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Achieving the Aichi 2030 Declaration Goal 1A Climate Change Mitigation: Policy Action Recommendations

(Background Paper for Plenary Session 5: Review Goal 1a – Low-Carbon (Climate Change Mitigation) Decarbonized Transport Sector in Asia as part of a Net-Zero Society)

Final Draft

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Achieving the Aichi 2030 Declaration Goal 1A Climate Change Mitigation: Policy Action Recommendations

Policy Recommendations prepared for the High-Level 15th Regional EST Forum, Kuala Lumpur, Malaysia

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The paper builds on recent work:

- *The Path to Zero: A Vision for Decarbonised Transport in Asia (NDC-TIA,GIZ) https://councilreport.ndctransportinitiativeforasia.org/*
- *SLOCAT Transport, Climate and Sustainability Global Status Report https://tcc-gsr.com/*
- *E-mobility and Renewable Energy Integration: Working Paper Series (CCG) https://climatecompatiblegrowth.com/e-mobility-and-renewable-energy-integration/*

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Key Policy Recommendations - Summary

Policy Recommendation 1: Develop a vision, strategies and policies for a zero-GHG mobility system supported by an enabling governance and financing framework.

National commitments from the region for the transport sector leave room for enhanced ambition. National commitment to climate action in the transport sector will be most effective with clear targets. Clarifying the contribution of different sub-sectors, such as the hard-to-abate freight sector, will further strengthen implementation, but strategies also need to be clear on the planned policy instruments to deliver the envisaged targets. Enhanced capacity at all levels, improved information, active participation of all stakeholders, a consistent policy framework, and the funding to underpin all those activities are vital.

Policy Recommendation 2: Transforming the financing of transport will enable sustainable systems.

The transformation can only be successful if public budgets and fiscal policy are aligned with a zero-carbon and sustainable transport vision; this will also require that sustainable development benefits are included in the economic evaluation of programs and projects. Future capital investment for zero-carbon systems can be lower than for the alternative, especially if authorities base infrastructure investments on a “decide and provide” approach rather than on a “predict and provide” approach. In such a context, investments for railways and public transport systems will considerably increase while those for roads and airports decrease. Transport sector financing by multilateral and bilateral development organisations, as well as by financial institutions in the private sector needs to be fully aligned with the decarbonisation of the sector. Removing fossil fuel subsidies will make all low-carbon solutions more competitive; but it will also affect people and businesses and needs to be carefully supported by just-transition measures to mitigate negative effects. At the same time, authorities need to reform road transport tax mechanisms to ensure that societal cost of private vehicles are put on vehicle owners as part of efforts to grow cleaner vehicle fleets.

Policy Recommendation 3: Fostering Integrated Planning

A strong vision for a balanced, multimodal and sustainable transport system can provide the needed guidance for the revision of existing and design of new policies and measures. This includes, for example, fostering effective metropolitan-wide transport and land-use governance frameworks for implementing urban decarbonisation measures. A sustainable vision and balance between SHIFT and AVOID and IMPROVE strategies will be critical. Transforming transport will not be possible without tackling freight.

Policy Recommendation 4: Improving and Expanding Public Transport Systems, Walking and Cycling

Walking, cycling and public transport are generally more inclusive and efficient in terms of use of space, energy consumption and emissions than private cars; and they have the biggest social value per dollar spent. Public transport will form the backbone of any zero-carbon mobility system; its rapid expansion and improvement of services are key to success. Walking is currently undervalued as a transport mode, yet it remains the lowest carbon transport and receives little investment.

Policy Recommendation 5: Promote electric vehicles and charging infrastructure as well as ICE vehicle efficiency

Electrifying transport with renewable sources is essential to decarbonise transport. Electrification of different modes and for different uses varies in complexity and costs for

society. Segments with the highest CO2 reduction potential at the lowest cost should be put first These include electric bikes, 2- and 3-wheelers, commercial, corporate and public fleets of high-mileage vehicles, urban delivery fleets, buses for public transport, as well as rail. Efforts should be made to ensure that women benefit as much as men from the electrification of vehicles. The continuous strengthening of emission regulations and energy efficiency standards for ICE vehicles is vital. With the incremental electrification of vehicles, new and used ICE vehicles will still form most of the vehicle fleet for years to come and bear significant potential to achieve reductions in GHG emissions and local air pollutants.

Policy Recommendation 6: Promote freight systems that efficiently combine different low-carbon modes, share capacities and rely on sustainable first and last-mile delivery

For long-distance freight, modes of high and shared capacity (rail and waterways) can be prioritised to bring down energy consumption per unit. First and last-mile delivery has the biggest potential to reduce energy consumption quickly, particularly in urban environments as it does not require major infrastructure investments.

