



Organization of the Petroleum Exporting Countries  
(OPEC)

## Input to the Talanoa Dialogue



## Summary

Climate change is seen as a multiplier of risks that results in challenges for all countries worldwide; with a wide range of adverse impacts that are likely to be highly inequitable, affecting largely the most vulnerable people in developing countries. To tackle climate change, UNFCCC Parties are expected to enhance climate actions, inscribed in their future nationally determined contributions (NDCs), aiming to put the world on a pathway consistent with the long-term goals of the Paris Agreement.

In this context, it is important to ensure a Party-driven process, recall different national circumstances; evoke the principles of equity and of common but differentiated responsibilities and respective capabilities (CBDR-RC); balance mitigation, adaptation and the means of implementation; and take into account the overriding priority of sustainable development.

This should appreciate what the term *energy transition* means for those billions of people in developing countries that continue to suffer from energy poverty. It entails a transition to a more inclusive world in which every person has access to affordable, reliable, sustainable and modern energy; without discriminating against any energy source.

It is therefore vital to use energy efficiently and constantly develop and adopt cleaner energy technologies, such as CCUS. Coordinated actions should also be enhanced, supporting research and development, innovation and technology transfer; while providing sufficient financial support and enhancing capacity building.



## The Talanoa Dialogue

### – *Mandate and approach of the Talanoa Dialogue*

As per Decision 1/CP.21, Paragraph 20, the COP decided to convene a facilitative dialogue among Parties in 2018 to take stock of their collective efforts in relation to progress towards the long-term goal referred to in Article 4, Paragraph 1, of the Paris Agreement and to inform the preparation of NDCs pursuant to Article 4, Paragraph 8, of the Paris Agreement.<sup>1</sup>

In Marrakesh, the Presidents of COP22 and COP23 were mandated to undertake inclusive and transparent consultations with Parties on the organisation of the facilitative dialogue. Parties were also invited to provide input on the objective, the level of participation, the format of the discussions, timing, inputs and the outcome of the dialogue. Based on Parties' input, the COP Presidencies prepared an initial feedback that was released on 8 September 2017, followed by an informal note dated 1 November 2017.

In Decision 1/CP.23, Parties at COP23 welcomed with appreciation the design of the facilitative dialogue – to be known as the Talanoa Dialogue – as contained in the informal note by the Presidencies and included as Annex II in the decision as well.

The Talanoa Dialogue started in January 2018 with its preparatory phase and will end at COP24 with a political phase. The name was given to reflect a traditional approach to discussions used in Fiji for an inclusive, participatory and transparent process; whereas the features of the dialogue are structured around three general questions: i) where we are? ii) where do we want to go? and iii) how do we get there?

### – *OPEC expectations about the Talanoa Dialogue*

OPEC and its Member Countries remain fully engaged and supportive of the Paris Agreement; OPEC is therefore committed to participate proactively in the dialogue encouraging its Member Countries as well.

OPEC recognises that stabilising the global climate is one of the most urgent challenges facing our planet. However, the capacity of countries to prevent climate change and cope with its consequences varies significantly. To achieve the long-term goals of the Paris Agreement, dialogue and cooperation are necessary to reach mutual understanding, build consensus and take action on climate change, while enhancing resilient and sustainable development for all.

---

<sup>1</sup> FCCC/CP/2015/10/Add.1.

In this context, it is important to ensure a transparent, participatory and Party-driven process, recall different national circumstances, and evoke the principles of the Convention – particularly those of CBDR-RC and equity; with the aim to consider pre- and post-2020 actions in mitigation, adaptation and means of implementation for the Paris Agreement implementation. In addition, UNFCCC Parties should share experiences and exchange insights through discussions in an open, inclusive and solutions-oriented way and in regards to challenges and opportunities created by climate change and aspirations for sustainable development.

Through holistic dialogue, Parties could identify inspiring solutions that could enhance Parties' collective efforts allowing the comprehensive implementation of the Paris Agreement that should be win-win in nature, recognize the diverse priorities and needs of all Parties, and contribute to global prosperity, growth and sustainable development; especially in developing countries.

