Organization of the Petroleum Exporting Countries (OPEC)

Input to the Katowice Committee of Experts on the Impacts of the Implementation of Response Measures

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Summary

Energy-exporting developing countries are likely to be disproportionately affected by the impacts of the implementation of response measures; therefore, the enhancement of an understanding of the measures' impacts and a proper treatment of their implications are vital.

Economic diversification is considered an approach to mitigate impacts arising from the implementation of climate response measures. This approach has been at the centre of multi-year development plans in energy-exporting developing countries, including OPEC Member Countries; however, the diversification and complexity of the structure of these economies remains low compared with other economies worldwide.

Although there is no one-size-fits-all prescription for economic diversification efforts, alternative options for energy-exporting developing countries, including OPEC Member Countries, to diversify their economies (within and outside the energy sector) are considered in a scenario analysis. These indicate that generated benefits through diversification efforts would not compensate them for the adverse impacts from which their economies would suffer owing to challenges created by climate response measures.

The pursuit of climate actions in the context of equitable access to sustainable development and poverty eradication is a necessity more than ever amid the present disturbing times of the COVID-19 pandemic. The challenges are especially onerous for developing countries which feel the effects acutely.

For the world to emerge from the present crisis, a response, recovery and transition into a more sustainable, inclusive and resilient future requires a surge in global solidarity and cooperation. International cooperation, the provision of support in the form of technology transfer and finance, and identification of mitigation options that could lead to 'win-win' solutions with environmental and socio-economic benefits are vital to ensure a fair and just transition.

Impacts of the Implementation of Response Measures

– *Policy background*

To achieve the long-term temperature target of the Paris Agreement, Parties are called to take action by implementing nationally determined contributions (NDCs) and increasing their efforts in the years ahead, while considering national circumstances and priorities.

In addition, Parties to the Paris Agreement recognise that they may be affected not only by climate change, but also by the impacts of the measures taken in response to it. Owing to the intrinsic relationship that climate change actions and response measures have with equitable access to sustainable development and the eradication of poverty, Parties should consider, when implementing the Agreement, the concerns of Parties with economies most affected by the impacts of response measures, particularly developing countries (Article 4.15).

This is aligned with the Convention that calls Parties to take into full consideration the specific needs and concerns of developing countries arising from the adverse effects of climate change and the impact of the implementation of response measures – especially of '*countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy intensive products*' (Article 4.8).

The Paris Agreement further states that mitigation co-benefits resulting from Parties' climate change actions and economic diversification plans can contribute to mitigation outcomes (Article 4.7).

In this context, the progression of Parties' NDCs towards the ultimate temperature target of the Paris Agreement is likely to lead to increasingly enhanced mitigation actions that could have important implications for the economies of developing countries and their sustainable development, particularly in the post-pandemic era.

Therefore, addressing climate response measures requires the establishment of a paradigm to enhance the understanding of the impacts of these measures and to ensure the proper treatment of their implications, to prevent their adverse effects on the sustainable development of developing countries; including energy-exporting developing countries.

As decided at COP24 in 2018, the *Forum on the Impact of the Implementation of Response Measures* ('Forum'), established at COP16 in 2010, will serve the Paris Agreement, whereas the *Katowice Committee of Experts on the Impacts of*

the Implementation of Response Measures (KCI) supports the work of the Forum.

Acknowledging the importance of eliminating or minimising the adverse impacts of response measures, and the critical work of the Forum on this subject matter, OPEC and its Member Countries welcome the call for inputs by KCI in order to implement two activities of the committee's workplan, which will be considered at its third meeting scheduled to take place from 5–9 October 2020. These activities relate to:

- approaches to mitigate climate change that *maximise the positive and minimise the negative impacts of response measures*; and
- assessment of the impacts of the implementation of response measures to facilitate the undertaking of *economic diversification* and *transformation and just transition*.

In light of the above, the OPEC Secretariat provides its input considering a renewed sense of urgency around economic diversification in energy-exporting developing countries and in the context of sustainable development. Potential options for energy-exporting developing countries to diversify their economies, including within and outside the energy sector, are analysed in order to assess whether and to what extent the estimated adverse impacts from the implementation of response measures could be offset.

– *Adverse impacts of response measures*

The impact of the implementation of response measures on energy-exporting developing countries depends greatly on the assumptions made about how world regions could evolve over time in terms of economic growth and energy use, among others. Regardless of the uncertainties surrounding how world regions might evolve, there is a growing perception that energy demand growth is likely to slow over time as efficiency improvements, technological advances, policy measures to reduce emissions, and changing consumer behaviour lead to the energy transition.