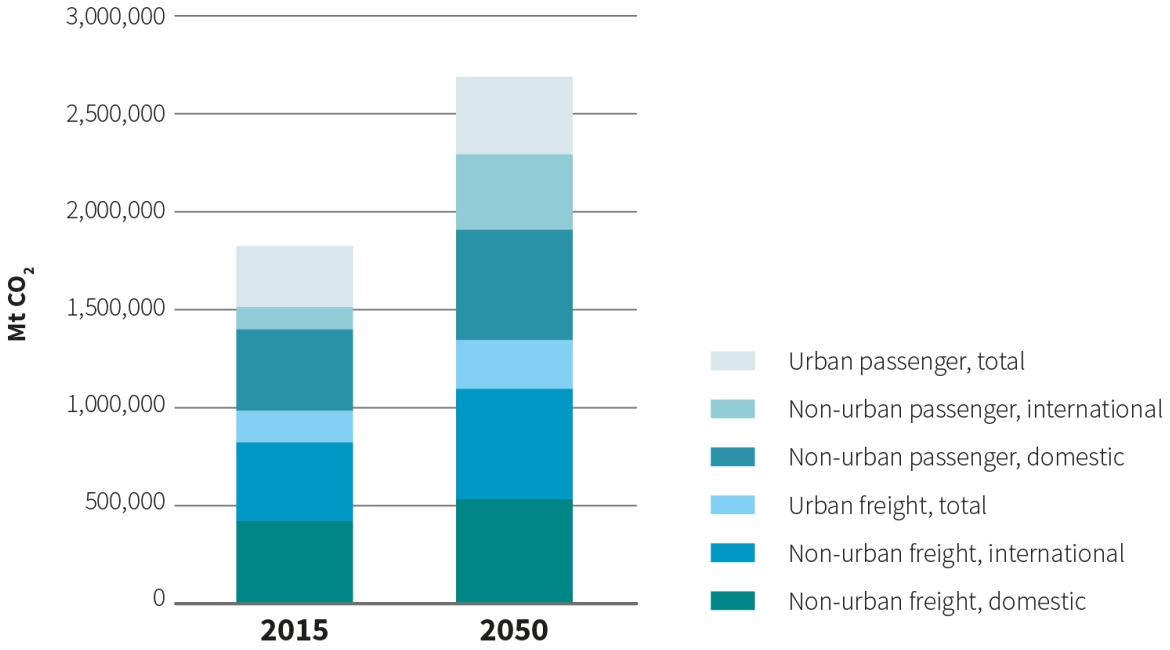
Policy Recommendation 7: Taking people along is a prerequisite to transforming transport

It is crucial to understand the motivation behind opposition to developing low-carbon transport strategies to turn opponents into advocates for change. Communication and engagement supported by evidence is key. Accelerated action and enhanced participation can go hand in hand. A range of no-regret measures can be implemented directly and concentrating participation on a few directly affected stakeholders, such as vehicle efficiency standards or EV support schemes. In parallel, enhanced participation can support the design of the joint vision and strategies and concrete policies and actions for implementation.

1. The Need to Act

1. The Asian region has the highest carbon dioxide (CO2) emissions from transport in the world, accounting for 39% of global CO2 emissions from transport (excluding international aviation and shipping) in 2021. With an increase of 36% between 2010 and 2021, it also has the world's fastest growth in transport CO2 emissions (SLOCAT, 2023).

2. Freight transport already represented 46 % of global transport activities in 2019 and according to ITF (2023) is estimated to increase to 61% by 2050. For Asia, previous ITF estimates for 2015 indicate that CO_2 emissions from freight transport are slightly larger (around 55%) than from passenger transport (ITF 2021) (see figure 1). The rising demand for road freight movement in the region is expected to further drive emissions (SLOCAT, 2023).



Source: ITF (2021).

Figure 1: Projected development of GHG emissions in Asia by sector under current policies (Council for Decarbonising Transport in Asia, 2022).