## **Where we are?**

### ***– Historical responsibility, current and future trends of global emissions***

Four key observations in the current dynamics of climate change are: the growth of the greenhouse gas (GHG) emissions; the continuing large disparity in historical and per capita emissions between developed and developing countries; the shrinking carbon-space in the atmosphere for receiving additional emissions in the future; and the significant adverse impacts of climate change arising from global warming in all countries worldwide.

Starting with the latter, it should be highlighted that the effects of climate change continue to be felt around the world, with many countries experiencing extreme weather events, water scarcity, rising sea level, fires, droughts, heat waves, floods, and climate induced migration, among others. In addition to mitigation actions needed to tackle climate change, and given that climate change is a crosscutting issue that requires systemic action, adaptation is also vital to address adverse impacts of climate change in order to achieve the long-term goals of the Paris Agreement, reduce countries' vulnerability and increase their resilience.

The rising level of GHG emissions since the industrial revolution in developed countries has led to a gradual accumulation of these gases in the atmosphere. Historical net cumulative emissions are estimated at the level of about 2,200 gigatonnes (Gt) of CO<sub>2</sub> equivalent emitted by the end of 2017. The growth of CO<sub>2</sub> emissions has slowed over the last few years; with some countries having decoupled GDP growth from emissions, owing to restructuring of their economies or technology advances. However, global emissions have recently increased as a result of

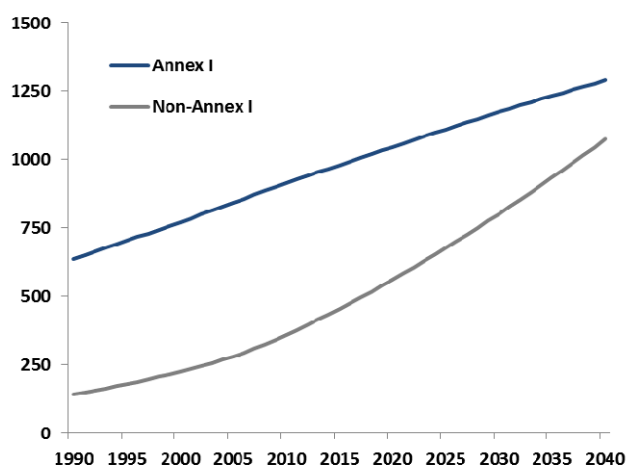
population growth and economic turn-up. Currently, CO<sub>2</sub> emissions are at about 42 Gt per year.

Within the basket of the main GHGs, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) have made the highest contribution to the rise in radiative forcing, accounting for approximately 63%, 20% and 6%, respectively. The global average concentration has also reached 405.6 ppm, which represents an increase of almost 40% from the 1850–1900 average (290.7 ppm).

Given the historical GHGs already accumulated in the atmosphere, and the remaining atmospheric space available for additional future emissions before reaching the 2°C temperature rise with a probability of 66%, the atmosphere can only accept additional emissions of about 1,000 Gt CO<sub>2</sub>.

Against the above backdrop, the historic disparity in cumulative emissions between developed and developing countries continues. Estimates of cumulative CO<sub>2</sub> emissions since 1900, as presented in Figure 1, show a significant gap in cumulative emissions between Annex I and non-Annex I countries. This has developed throughout the past century. Moreover, despite growing energy demand in developing countries, this gap is expected to remain in place throughout the Reference Case projection period. Even by 2040, historical cumulative emissions by non-Annex I countries are estimated to be more than 200 billion tonnes of CO<sub>2</sub> lower than those generated by Annex I countries since 1900.

**Figure 1: Cumulative CO<sub>2</sub> emissions from 1900**  
billion tonnes



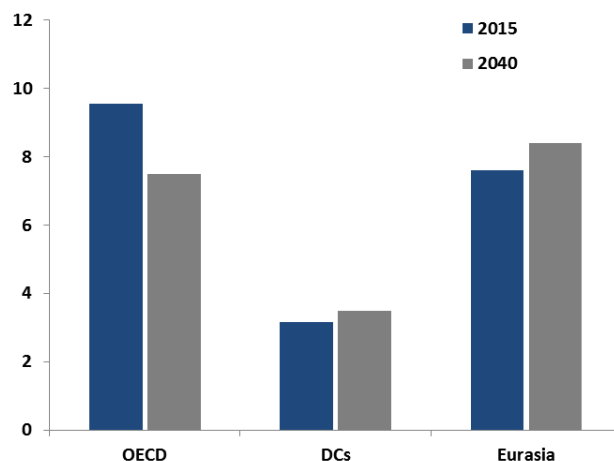
Source: OPEC Secretariat, World Oil Outlook 2040, 2018.

