approaches for each country, fitting to their own culture, society, climate, and travel behavior, as well as resources?

(b) Energy and Resource Efficiency in the Transport Sector Discussion Elements:

Efficient vehicle design in all transport fleets as well as efficiency of the engines has been a focus of vehicle manufacturers in most transport sectors, with the exception of freight vehicles. Emphasis on Life Cycle Analysis (LCA) tools to quantify energy and emissions will encourage use of more efficient materials in the industry. Energy efficiency is not only helpful to achieve fuel savings but also emissions reductions.

Challenges and Gaps:

Lowering energy intensity by enhancing vehicle and engine performance, using lightweight materials, deploying new technologies, optimizing operations and logistics, expanding carrying capacity, and usage patterns have substantial potential for improving internal combustion engines (ICEs) and for mitigation.

Guiding Questions:

- 1. What are examples of national policy instruments that promote efficiency improvement? In which context these were succeeded/failed to achieve improvements?
- 2. How important is it for policy instruments to be tailored to fit the national context?

(c) Electrification of Vehicles

Discussion Elements:

Countries in the Arab region are exerting efforts to increase the share of EVs in the market. However, it is important to understand that electrification is part of the solution, not the entire answer. EVs also remains unpopular in developing countries due to significant challenges and gaps.

Hybridization provides flexibility and an opportunity to lower emissions while addressing a lot of the concerns with affordability, charging infrastructure, and others.

On another note, since the goal of electrification is to not only reduce tail-pipe emissions but to contribute to the larger climate goals it is important to look at the electrification of transport from a lifecycle perspective and customized to the electric grid and infrastructure capabilities of each country and city. The discussion on electric vehicles needs to move beyond manufacturing new cars and needs to look at grid capacity, charging infrastructure, lack of minerals availability (limitations with sourcing the minerals), battery recycling, and competition for electricity generation. More than that, electrification in transport needs to prioritize electric urban rail and electric buses.

Challenges and Gaps:

Despite the efforts made by these countries, their economic, security and political realities create obstacles that hinder the widespread adoption. Undue focus on electric cars without broader considerations of affordable access to mobility, insufficient charging infrastructure, excessive sprawl, and electricity supply issues is not effective. There is also a concern with what happens to old vehicles that are replaced with EVs in developed countries. They will likely end up as second-hand vehicles in a developing country which does not solve the emissions problem but only diverts it away to another part of the world.

Additionally, without proper planning, the higher use of EV would contribute to increasing emissions, especially in the electricity generation side. As charging usually occurs during peak hours of electricity consumption, it will aggravate peak load, thus causing unnecessary issues in the electricity system and lead to greater emissions.

If car charging infrastructure comes at the cost of bus stops and cycle tracks; batteries for cars come at the cost of batteries for buses or industrial applications and the limited mineral supply in the country is used to transport a few people, the larger climate and sustainability agenda is not served.

Where it makes sense, economically and socially, electrification should be sought. However, in places where it doesn't make sense, other solutions such as hybridization may be a better choice. Furthermore, widespread adoption of EVs will depend on meeting consumers' economic, social, and environmental demands.

Guiding Questions:

1. How do we overcome challenges related to high cost, scarcity of charging stations, limited range of EVs (range anxiety), performance of batteries, limitations with sourcing minerals and others?

- 2. How can we address challenges in infrastructure and supporting environment in developing countries, where there are potential negative impacts on electric grid systems?
- 3. How can we address the life-cycle emissions of EVs? Although EVs do not produce tailpipe emissions but they still create emissions in other ways, notably from the electricity required to build them (manufacturing) and charge their batteries (usage).
- 4. How can we address potential negative impacts such as shortages of essential minerals?

(d) Shifting to Low or Zero-Carbon Fuels

Discussion Elements:

Low carbon and zero carbon fuels are the natural pathway for reducing emissions in the transport sector, but the progress is very slow, and each fuel type is bringing its own set of constraints and challenges. It is critical to put all of these on the table, and again take a lifecycle assessment based approach to measure the real benefits of the alternative fuels. An important factor to consider is the intra-sectoral competition amongst the different transport sectors for the small quantum of these fuels. The shipping sector, aviation sector, and trucking industry will all compete with the passenger cars for the same fuels as different regulations governing them demand the same sets of solutions for compliance.