The speed of the energy transition is therefore highly uncertain and is heavily driven by fundamental factors that are not uniform across world regions. Yet, as energy demand growth slows, global energy markets are expected to become increasingly competitive.

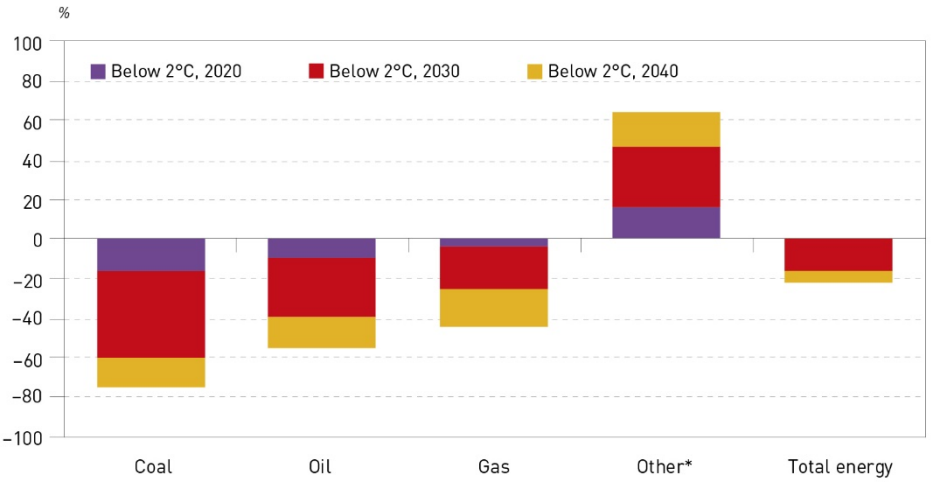
In this context, energy-exporting developing countries, as natural resource-based economies that depend mainly upon the income from the export of undifferentiated resource commodities – namely, oil and gas – have recognised the need for economic diversification. It has been identified as a strategic

approach in national development plans to enact changes that could increase their economies' resilience in the future.

Using the *Reference Case* of the World Oil Outlook (WOO), a below 2°C-compatible pathway (*Scenario A – below 2°C*) is considered to estimate the potential adverse effects of the implementation of response measures, while assuming policies and actions beyond those already announced in Parties' NDCs.

Policies and actions consistent with a below 2°C pathway would have a significant impact on global primary energy demand. The below 2°C-compatible scenario further suggests that the reduction in energy from fossil fuels is expected to start early in the projection period. In contrast to fossil fuel energy sources, the growth of renewable energy (including nuclear) would further accelerate (*Figure 1*).

Figure 1: Energy demand relative to the Reference Case



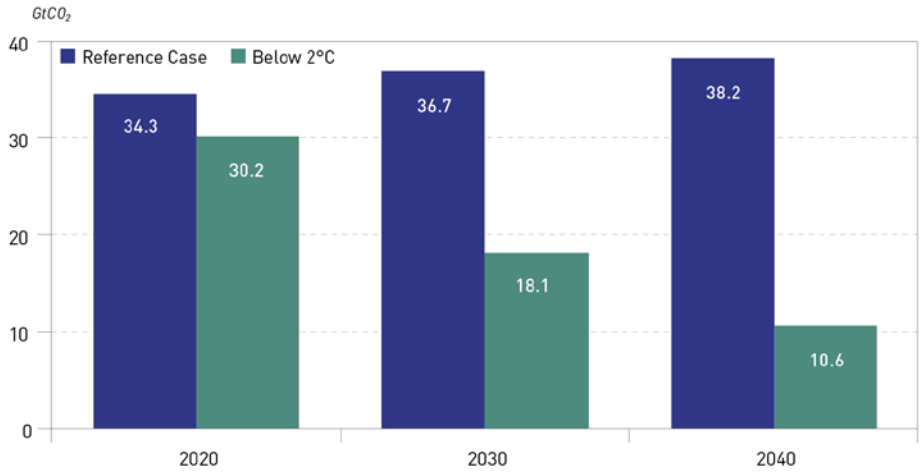
**: including nuclear, hydro, biomass and other renewables such as wind, solar, PC, geothermal etc.*
Source: OPEC, WOO 2019.

On the environmental front, *Figure 2* shows that global energy-related CO_2 emissions should be substantially reduced in a below 2°C-compatible pathway, when compared with the *Reference Case* by 2040.