On a per capita basis, while emissions from OECD countries are gradually decreasing, they still remain higher than that of developing countries even in 2040. Figure 2 (next page) shows the staggering difference between the very low values in

developing countries (DCs) of slightly above 3 tonnes per capita and much higher values of 8 to almost 10 tonnes per capita in developed regions.

Moreover, the industry and building sectors are the biggest consuming sectors of electricity and heat where much of the emissions originate. The industry sector is the largest end-use sector both in terms of final energy demand and GHG emissions. Its direct CO<sub>2</sub> emissions currently account for about 25% of total energy-related CO<sub>2</sub> emissions; while the building sector accounts for more than 30% of total global final energy use, about 55% of final electricity demand, and 8% of energy-related CO<sub>2</sub> emissions (excluding indirect emissions). When upstream electricity generation is taken into account, buildings are responsible for 23% of global energy-related CO<sub>2</sub> emissions. Therefore, addressing emission in electricity generation is a key component of mitigation strategy.

**Figure 2: Per capita CO<sub>2</sub> emissions by major region  
tonnes, 2015 and 2040**



Source: OPEC Secretariat, World Oil Outlook 2040, 2018.

In addition to addressing GHG emissions in electricity sector on the supply side, measures could also be taken on the demand side to reduce consumption of electricity. Energy efficiency improvements and low GHG energy supply and demand technologies, such as carbon dioxide capture, utilisation, and storage (CCUS), renewable energy and nuclear power are options to reduce emissions. Replacement of coal-fired power plants with modern gas combined-cycle power plants could also contribute significantly to the reduction of emissions. Electricity and heat mitigation opportunities in end-use sectors, such as in the industry and buildings, could increase energy efficiency and therefore reduce GHG emissions as well.



## Where do we want to go?

### – *Parties' NDCs vs. the 2°C target*

Climate change affects all regions of the world; both developed and developing countries. In order to address the challenge of climate change, the Paris Agreement aims to hold *'the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change'* (Article 2(a)); while UNFCCC Parties are expected to implement their NDCs. However, it is estimated that Parties' contributions reported in the already submitted NDCs are not sufficient to put the world on a pathway consistent with the 2°C temperature target.

Already in Paris at COP21, Parties noted *'with concern that the estimated aggregate [GHG] emission levels in 2025 and 2030 resulting from the intended nationally determined contributions [INDCs] do not fall within least-cost 2°C scenarios but rather lead to a projected level of 55 [Gt] in 2030, and also notes that much greater emission reduction efforts will be required than those associated with the [INDCs] in order to hold the increase in the global average temperature to below 2°C above pre-industrial levels by reducing emissions to 40 [Gt] or to 1.5°C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 ...'* (Paragraph 17, Decision 1/CP.21).

Therefore, the question on how the Parties may address the inadequacy of the current global aggregate mitigation actions versus the temperature target of the Paris Agreement remains unclear.

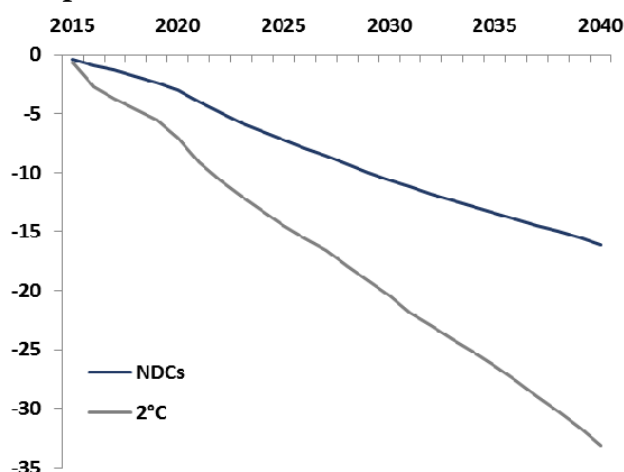
In this context, it is estimated that in 2030 global GHG emissions – excluding LULUCF – would be at the level of about 47.4 Gt CO<sub>2</sub>e assuming implementation of the Parties' NDCs. This could result in global emissions reduction of around 10.7 Gt CO<sub>2</sub>e by 2030 compared with the Reference Case. Global emissions could therefore be reduced on average by less than 1 Gt CO<sub>2</sub>e per year up to 2030 (compared with the Reference Case) when implementing the NDCs. This would also result in an estimated mitigation deficit of around 9.8 Gt CO<sub>2</sub>e in 2030, relative to the global emissions level needed for keeping the temperature increase below 2°C (Figure 3, next page).

