HIGH-LEVEL POLITICAL FORUM
ON SUSTAINABLE DEVELOPMENT

Building back better after COVID-19 and acting where we will have the greatest impact on the SDGs:

Sustaining efforts to ensure access to sustainable energy

(Most closely related SDG: SDG 7, SDG 12, SDG 13, and SDG 17)

July 8, 2020, 15.00-16.00

Background Note[1]

1. Executive summary

We must maintain global momentum to accelerate a shift towards decarbonised, climate resilient energy systems with universal energy access. Before the COIVID-19 pandemic, the world had been undergoing a transformation of energy systems at an unprecedented scale, accelerated by innovations, rapid cost declines for clean technologies, and related policy shifts. Failure to transition to more accessible, affordable and sustainable energy systems will jeopardise the fight against climate change and threatening human well-being, ecosystems and economies for decades. We must maintain our highest level of political commitment, determination and unity against climate change even as we mobilise against the COVID-19 pandemic.

Overall efforts are falling well short of the scale required to reach the SDG 7 targets by 2030. 789 million people live without electricity, while 2.8 billion people still without access to clean cooking solutions. The renewable energy is advancing rapidly in the power sector but lagging far behind in the heating, cooling and transportation sectors. Progress on energy efficiency still remains below the level required to double global energy efficiency by 2030.

Post COVID-19 recovery strategies present opportunities for economies to become greener and more resilient– based on the SDG 7 targets. The COVID-19 crisis could either widen the existing sustainable energy access gaps or accelerate the path towards achieving SDG 7. The outcome depends on the priorities of national economic stimulus packages and global responses to support those most in need. Governments should invest in sustainable energy solutions to expand energy access, create jobs, improve health, make economies more competitive and resilient, and advance the SDGs. The COVID-19 pandemic has also contributed to historically low oil, gas and coal prices, presenting a unique opportunity for reform, including the reduction or removal of fossil fuel subsidies while protecting vulnerable populations.

Far more needs to be done to achieve net-zero emissions by 2050 in pursuit of the 1.5°C goal.

[1] This background note has been drafted by UNDESA, UNIDO and IMO and benefited from the knowledge and expertise of other UN agencies and experts as listed on the HLPF session website

The world currently remains on a dangerous 3°C pathway. Current levels of ambition related to renewable energy and energy efficiency do not match the efforts needed for meeting the mitigation targets set out in the Paris Agreement. Countries should integrate more ambitious targets and policies into their enhanced Nationally Determined Contributions (NDCs).

Energy technology innovation will be key in accelerating the energy transition. Governments will need to design policies and incentives to encourage the necessary risk-informed and resilient investments to support those technologies and approaches as well as R&D as a whole. It is paramount to transform human behaviour from energy-intensive lifestyles to more sustainable patterns, promoting risk-informed technological and institutional changes that would result in adequate food, clean water, better education and reduction of poverty, disaster risk, and gender inequalities, together with reductions in air pollution and greenhouse gas emissions. Strengthened capacity-building and improved data quality and availability are necessary to ensure effective implementation of SDG7.

In the time of the pandemic, strong political commitments by governments and multilateral cooperation will be more crucial than ever in maintaining the momentum for SDG 7. International and national entities and stakeholders must collaborate to reshape the global energy system towards net-zero CO2 emissions by mid-century so as to meet the goals of the Paris Agreement including by introducing carbon pricing and phasing out fossil fuel subsidies.

2. Stocktaking and challenges

Significant progress has been recorded in several SDG 7 targets over the past years (Tracking SDG 7: Energy Progress Report, 2020). But progress has been uneven, and without concerted action we will fall short in unlocking SDG 7's transformative potential by 2030.

Access to electricity is advancing, although unevenly. Since 2010 more than a billion people have gained access to electricity, with 90% of the planet's population connected by 2018. Yet 789 million people still live without electricity. and hundreds of millions live with unreliable electricity. Moreover, criteria applied to determine electrification do not ensure that electrified areas have sufficient electricity access. Efforts must be intensified, especially in Sub-Saharan Africa which accounts for 70% of the global deficit. Only 52% of the overall population of least developed countries (LDCs) had access to electricity in 2018. In some LDCs, rural access rates are well below 10%. The average proportion of population with access to modern energy in the land-locked developing countries (LLDCs) is 55%. The share of modern renewables in total final energy consumption is 11 % in 2018. In 2017, the proportion of population with access to electricity in small island developing states (SIDS) was 82%, representing a small increase from 78% in 2014. The disparities between urban and rural and remote areas remain wide and in 2017, 95% of urban population had access compared to 61% of rural population. Disproportionate reliance on fossil

fuels in SIDS renders them highly vulnerable to fluctuations in global oil prices and directly results in these nations having some of the highest electricity tariffs in the world.