Given the above-presented impacts on global primary energy demand, it is likely that energy-exporting developing countries could face adverse impacts arising from the implementation of enhanced climate action. *Figure 3* shows that the reduction of OPEC Member Countries' GDP could be 11.1% in 2030 compared with a less than 2.5% decrease in global GDP. In 2040, the respective GDP reductions are at a level of 16.5% and 3.3%.

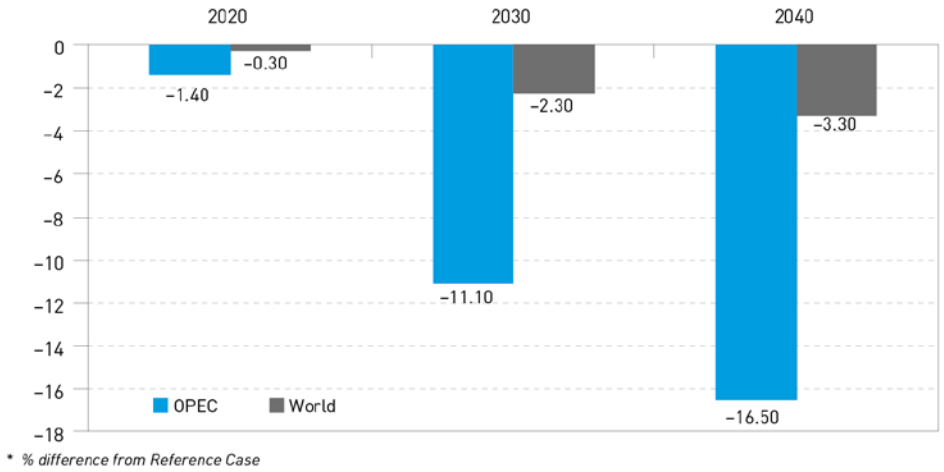
To this end, economic diversification could be considered as a means to reduce the adverse effects of response measures and allow for economic sustainability.

Figure 2: Impact on CO_2 emissions



Source: OPEC, WOO 2019.

Figure 3: Impact on GDP in below 2°C scenario*



Source: OPEC, WOO 2019.

– *Economic diversification*

Two alternative scenarios are considered focusing on economic diversification potential for the energy-exporting developing countries of OPEC within the energy sector (*Scenario B*), and the wider economy (*Scenario C*).

Scenario B explores the potential to export hydrogen, as well as electricity produced in OPEC Member Countries using low-cost renewables and/or fossil fuels with carbon capture and storage (CCS). *Scenario C* assumes a boost in domestic production and exports of the manufacturing and services sectors.

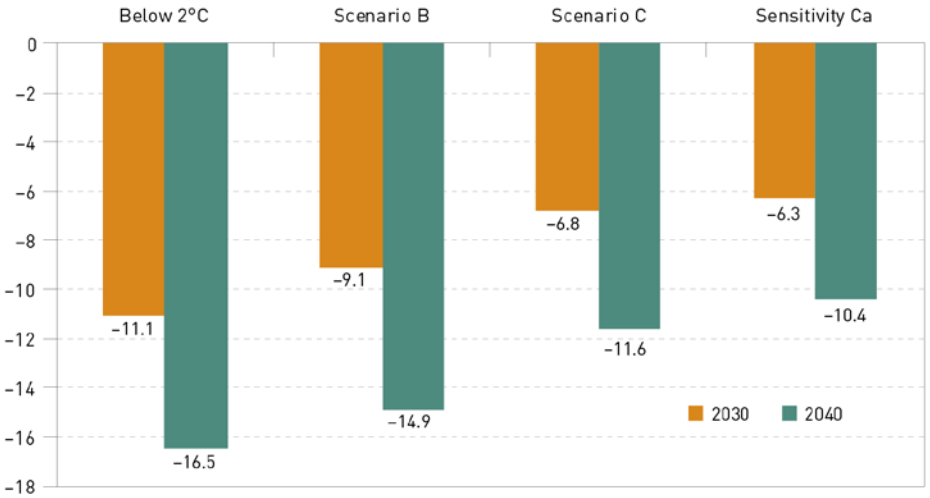
Scenario C builds on *Scenario B*, and it is assumed that OPEC Member Countries could meet investment requirements without receiving any

international support. A sensitivity (*Sensitivity Ca*) that builds on *Scenario C* is also presented, assuming international support through FDI and increased labour productivity.

Regardless of the scenario, global energy demand and the energy mix would not react significantly differently with the introduction of diversification in the energy sector of OPEC Member Countries (*Scenario B*) or in their wider economies (*Scenario C*). This is the result of countries having already proceeded with climate change actions and measures to reduce emissions at a level consistent with a below 2°C pathway.