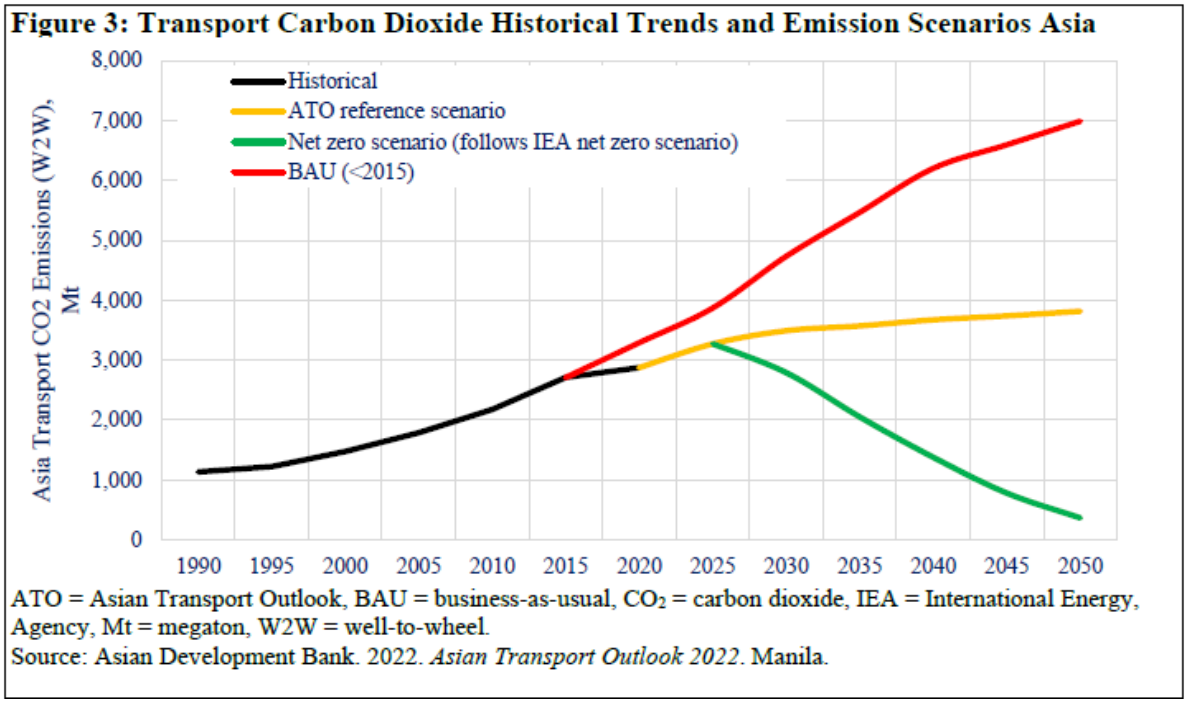
3. Increasing motorisation is another key driver of rising emissions. Private vehicle ownership in Asia grew by nearly 1 billion vehicles between 2000 and 2020, with two- and three-wheelers leading the way, representing over 75% of privately owned vehicles in low- and lower-middle-income countries in Asia (SLOCAT GSR, 2023, ATO Outlook).

4. Building on the Sustainable Development Goals 7.2 (increase the global percentage of renewable energy), 9.1 (Develop sustainable, resilient and inclusive infrastructures), 13.2 (integrate climate change measures into national policies, strategies and planning), and the Paris Agreement, the Aichi 2030 Declaration Goal 1a Low-carbon Climate Change Mitigation formulates the objective to 'aim to peak transport CO2 emissions by 2030, and initiate reductions in transport-related CO2 emissions with the intention to move towards decarbonisation of the transport sector by 2050, or shortly thereafter'.

5. Without a transformation of the entire transport sector, achieving the goals of the Aichi Declaration, the Sustainable Development Goals, and the Paris Agreement is out of reach. SLOCAT's latest Transport, Climate and Sustainability Global Status Report (2023), the NDC TIA Council flagship report on transport decarbonisation (2022) and the Asian Transport Outlook (Gota & Huizenga, 2023) all highlight that it is vital to find comprehensive, integrated and inter-modal solutions.

6. Implemented policies have already reduced GHG emissions and are expected to have a significant impact by 2050. But more is needed to achieve a sustainable and decarbonised transport system by 2050. The good news is that achieving zero - or close to zero - emissions in the transport sector by 2050 in Asia is technically feasible. Various studies, including the IEA's Net Zero Scenario (illustrated in figure 1), have shown that it is possible. Yet at the same time, all studies agree that more policy intervention is needed to enable the necessary changes. Given the long investment cycles and vehicle turnover times, now is the time to act to pave the way for a decarbonised future (Gota & Huizenga, 2023).

Figure 1 Transport CO2 emission scenarios in Asia



Source: (Gota & Huizenga, 2023)

2. Policy Recommendations

Recommendation 1: Develop a vision, strategies and policies for a zero-GHG mobility system supported by an enabling governance and financing framework.

7. **National commitments from the region for the transport sector leave room for enhanced ambition**. 22 countries in Asia have already set net-zero targets. And although not all for 2050, this already shows the increasing commitment to climate action. Except for one, all countries in the region have submitted updated or second NDCs under the Paris Agreement, covering 92% of transport emissions from the region (GIZ & SLOCAT, 2023). The Nationally Determined Contributions (NDCs) of four Asian countries – Bangladesh, Georgia, Japan, and Sri Lanka are among the 23 second-generation NDCs submitted under the Paris Agreement that feature targets for transport greenhouse gas mitigation (SLOCAT, 2023).

8. **National commitment to climate action in the transport sector will be most effective with clear targets**, including for GHG emissions, access, air pollution and safety (Aichi 2021). **Clarifying the contribution of different sub-sectors, such as the hard-to-abate freight sector, will further strengthen implementation, but strategies also need to be clear on the planned policy instruments to deliver the envisaged targets**.