In light of the above, it should be stressed that the Paris Agreement merely provides the platform for dialogue and initiations of the process to address this matter. Actions in the fields of mitigation, adaptation and means of implementation in the pre-2020 period, technological advances and strong leadership should play a key role for the implementation of the Paris Agreement.

Parties need also to develop long-term strategies, taking into consideration national priorities and circumstances, while the ultimate priority of developing countries is poverty eradication – including elimination of energy poverty. Public awareness should increase as well, and inclusiveness should be ensured having local

communities, the private sector and the civil society involved. At the same time, developing countries should be given the opportunity to grow and climb up the ladder for sustainable development. Developing countries should further receive adequate support to advance technologically and sufficient financial resources so as to ensure that no one is left behind.

**Figure 3: Global GHG emissions reduction in the NDCs and 2°C scenarios compared with the Reference Case, Gt CO<sub>2</sub>e**



Source: OPEC Secretariat, 2018.

### – *Energy transition*

UNFCCC Parties are expected to enhance climate actions, inscribed in their future NDCs, aiming to put the world on a pathway consistent with the long-term goals of the Paris Agreement. To this end, long-term energy demand and supply projections are to be considered, which build upon substantial growth in global population and economic activities, especially in developing countries.

Under the Reference Case, total primary energy demand is expected to increase by 91 mboe/d between 2015 and 2040 to reach 365 mboe/d in 2040. Almost 95% of the increase is accounted for by developing countries, with an average annual growth of 1.9%. The fuel with the largest estimated demand growth is natural gas, increasing by almost 32 mboe/d between 2015 and 2040, an annual average growth rate of 1.7%. Consequently, the share of natural gas in the global energy mix accounts for 25% in 2040, up 3.3 percentage points from 2015.

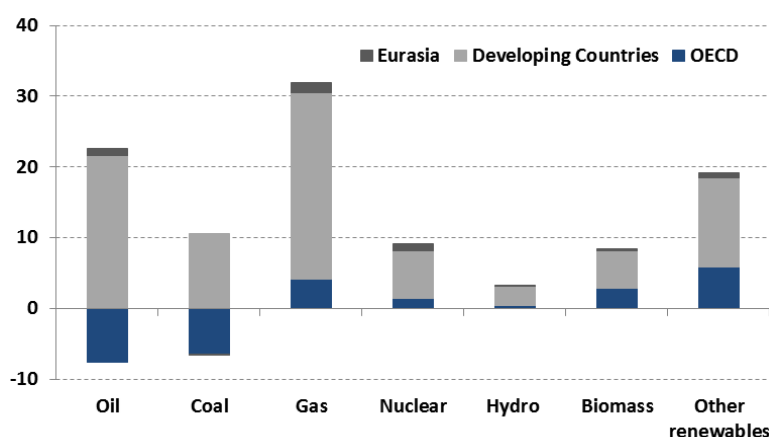
‘Other renewables’ are projected to have the highest average growth rate of around 7.4% per year during the forecast period. Nevertheless, due to the current low base, the increase in absolute terms is estimated at around 19 mboe/d between 2015 and 2040. Strong demand growth is also expected for nuclear, increasing by around 9 mboe/d, due to strong expansion in developing countries. The utilization of biomass

(including solid biofuels, waste, biogas, liquid biofuels) is projected to increase by 8.5 mboe/d between 2015 and 2040.

At the same time, coal has the lowest average growth of just 0.2% annually. Moreover, coal is the only fuel projected to reach a global demand peak during the forecast period, hitting a high of around 82 mboe/d by 2030. Oil sees a relatively low average growth rate of 0.6% between 2015 and 2040. However, due to a large base, oil demand is expected to increase by almost 15 mboe/d to just above 101 mboe/d in 2040.