Figure 4 illustrates the estimated percentage change in GDP, indicating only a partial elimination of negative impacts of the implementation of response measures. Economic diversification supported by increased FDI and labour productivity (*Sensitivity Ca*) could help alleviate, at a higher level, the potential adverse economic impacts. However, taken together these measures are still not sufficient to fully mitigate the adverse impacts of climate change actions and measures in line with a below 2°C pathway. Even in the best-case scenario, the losses in the economies of energy-exporting developing countries remain much higher than the global average reduction in GDP – these losses are estimated at 3.1% and 2.9% in 2040 under *Scenario C* and *Sensitivity Ca*, respectively.

Figure 4: Percentage change in OPEC economies' GDP compared to the Reference Case



Source: OPEC, WOO 2019.

In regard to employment impacts, the time profile of the job losses in OPEC economies is similar to that for GDP, with a gradually increasing reduction of losses over time. The reductions in employment under *Scenario A* occur in most economic sectors, not only in the energy sector.

It is notable that employment does not increase by much in *Scenario B* compared to *Scenario A*. The reason for this is that the types of activities being promoted in *Scenario B* are not typically labour-intensive and therefore do not lead to much additional job creation. *Scenario C* offers better outcomes as the sectors targeted in this scenario are more labour-intensive, and *Sensitivity Ca* has the largest positive effects (compared to *Scenario A*) because the inflow of FDI allows additional jobs to be created in investment-intensive sectors, such as construction. Nevertheless, it should be emphasised that the employment effects remain negative in all cases and even in the sensitivity the loss of employment is substantial.

– *Concluding remarks*

For energy-exporting developing countries that rely on revenues from natural resources, the imperative need to reorient their economies is growing, owing mainly to an emerging stringent regulatory framework on climate change action and the associated adverse impacts of response measures. Achieving diversification is considered vital for the long-term economic sustainability of their economies.

Analysis shows that economic diversification could be considered as an approach to reduce risks and adverse impacts that developing countries, in general, and energy-exporting developing countries, in particular, are expected to face from mitigation actions aimed at reducing emissions.

Countries could pursue different mechanisms for diversification, based on underlying factors, national circumstances and priorities. Some of these factors include the level of dependence on natural resources, institutional arrangements, and the involvement of government in creating pathways for diversification and growth, and economic determinants that enhance the ease of doing business and advancing competitiveness.

However, there is no one-size-fits-all prescription for economic diversification efforts. Economic diversification may have been at the centre of multi-year development plans in energy-exporting developing countries, but the diversification and complexity of their economies' structure remains low compared with other economies worldwide.

The scenario analysis indicates that energy-exporting developing countries are likely to be disproportionally affected by the impacts of the implementation of response measures. Economic diversification efforts are not sufficient to fully mitigate the adverse impacts of response measures to climate change.

Thus, the role of international cooperation should be highlighted, as it could contribute to the identification and sharing of best practices and experiences of countries that have successfully diversified their economies. Non-domestic barriers could also be identified, such as trade barriers, along with ways in which the international community could facilitate increased foreign investment and support in the form of technology transfer and financial support.

It is vital, while intensifying climate action, to consider different national circumstances, evoke the principles of the Convention – including those of equity and common-but-differentiated responsibilities and respective capabilities – balance mitigation, adaptation and means of implementation, such as climate finance, technology transfer and development, and capacity-building support, and take into account the overriding priority of sustainable development.

OPEC and its Member Countries welcome coordinated actions and inclusive approaches for all nations to collectively tackle climate change. The pursuit of climate actions in the context of equitable access to sustainable development and poverty eradication is a necessity more than ever amid the present disturbing times of the COVID-19 pandemic. The challenges are especially onerous for developing countries which feel the effects acutely.

For the world to emerge from the present crisis, a response, recovery and transition into a more sustainable, inclusive and resilient future requires a surge in global solidarity and cooperation. International cooperation and identification of mitigation options that could lead to ‘win-win’ solutions with environmental and socio-economic benefits are vital to ensure a fair and just transition.

Nobody should be left behind by the energy transition. Considering all viable mitigation and adaptation measures, technological innovation, including carbon capture utilization and storage technologies, enhanced investment for energy access, and improved energy efficiency must be part of the solution.

This brief note presents a case study which relates to the activities that could inform the work of the KCI. The OPEC Secretariat expresses its willingness and preparedness to collaborate with the KCI and other potential stakeholders on implementing the activities of its workplan on critical issues related to energy, climate change and sustainable development.