9. In addition to incorporating commitment to climate action in national-level policy documents it is important to ensure the vertical integration of targets and policies across all levels of governance. Cities are increasingly important in tackling climate change. Sustainable urban mobility plans (SUMPs) are a key instrument in this respect. Effective transport decarbonisation at the metropolitan level will require aligning transport policy documents, such as SUMPs, with land-use planning strategies.

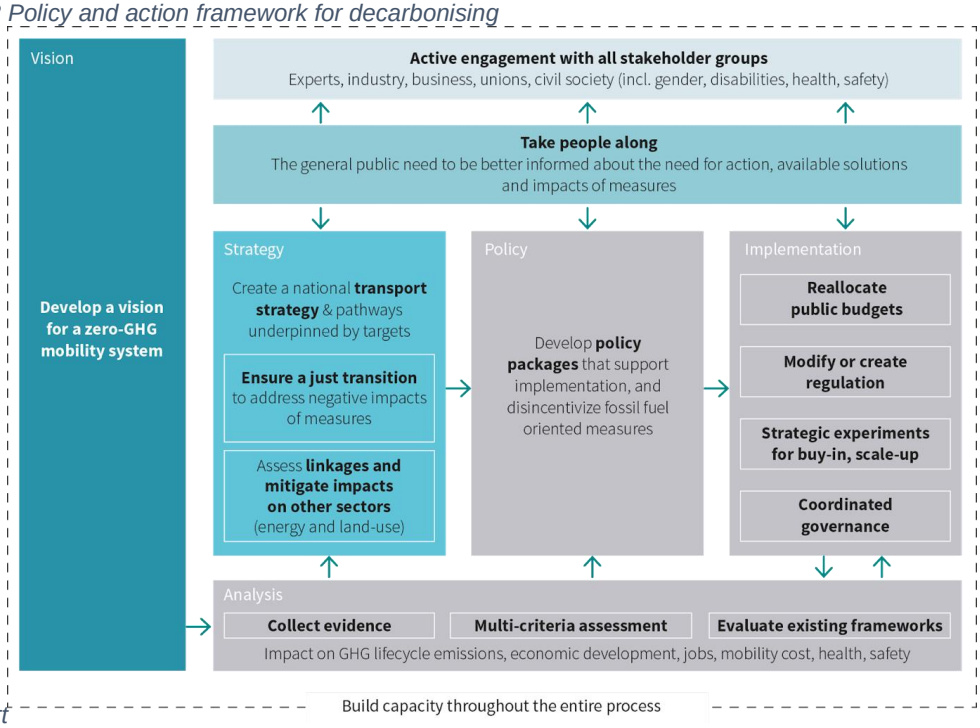
10. Implementing actions without a long-term vision and corresponding strategies risks higher costs and stranded assets later. A broad set of instruments is available that support the transformation to a zero-carbon transport system, but actions need to be embedded in a consistent framework.

11. **Enhanced capacity at all levels, improved information, active participation of all stakeholders, a consistent policy framework and the funding to underpin all those activities are vital elements of the transformation**. Capacity development, evidence and participation are the foundation of adequate local solutions, especially where measures affect large parts of the population.

12. Ensuring a just transition of the economy is an essential element of implementing policies and actions to decarbonise transport. The transformation to zero-carbon mobility systems will require drastic changes for the suppliers of vehicles and transport services, as

well as a massive ramp-up of renewable electricity grids and transmission. The transformation to zero-carbon mobility systems will also impact the mobility options available to everybody. However, using the transition to create a more just and equitable mobility system and creating new opportunities at the local level will increase support for required changes (Council for Decarbonising Asia, 2022).

Figure 2 Policy and action framework for decarbonising transport



Source: (Council for Decarbonising Transport in Asia, 2022)

Recommendation 2: Transforming the financing of transport will enable sustainable systems.

13. Public budgets are spending billions annually on transport. Most are for infrastructure expansion and maintenance, largely directed to roads. At the same time, many countries are still spending substantial amounts to support fossil energy or forego income from tax breaks for unsustainable transport modes.

14. **The transformation can only be successful if public budgets and fiscal policy are aligned with a zero-carbon and sustainable transport vision**. This will also require that sustainable development benefits are included in the economic evaluation of programs and projects. Critically reviewing existing spending and reallocating budgets will go a long way by prioritising low-emission solutions for sustainable transport and exploiting their full potential.