Figure 4 shows demand growth for different fuels by major regions under the Reference Case.

**Figure 4: Growth in energy demand by fuel type and region  
mboe/d, 2015–2040**



Source: OPEC Secretariat, World Oil Outlook 2040, 2018.

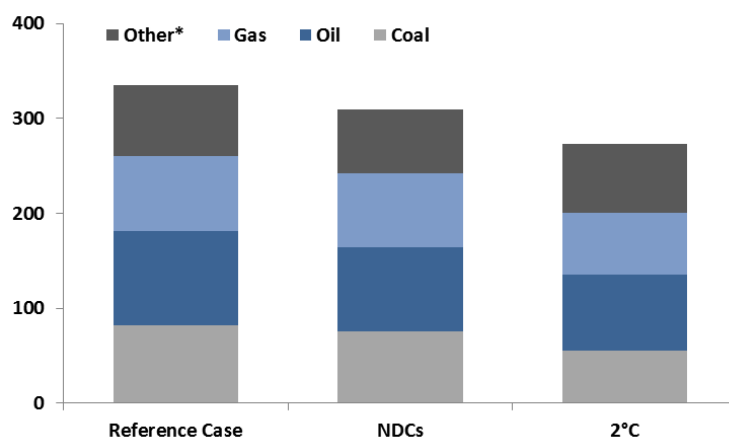
An energy transition would be required to achieve the long-term goals of the Paris Agreement. Consequently, climate and energy policies considered either for the implementation or enhancement of Parties' NDCs would have a significant impact on total primary energy demand (Figures 5 and 6, next page).

In particular, a reduction of global primary energy demand in the range of 7.5–18.5% is estimated in 2030 compared with the Reference Case. In the NDCs scenario, primary energy demand would decrease by more than 10% at the end of the projection period, whereas a 23% reduction is estimated under the 2°C scenario in 2040. Moreover, it is estimated that demand of fossil fuels would be reduced by almost 9% by 2040 in the NDCs scenario; with more detrimental impacts under the 2°C scenario.

Global energy-related CO<sub>2</sub> emissions are projected to increase over the period 2015–2040 assuming implementation of NDCs (NDCs scenario), but emissions intensity

per unit of GDP is expected to be decreasing, indicating a progressive decoupling of economic growth and emissions.

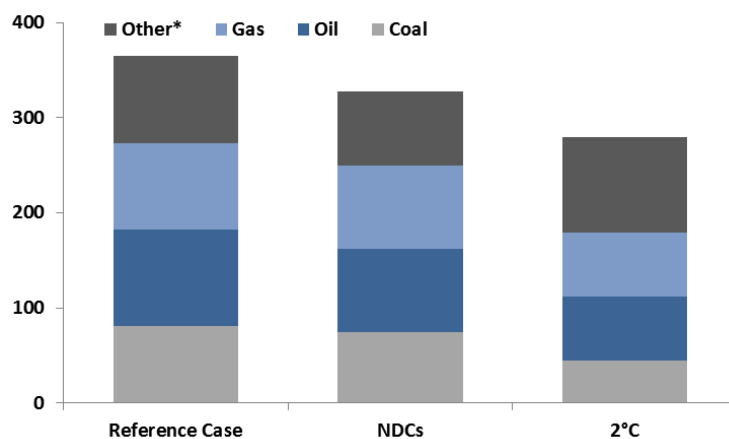
**Figure 5: Global primary energy demand and the energy mix  
2030, mboe/d**



*\* including nuclear, hydro, biomass and other renewables such as wind, solar, PV, geothermal, etc.*

Source: OPEC Secretariat, 2018.

**Figure 6: Global primary energy demand and the energy mix  
2040, mboe/d**



*\* including nuclear, hydro, biomass and other renewables such as wind, solar, PV, geothermal, etc.*

Source: OPEC Secretariat, 2018.

The growth in future energy consumption, and therefore energy-related emissions, is expected primarily in developing countries, whereas the energy transition may lead to a wide variety of potential options, with different implications for fossil fuels demand. In this context, all energy sources will be needed in the years ahead to meet energy demand. The energy transition also means ensuring that energy is made available to all of the world's population. This entails a transition to a more inclusive world in which every person has access to energy.

