Decarbonization of the Transport Sector in CAREC Countries: Assessment of Policy Options

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Background

Decarbonization – the reduction of carbon. It refers to all measures through which a business sector or entity reduces its carbon footprint (primarily carbon dioxide and methane) in order to reduce its impact on the climate.

Why is decarbonization important? CO_2 produced by combustion of fossil fuels is the largest source of global warming and climate change.

Why is decarbonization of the transport sector so important? It contributes about 25% of total GHG emissions and is the sector that is increasing the fastest.

Typical vehicle fleet annual growth in CAREC countries (2010-2019): PRC 9%, GEO 7%, KAZ 3%, KGZ 13%, MON 20%, PAK 15%

Why CAREC Countries need to respond and plan for the future

1. At present there has been limited assessment of decarbonization in the transport sector at both the national and regional levels.
2. Given the speed at which development and technological changes are taking place, there is a need to catch up.
3. If the size of the problem remains unknown, it is difficult to design and implement measures to address the issues.
4. Preparing a regional assessment will provide the basis for individual countries to develop national plans and define pipelines of potential projects that can be supported by both the development partners and private sector entities.

Global Decarbonization Trends will Impact CAREC Countries

1. Experience has shown that decarbonizing the transport sector requires adequate assessment and planning if implementation is to proceed smoothly.
2. The primary vehicle manufacturing countries are quickly moving towards EV transition. This trend will be enhanced by further technological developments in batteries, charging systems and other related technologies.
3. Once price parity has occurred a rapid move to EVs is likely.
4. While HDVs are behind LDVs there are signs that progress is being made, especially development of hydrogen EV technologies
5. By 2040 few ICE vehicles will be produced. Therefore, there is a real need for CAREC to plan its decarbonization of the sector.

Importance of Climate Change to the CAREC Region

1. Central Asia will be heavily impacted by climate change.
2. Individual national capacities are limited and insufficient to tackle the climate change impacts.
3. Impact on individual economies will be high: agriculture is most vulnerable to climate impacts; the energy sector is a major contributor to GHG
4. Oil and gas exports likely to be impacted by possible carbon taxes in export markets and increased competition from renewable sources.
5. Risk of “stranded assets” in fossil fuel industries.

Importance of Climate Change to the CAREC Region (2)

6. All CAREC Countries are signatories to the Paris Agreement and have announced decarbonization targets. While renewable energy is promoted in NDCs their share is currently very small. Also, NDCs do not identify projects and these still need to be developed.

7. Central Asia is the least studied region despite its vulnerability to impacts. There are severe knowledge gaps or no data available in several areas.

8. To attain maximum effect climate issues need to be addressed on a regional basis and implemented on a national basis.

Incentives to Decarbonize

1. Support for development by MDBs and Development Partners is rapidly changing to focus on and scale up climate change initiatives, projects and programs.
2. ADB has pledged to deliver $100 billion for climate change over 2019-2030. It is also undergoing a major internal reorganization designed to deliver support for climate activities and opportunities.
3. WB has just approved a new President to strengthen its support and deliver climate activities.
4. Other MDBs and Bilateral partners are also giving high priority to supporting climate change.
5. With this strong shift to climate change CAREC countries need to be prepared to adjust their emphasis in the transport sector by including projects and project components that will support low-carbon pathways.
6. From mid-2023 all projects will need to be aligned with the Paris Agreement.

ADB Support for Decarbonization Activities

1. In 2021 ADB provided $1.536 billion for climate financing in the transport sector. Transport was the No 1 sector for climate finance. It is expected to increase significantly in the future.
2. ADB will continue to strongly support the transport sector. It currently has total of 16 different funds and facilities to support climate change and disaster risk management. Availability of these resources will assist in the identification, development and implementation of projects.
3. Many low-carbon activities will require investment from the private sector. Such activities can be supported through ADB's private sector window. Some projects might require resources from both public and private windows.
4. Support for decarbonization and low-carbon solutions in the future will be substantial. Countries will need to prepare appropriate project pipelines aligned to low-carbon strategies to facilitate project preparation.
5. Support will also require countries to demonstrate good performance in planning and implementing decarbonization plans and policies.

Outline of Proposed Project Concept

Objective: is to assess the existing and future energy consumption used by the transport sector and ascertain how different policies could change future levels.

Under regional TA it is proposed to undertake national assessments in each CAREC country

Part A of these studies would:

(i) Identify trends in key parameters

population growth; growth in vehicle fleet by type; growth in railways, civil aviation and water sectors; estimate energy use by mode in base year; estimate total energy use in transport sector

(ii) Identify the role of key institutions: public, private, CSOs, academia

(ii) Summarize decarbonization and low-carbon policy commitments in each of the modes

(iii) Estimate the baseline transport GHG emissions in the base year

(iv) Extrapolate business-as-usual trends to 2030, 2040 and 2050

Outline of Proposed Project Concept (2)

Part B of the studies would:

1. Examine possible policy scenarios for decarbonization such as

    (i) changes in fuels used: increase of EVs in cars, buses and motorcycles, trucks

    (ii) modal shift: car to bus/public transport; road freight to rail

    (iii) energy efficiency: new fuel economy and emission standards; improved freight load factors;

    (iv) greater use of walk and bicycle modes

2. Identify complementary measures

    (i) support for charging/fuel infrastructure

    (ii) potential purchase and use incentives

    (iii) need for outreach programs

Proposed Project Concept (3)

The outcomes of the national studies would at both national and regional levels:

(i) Identify the baseline trajectory of GHG emissions

(ii) Assess potential impact of various policy options

(iii) Identify priority complementary measures

(iii) Identify key focus priority areas for both implementation and further study

Proposed Implementation Arrangements:

(i) Country assessments to be undertaken by National Teams

(ii) Regional assessment to be prepared by International Team

(iii) Preparation of country and regional reports

(iv) Management to be undertaken by ADB CAREC Secretariat Transport Team

Thank You