15. Supporting zero-carbon and sustainable transport visions will require a shift in transport infrastructure investment profiles; and the overall investment needs can be lower than the alternative. Recent global ITF forecasts suggest that the total capital investment

needs for key road, rail, airports and ports infrastructure under a High Ambition decarbonisation scenario are 5% lower than business-as-usual (ITF, 2023). Lower investment needs come partly from having a “decide and provide” approach that supports a low-carbon future, rather than a “predict and provide” one. Providing infrastructure in a vision-led manner could save governments around the world around USD 4 trillion on road maintenance and investments. Instead, more investments are needed in rail and bus services.

16. **Transport sector financing by multilateral and bilateral development organisations, as well as by financial institutions in the private sector needs to be fully aligned with the decarbonisation of the sector**. Many of these organisations have committed to aligning financing with the goals and targets of the Paris Agreement on Climate Change. It is key that statements of intent are followed up in a comprehensive and timely manner.

17. Various direct and indirect subsidies can encourage the use of polluting and unsustainable transport solutions, and benefit higher-income households more than households with lower incomes, e.g., general subsidies for fossil energy, tax breaks for company cars, lack of progressive tax schemes for vehicles. By eliminating indiscriminate subsidies, funds can be generated and used for the provision of more equitable transport systems, such as improved public transport services, support to private vehicle sharing schemes where public transport cannot be operated efficiently, and the provision of safe infrastructure for walking and cycling. In parallel, the decarbonization of transport can be supported by progressively increasing taxes for high-carbon technologies to support low-carbon transport solutions.

18. Irrespective of future technology choices, fossil fuel subsidies distort the market towards high-polluting solutions and should be removed. The Asian Transport Outlook, based on data from IEA, indicates a positive development regarding the reduction of fossil fuel subsidies: since the adoption of the SDGs (from 2016 to 2021) the cumulative fossil fuel subsidies in the transport sector declined from USD 587 billion to USD 252 billion in Asia and the Pacific region. The transport sector's share in total fossil fuel subsidies in Asia declined from 29% in 2014 to 11% in 2021 (Gota, S. et.al.). Further reductions can support the progressive shift towards low-carbon transport in the region.

19. **Removing fossil fuel subsidies will make all low-carbon solutions more competitive**; **but it will also affect people and businesses and needs to be carefully supported by just-transition measures to mitigate negative effects**. Increases in energy and mobility costs can be counterbalanced for those households in need through direct transfers and by offering alternative, affordable mobility options. Establishing national funding mechanisms to support higher up-front costs of new equipment can be considered to support the freight industry.

20. Reflecting the full cost to society, including climate and health damages, in the pricing of different modes and fuels will help to steer behaviour towards sustainable solutions. Current fossil fuel prices rarely reflect their full costs; neither does the use of

private cars reflect its externalities. Internalising these costs through taxes or other economic instruments will make sustainable options more competitive.

21. In the implementation of the recommendations above, countries can consider various fiscal and financial instruments to support the transition of the sector, amongst others (SLOCAT, 2021; Council for Decarbonising Transport in Asia, 2022) :

- Financing transport investments based on their contribution to low-carbon and sustainable mobility
- Taxing vehicles based on emissions, weight, and mileage
- Carbon tax for transport fuels, also those consumed by road vehicles, and inclusion of the transport sector in emissions trading systems
- Road charging, congestion pricing, and parking pricing

Recommendation 3: Fostering Integrated Planning

22. Fragmented transport policy frameworks are one element often preventing ambitious decarbonisation action. Not only are climate and transport policies often not aligned, transport policies themselves are often inconsistent, incomplete or sending conflicting signals. Integrating planning of mobility with land-use, urban development and economic development provides multiple benefits in avoided congestion, improved access, and reduced air pollution. Effects are not immediate, but efforts will need to start now to enable the sustainability of future systems.

23. **A strong vision for a balanced, multimodal and sustainable transport system can provide the needed guidance for the revision of existing and design of new policies and measures**. Such a vision can rally much needed support from a broad set of stakeholders (including non-government actors such as financial institutions, the private sector, civil society, and academia), if it is centred around people and not cars and aims to ensure more equitable, healthy and safe mobility for all. Any vision for a just transition also needs to be inclusive to ensure that all sectors of society benefit.

24. Strategies will depend on the starting point. Countries with already high per capita emissions and motorisation rates will need to focus on the “transition” to decarbonised systems. Those with systems that today still rely largely on shared and non-motorised transport will focus on innovation and early intervention to enable them to embark on development pathways that are low carbon from the outset.

25. **A sustainable vision and balance between SHIFT and AVOID and IMPROVE strategies will be critical**. The specifics of such a balance will vary between countries, but the required deep decarbonisation will not be possible without a balanced approach encompassing extensive use of shared mobility and non-technology solutions, such as enhanced urban planning. **Transforming transport will not be possible without tackling freight** in overall transport strategies and in NDCs, and with specific attention given to non-urban and urban freight.