Given the above, the unique situation of developing countries should be given the priority it deserves, whereby UNFCCC Parties formulate their contribution to tackle climate change in line with their country's legitimate interests, development priorities and focusing on their own national circumstances, particularly to eradicate energy poverty.

Furthermore, it is important to examine how adaptation to climate change can be implemented in the case of developing countries, in order to render them more resilient, while minimizing the adverse effects of mitigation measures through economic diversification.

Therefore, it remains imperative that the implementation of the Paris Agreement is in the context of a Party-driven process taking into consideration the overriding priorities of sustainable development and poverty eradication; whereby developing countries are provided adequate, predictable and sustainable means of implementation, including financial and technological support as well as capacity building.

OPEC is supportive of the Paris Agreement – OPEC welcomed its early entry into force toward the end of 2016 and believes this remains the best path forward. In addition, OPEC Member Countries played an important role in reaching the Paris Agreement – and they will also play a constructive role in its implementation. All OPEC Member Countries have signed the Paris Agreement and all have already or are in the process of ratifying it.

To this end, developing countries are looking to developed countries to provide leadership, as they require support in the areas of technology and finance in order to contribute to the implementation of the Paris Agreement. In this regard, OPEC welcomes coordinated actions and inclusive approaches for all nations to collectively tackle climate change and actively participates in the Talanoa Dialogue – aimed at determining how collective actions can enhance global efforts to combat climate change.

#### ***– Adverse impacts on energy exporting countries***

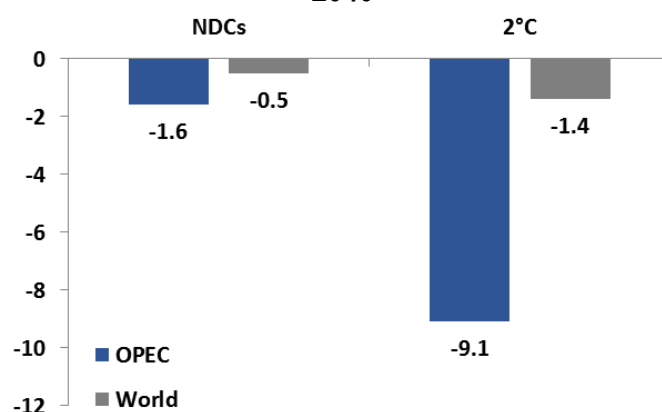
To contain climate change, significant collective efforts by all nations are needed. However, these efforts may bear significant economic costs. Therefore, designing least-cost approaches would be important, considering the mitigation cost is not uniformly distributed among regions and countries.

Robust evidence prevails on economies dependent upon fossil fuel-based energy generation and/or export revenue, which will be disproportionately affected by the future need to restrict the use of fossil fuels via stranded assets, unusable resources underground, lower capacity use, the early phase-out of large infrastructure already under construction under stringent climate goals and higher carbon prices.

To this end, OPEC Member Country economies are expected to face large adverse impacts arising from the implantation of the NDCs and their potential enhancement. The reduction of OPEC Member Countries' GDP is large under the NDCs and 2°C scenarios compared with the overall effect for the global economy. Under the NDCs scenario, the reduction of OPEC Member Countries' GDP could be 1.6% compared with a 0.5% decrease in global GDP for the year 2040. A more negative effect would also result from the 2°C scenario. Analysis showed that a path consistent with such temperature target would reduce global GDP by 1.4% in 2040, whereas for OPEC Member Countries, GDP is expected to be reduced by almost 10% (Figure 7).

It is evident that the more stringent the policies, the worse the implications would be for petroleum exporting countries owing mainly to lower oil incomes, reductions in oil demand and, thus, weakened terms of trade. Considering oil export revenues account for a significant share of OPEC Member Countries' GDP, the estimated reductions would also have an impact on their economies. However, OPEC Member Countries' losses vary across the scenarios. Economic diversification supported by increased foreign direct investment could help alleviate the potential adverse economic impacts. Nonetheless, such measures are not sufficient enough to fully mitigate the impacts of more stringent policies.