Gaps and Challenges:

The transition to the development and deployment of low-carbon and zero-carbon fuels will be faced with economic, technological, and environmental obstacles. The current global transport infrastructure is largely built around legacy systems that will require substantial investment to upgrade, especially for developing countries. In parts of the world that are not endowed with biofuel feedstocks biodiesel can cost 70%-130% more than fossil diesel¹. This means higher costs for industries and end-user customers. In the case of biofuels, their negative impacts could crossover to higher food prices because of diverted feedstock. Beyond higher costs, the impact on climate and nature cannot be overlooked.

A key concern for low-carbon and zero-carbon fuels is low energy density, especially in aviation and heavy-duty transport. Lower energy density means a higher amount of energy for transportation from the production site to the site of use. Additionally, an associated concern for biofuels is the environmental impact. Biofuel crops have been shown to harm biodiversity and local species richness², especially in Asia and Central and South America.

The bridge between all these challenges and a world with a low-emissions transport sector is bottom-up and locally tailored policies that consider the economic, social, and environmental impacts of these low-carbon and zero-carbon fuels.

Guiding Questions:

- 1. How can developing countries prioritize building and upgrading a low- or zero-carbon fuels transportation infrastructure given limited fiscal space and inadequate access to financing?
- 2. How can countries with limited land and biodiversity utilize biofuels without jeopardizing their food security?
- 3. How can innovation play a role in increasing the efficiency of transporting and storing lowcarbon and zero-carbon fuels?

¹ Biofuels twice as expensive as petrol and diesel in most cases. *Transport Environment*. (2022).

² The impacts of biofuel crops on local biodiversity: a global synthesis. *Biodivers Conserv.* (2021).

Context-tailored Avoid-Shift-Improve Framework

As we transition into a world increasingly constrained yet enriched by sustainability goals, the ASI framework³ can be useful in support of sustainable transport. However, before it can be effectively employed, sound national policy and governance structures and basic technical and financial capacities must be in place. Therefore, enablement is an important prerequisite to the ASI framework. Many parts of the developing world require capacity building to build the technical capacity of transport planners and implementers through partnerships with international organizations, multilateral development banks, and governments at all levels, to ensure equitable access to markets, jobs, education, and other necessities. Also there needs to be supportive institutional, legal, and regulatory government frameworks to promote effective sustainable transport.

The challenge is to employ meticulous planning that considers social equity, all while considering capacity needs and international cooperation as essential elements in ensuring a just transition that would not only address climate concerns but also enable individuals and communities to rise out of poverty and overcome social exclusion.

Organizational Arrangements

Following the structure of the First Global Dialogue, we expect the Second Global Dialogue to allow participants to discuss opportunities and actionable solutions, as well as barriers and challenges, in the transport sector through a focused exchange of views, information and ideas, noting that the outcomes of the work programme will be non-prescriptive, non-punitive, facilitative, respectful of national sovereignty and national circumstances, take into account the nationally determined nature of nationally determined contributions and will not impose new targets or goals.

Finally, we note that this is the last dialogue in 2023, which means it is also the last dialogue under the theme of Accelerating a Just Energy Transition. We look forward to exploring a different sector next year so as to "include all sectors covered in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories of the Intergovernmental Panel on Climate Change, thematic areas in the contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, and relevant enabling conditions, technologies, just transitions and cross-cutting issues".

We also look forward to receiving the Summary Report of the First Global Dialogue as soon as possible to ensure ample time for review and reflection prior to the Second Global Dialogue.

³ "Avoid" refers to reductions in the need to travel, travel distance and number of trips, especially those made by private motorized vehicles, without compromising accessibility. "Shift" implies a shift to more sustainable modes, such as rail for freight, and walking, cycling and public transport for passenger transport, as well as maintaining existing sustainable mode shares. "Improve" includes substitution of all vehicles with zero-emission alternatives when possible, the improvement made to fuel and operational efficiency for unavoidable travel and improvement of systems efficiency.