Recommendation 4: Improving and Expanding Public Transport Systems, Walking and Cycling

26. **Walking, cycling and public transport are generally more inclusive and efficient in terms of use of space, energy consumption and emissions than private cars; and they have the biggest social value per dollar spent.** They provide access that is affordable for everybody, increase local economic activity, promote health and strengthen community living. Investing in public transport and safe and secure spaces for walking and cycling that connect neighbourhoods, commercial centres and suburbs is essential in a transition to a low-carbon and resilient transport system. Micromobility options can efficiently close existing service gaps and provide additional travel options.

27. **Public transport will form the backbone of any zero-carbon mobility system; its rapid expansion and improvement of services is key to success** and can largely build on improving existing systems as a first step.

28. To promote and prioritise public transport, walking and cycling, countries can consider (SLOCAT, 2021).

- Transport Demand Management through adequate pricing of private car ownership and use
- Setting mode share targets for biking and walking, public transport, and rail
- Investing in affordable and decarbonised public transport and level of service, informed by user needs and data
- Allocating more safe space for walking and biking, and dedicated lanes for public transport
- Integrating paratransit with public transport systems for feeder and last-mile services, and promoting digital applications to enhance paratransit efficiency
- Manage and price parking

Recommendation 5: Promote electric vehicles and charging infrastructure as well as ICE vehicle efficiency.

29. **Electrifying transport with renewable sources is essential to decarbonise transport.** With the right priorities, benefits go well beyond climate protection: electrification reduces local air and noise pollution; it opens up opportunities to replace and prevent the use of cars and vans with electric two and three-wheelers; it can be powered with locally produced renewable electricity reducing energy dependency; and it opens up new opportunities for local production and assembly for adapted vehicles.

30. **Electrification of different modes and for different uses varies in complexity and costs for society, and segments with the highest CO2 reduction potential at the lowest cost should be put first. These include electric bikes, 2- and 3-wheelers, commercial, corporate and public fleets of high-mileage vehicles, urban delivery fleets, buses for public transport, as well as rail**. Efforts should be made to ensure that

women benefit as much as men from the electrification of vehicles. To counteract the trend towards bigger and heavier electric SUVs, authorities should consider efficiency and/or energy consumption standards for EVs.

31. Other technologies may be selected for specific transport segments, but electric vehicles will form the majority of the future 2- and 3-wheeler, car and bus fleets. Getting ready now will enable a smooth and just transition. Also, for heavy-duty trucks, battery electric vehicles are expected to have the best TCO efficiency in many use-cases starting from around 2025 (Agora Verkehrswende, ICCT).

32. **The continuous strengthening of emission regulations and energy efficiency standards for ICE vehicles is vital. With the incremental electrification of vehicles, new and used ICE vehicles will still form most of the vehicle fleet for years to come and bear significant potential to achieve reductions in GHG emissions and in local air pollutants**.

33. To support the sustainable electrification of land-based transport and improve ICE vehicle emissions and efficiency, countries can consider (SLOCAT, 2021):

- Progressively increasing ICE vehicle emission standards
- Regulating urban access to city centres based on vehicle emissions
- Mandating eco-driving training programs for commercial drivers
- Subsidising electric vehicles based on their contribution to access, safety, and use of space
- Combining paratransit professionalisation and fleet renewal for electrification
- Promoting the integration of electric charging and distributed and off-grid renewable energy production, e.g., the installation of private solar panels to charge EVs
- Build capacity especially with mid- and low income groups and women to accelerate adoption and confidence in this technology

Recommendation 6: Promote freight systems that efficiently combine different low-carbon modes, share assets and rely on sustainable first and last-mile delivery

34. A freight system's capacity to connect goods, markets and consumers determines the socio-economic development of countries and regions; and it is closely linked with industry and trade policies. **For long-distance freight, modes of high and shared capacity (rail and waterways) can be prioritised to bring down energy consumption per unit**. Policies can encourage the use of the most efficient low-carbon energy carrier and an efficient integration of operations across modes (road, rail and waterways) and borders. In various contexts, the use of electric vehicles for urban logistics requires adapting regulations to allow charging infrastructure in urban logistics hubs.

35. **First and last-mile delivery has the biggest potential to reduce energy consumption quickly, particularly in urban environments as it does not require major infrastructure investments**. Smart logistic operations and low-emission light vehicles that

consume little space are most suitable for urban deliveries. Zero-emission zones can be an option in the context of last mile delivery in urban areas.

36. To set the freight sector on a low-carbon development pathway, countries can consider:

- Optimising freight movement through, e.g., load and trip optimisation, reduced packaging, vehicle maintenance practices
- Planning integrated and connected Industrial Zones
- Investing in low-carbon rail freight service and water-born freight
- Strengthening and facilitating legal and operational conditions for intermodal freight
- Fostering collaboration and the sharing of assets among freight carriers and receivers
- Developing shared urban logistics platforms and centres

Recommendation 7: Taking people along is a prerequisite to transforming transport

37. Mobility is deeply interlinked with peoples' lives and business choices. Therefore, any proposed changes to the known system will be critically scrutinised. Despite the shortcomings of existing systems, proposed measures are often opposed, such as the increase in fuel prices. **It is therefore crucial to understand the motivation behind opposition to develop strategies to turn opponents into advocates for change**.