**Figure 7: Percentage change in GDP compared with the Reference Case 2040**



Source: OPEC Secretariat, 2018.

In light of the above, it should be emphasised that developed countries have agreed to help developing countries adapt to the adverse impacts of climate change and enable economic development to proceed in a sustainable manner. Any potential adverse impacts could be minimised should the portfolio of mitigation policies by developed countries be selected with a view to achieve their mitigation commitments in a least-cost manner, while minimising the adverse impacts of response measures. This should be counterbalanced by the right to development. It also gives more importance to adaptation. The commitments of developed countries in terms of provision of means of implementation to developing countries should be enhanced,

be more ambitious, and subject to strict monitoring, reporting, and verification measures.

## **How do we get there?**

The different starting point between developed and developing countries needs serious consideration for the implementation of the Paris Agreement, as reflected in its Article 4.1. UNFCCC Parties should act according to their socio-economic circumstances as a one-size-fits-all approach will not be constructive. Developing countries should have the policy space to address climate change in the context of sustainable development.

Moreover, climate change is seen as an emergency multiplier that results in challenges for all countries worldwide. As a multiplier of risks, a wide range of challenges and adverse impacts from climate change are expected. These challenges and impacts are likely to be highly inequitable, affecting all developing countries, particularly the poorest and least developed countries. The unique situation of developing countries should therefore be given the priority it deserves, having the right to sustainable development, eradication of poverty and ensuring energy access for all.

All energy sources will be needed to meeting future energy demand and affordable, reliable, sustainable, and accessible modern energies should be provided to all. All available and affordable options should also be considered to mitigate climate change by reducing anthropogenic emissions by sources and their removals by sinks. In this regard, it is vital to develop and adopt cleaner energy technologies, for production and consumption of energies as well as decreasing the GHG emissions, particularly such as CCUS. Furthermore, coordinated actions should be enhanced, supporting research and development, innovation and technology transfer; while also providing sufficient financial support. Thus, OPEC welcomes coordinated actions and inclusive approaches for all nations to collectively tackle climate change.

Concurrently, the process of enhancing Parties' ambition in order to achieve the objectives of the Paris Agreement should be in line with the principles of the Convention, including those of equity, common-but-differentiated-responsibilities and respective capabilities, and historical responsibility. Parties' actions should be focusing both on mitigation and adaptation for the pre- and post- 2020 periods; whereas developing countries should receive the support and means of implementation needed to be provided by developed countries.

An example of collaboration on the subject matter is the Oil and Gas Climate Initiative (OGCI), which aims to increase the ambition, speed and scale of the initiatives undertaken by individual companies to reduce the GHG footprint of the oil and gas business – and to explore new business models and technologies.



The OGCI is a bottom-up, voluntary, industry-driven initiative, which is expected to enable the oil and gas industry to work collaboratively to address climate concerns. It is a unique collaboration, launched in 2014, that serves as a platform to advance technological solutions and to catalyse meaningful action and coordination on climate change. Comprised of 13 oil and gas companies (BP, Chevron, CNPC, Eni, Equinor, EXXonMobil, Occidental Petroleum, Pemex, PETROBRAS, Repsol, Saudi Aramco, Shell, and Total), they represent about 30% of the global oil and gas production. Chief executives are personally invested in steering and leading the initiative. This engagement and leadership has transformed the way in which these companies approach collaboration on climate-related issues.

OGCI Climate Investments, OGCI's investment arm, has also been set up in November 2016 to invest one billion dollars over the next decade to accelerate the development of innovative technologies that, once commercialised, have the potential to reduce GHG emissions on a significant scale. Four priority areas have been identified: i) reducing methane emissions; ii) accelerating the deployment of CCUS; iii) improving industrial energy efficiency; and iv) contributing to transportation efficiency.

Thus, international cooperation and just transition should be considered vital for the implementation of the Paris Agreement, whereas partnerships are important to support each other to increase synergies and share stories and best practices.

The complex link between climate change and sustainable development need also to be considered, so that maximising synergies and limiting trade-offs should be the goal when planning future actions to reduce climate change and pursuing sustainable development promoting equitable societies. This would also depend on an enabling international cooperation and financial architecture that allows access to finance and technology and helps address trade barriers.