38. The assessment of the effects of measures is highly subjective. A number of lifestyle and well-being aspects dominate peoples' view on mobility solutions. Views of individuals regarding policies and measures to decarbonise the transport sector will largely depend on convenience, economic cost and opportunity (including the affordability of mobility options to enable access to jobs and business opportunity), access, the perception of justice, status and health & safety concerns. The importance of each of those elements will vary based on the cultural background, available options (also based on income levels) and individual preferences.

39. **Communication and engagement supported by evidence is key**. Engaging with a wide set of societal groups from business to civil society will help to better understand the needs and concerns of represented groups and enable the design of appropriate policies. It will also build trust and understanding, enabling stakeholder representatives to act as multipliers to communicate the benefits of the transition. Robust disaggregated data and evidence of all effects of measures on socio-economic systems must be the foundation of this process. Ensuring that a broad range of voices are involved will improve the quality of implemented policies and will help to communicate the new narrative for a sustainable mobility system. This requires sufficient funding in place to support engagement and communication.

40. **Accelerated action and enhanced participation can go hand in hand**. A range of no-regret measures can be implemented directly and concentrating participation on a few directly affected stakeholders, such as vehicle efficiency standards or EV support schemes. In parallel, enhanced participation can support the design of the joint vision and strategies and concrete policies and actions for implementation.

3. Suggestions for Support from the International Community

41. Facilitating regional collaboration, like the collaboration between the EST Forum countries to share experiences between countries, is a vital pillar to enhance action on decarbonising transport. Regional-based institutions like UNCRD, ESCAP, ASEAN and ADB with their long-term commitment to intergovernmental platforms for regional action are good examples of such a collaborative partnership.

42. International organisations can facilitate a successful decarbonisation of the sector in the Asia Pacific region through support to:

- **Long-term national and regional visions**, combined with a clear policy and a regulatory framework supported by budgetary allocation, technical expertise and institutional coordination in each country and, where relevant, across the region;
- **Open accessible transport and energy data** such as the Asian Transport Outlook and the Global Status Report by SLOCAT are crucial to better informed decision-making and tracking progress towards the Paris Agreement and the SDG (See GIZ 2020);
- **Tools and models** to inform national decision-makers as well MDBs on national carbon pathways (See CCG Data to Deal);
- Active **exchange formats** to enable learning from peers with similar challenges in the region and to maximise synergies from joint action and regional solutions;
- Better access to **(climate) finance** enabling a just transition.[1]

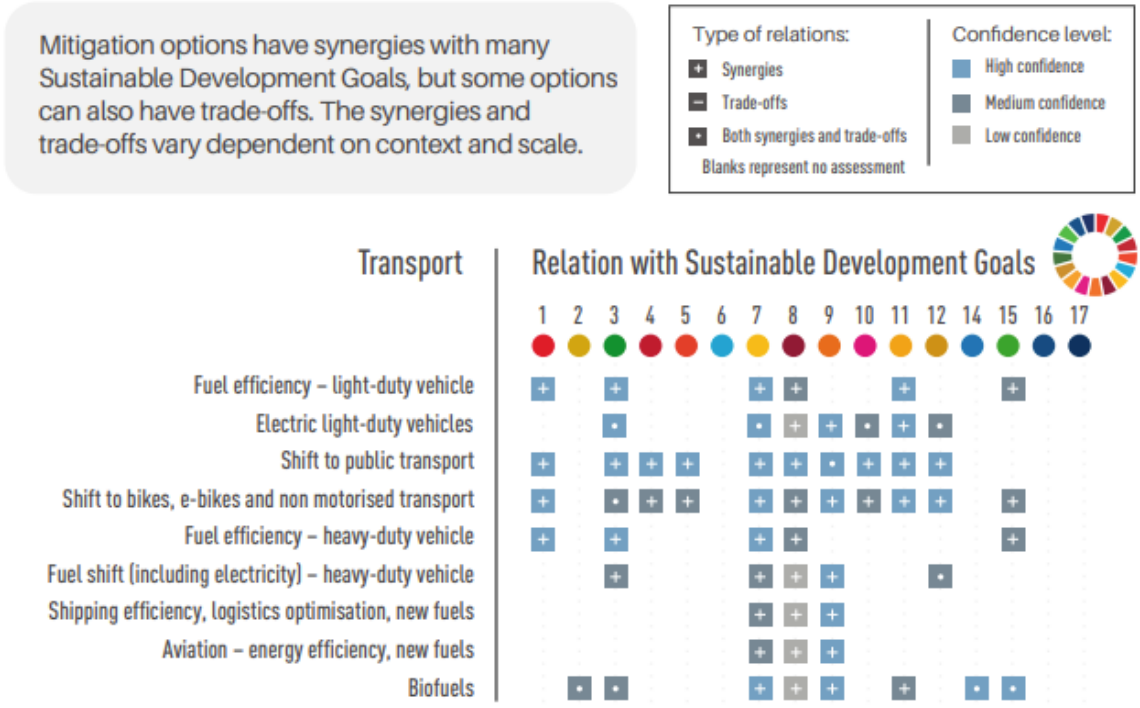
[1] See for example the latest call for tender of the High Volume Transport program (https://transport-links.com/wp-content/uploads/2023/05/HVT056-Procurement-Notice.pdf)

4. Wider Benefits and Linkages of Climate Change Mitigation with other Aichi Goals, the SDGs, and the Paris Agreement

43. **In a world of interconnected challenges, the opportunity lies in finding solutions for systemic transformation that cut across transport, sustainability, and climate action**. Many measures to reduce GHG emissions have a wide range of positive impacts. The Aichi Declaration outlines how climate mitigation action positively interacts with other Aichi Goals. These are first and foremost the directly related Aichi Goal 1c: Air Pollution, and the systematically linked Aichi Goal 5: Urban Access, which - like Aichi Goal 1c - require to making public transport, walking, and cycling the key pillar of urban transport systems. Additionally, measures can positively impact the achievement of Sustainable Development Goals, such as SDG 3 Health and Well Being and SDG 7 Affordable and Clean Energy.

44. However, there are also trade-offs that must be assessed when defining pathways to decarbonise the transport sector, particularly the higher initial investments that might translate into the unequal distribution of burdens, and compete with other investments needed, e.g., in social services, economic development, and climate adaptation. In the past couple of years, most transport and mobility systems globally have become more vulnerable to systemic shocks, disproportionately affecting people living in vulnerable situations. Global shocks – such as the COVID-19 pandemic, extreme weather events, disrupted global value chains and conflicts – have revealed the fragility of transport systems and services. **Overall, synergies exceed trade-offs.** The trade-offs can be further minimised by emphasising activities, such as capacity building, finance, technology transfer and making considerations for governance, gender and equity including the participation of Indigenous peoples, local communities and vulnerable populations.

Figure 4 Synergies and trade-offs between transport mitigation options and the SDGs



Source: (SLOCAT, 2023)

References

Agora Verkehrswende: Techno-economic uptake potential of zero-emission trucks in Europe - (agora-verkehrswende.de)

Aichi Declaration: Technical Assistance Report (un.org)

CCG: E-Mobility and Renewable Energy Integration: Working Paper Series – Climate Compatible Growth

Council for Decarbonising Transport in Asia. (2022). The Path to Zero: A Vision for Decarbonised Transport in Asia.

GIZ, & SLOCAT. (2023, July 10). Tracker of Climate Strategies for Transport.

Gota, S., & Huizenga, C. (2023). The Contours of a Net Zero Emission Transport Sector in Asia - ATO 2023 Thematic Report. ATO Outlook 2022

Gota, S., Huizenga, C., Eden, M., Limaye, A., Mejia, A.: Turning the Tide - Transport and SDGs in Asia. Asian Development Bank (2023) (forthcoming)

ITF. (2021). ITF Transport Outlook 2021. OECD Publishing, Paris, https://doi.org/10.1787/16826a30-en.

ITF. (2023). ITF Transport Outlook 2023. OECD Publishing, Paris, https://doi.org/10.1787/b6cc9ad5-en.

High Volume Transport (2023): HVT - 056 Improving Access to Climate Finance for Transport Projects in Low and Middle-Income Countries (LMICs) HVT056-Procurement-Notice.pdf (transport-links.com)

ICCT: ze-hdvs-china-tco-FS-EN-nov21.pdf (theicct.org)

Marcella Jaramillo , Jairo Quirs-Torts , Adrien Vogt-Schilb , Alex Money , Mark Howells (2023): Data-to-Deal (D2D): Open Data and Modelling of Long Term Strategies to Financial Resource Mobilization - the case of Costa Rica. Data-to-Deal (D2D): Open Data and Modelling of Long Term Strategies to Financial Resource Mobilization - the case of Costa Rica | Economics | Cambridge Open Engage

SLOCAT. (2021). *Key Transformation for Sustainable Low-Carbon Land Transport.* https://slocat.net/key-transformations/

SLOCAT. (2023). Transport, Climate and Sustainability Global Status Report - 3rd edition. https://tcc-gsr.com/

2020_13-EST-Forum-pre-event_Background-Paper_GIZ.pdf (changing-transport.org)