Access to clean cooking continues to lag severely behind. Globally, there are 2.8 billion people still with- out access to clean cooking solutions. In Sub-Saharan Africa, the number of those lacking access increased from 750 million in 2010 to 890 million in 2018. In 2018, only 16% of the people in LDCs had access to clean fuels and technologies for cooking. In 22 LDCs, mostly in Africa, it was less than 5%. Major initiatives, political prioritization and substantial investments coupled with community mobilization will be needed to achieve universal access to clean cooking solutions. The COVID-19 pandemic has shown even more clearly the urgency of investing in clean cooking solutions for all, as exposure to air pollution increases the frequency and impact of lung-related diseases., impacting women even worse than children and men given the traditional responsibility of women to prepare the family meals.

Access to clean water and sanitation remains one of the major issues. According to a new report by UNICEF and the World Health Organization 2.2 billion people do not have access to clean drinking water and 4.2 billion people do not have access to clean sanitation. Sustainable energy has been proving that it has a crucial role in achieving universal access to clean water and sanitation especially for vulnerable communities and during crisis times such as the COVID-19 pandemic. The Water-Energy Nexus has been gaining more attention and is recognized as two integrated and vital components in our lives and the pursuit of the SDGs.

Key challenges for closing the access gap include a lack of inclusive policy frameworks for renewable energy as well as inadequate funding for new projects (including on-grid, off-grid and mini-grid projects as well as non-electricity uses of energy), lack of access to clean and modern cooking fuels and technology, unfavourable market conditions and bottlenecks to encourage investment into renewables and increase energy efficiency, and heavy dependence on imported fossil fuels for both transportation and electricity, especially in the case of SIDS. These policy frameworks should take into account needs of vulnerable communities, such as women, youth, children, persons with disabilities and indigenous communities. All of them already do and will continue to play a crucial role in deployment of sustainable energy.

Financing for SDG 7 remains uneven and special attention is needed for least developed countries, landlocked developing countries and small island developing States. International public financial flows to developing countries in support of clean and renewable energy reached US$ 21.4 billion in 2017, a two-fold increase from 2010. Yet, only a small proportion of this funding reached the countries most in need, such as LDCs, LLDCs and SIDS. Investments in off-grids and mini-grids solutions, which are especially needed to serve rural communities, remain a small proportion (1.2%) of the total financing for electricity. Financing for clean cooking is even

more worrisome, with only US$ 32 million available out of the US$ 4.4 billion estimated to be needed in order to achieve universal access to clean cooking. Innovative multi-stakeholder partnerships, radical change in pace and massive investments over the next few years will be essential for the energy transition in these three groups of countries in order to leave no one behind.

To decarbonize the energy sector, a profound transformation needs to take place through the wider adoption of renewables and energy efficiency technologies and measures, as well as increased electrification of end uses. The transition to increasingly electrified forms of transport and heat, when combined with increases in renewable power generation, would deliver around 60% of the energy-related CO2 emissions reductions needed by 2050. If additional reductions from the direct use of renewables are considered, the share increases to 75%. When adding energy efficiency, the share increases to over 90% of the energy-related CO2 emissions reductions needed to set the world on a pathway to meeting the Paris Agreement targets.

Hence, deployment of modern renewables needs to be scaled up in all end-use sectors, while ensuring a just energy transition. The overall share of modern renewables in the global energy mix was11 % in 2018, according to REN21 GSR 2020. The world has witnessed a rapid decline in renewable energy costs: the global weighted average cost of electricity from all commercially available renewable power generation technologies continued to fall in 2018. While renewable energy reached an unprecedented level in global electricity consumption over the last decade, with solar PV and wind leading the way, adoption of renewable energy in the heating and transportation sectors is lagging far behind its potential. Measures to safeguard and promote the renewable energy industry, and to quickly extend access to renewable energy technologies in underserved areas, including through public and private finance, will be critical in the wake of the COVID-19 crisis.

Energy efficiency ambitions are also lagging behind. Progress on energy efficiency is accelerating, but still remains below the target. Primary energy intensity improved at 2.2% per year on average between 2010 and 2017, far better than the progress observed for the period 1990-2010, when annual improvements averaged 1.3%. However, achieving the global energy efficiency target will require even more dramatic improvements, at a rate of 3% per year on average between 2017 and 2030. By making energy-efficiency measures a policy and investment priority (for example, through minimum energy-efficiency standards, financial incentives, market-based mechanisms, capacity-building initiatives, and regulatory instruments), governments can help the world achieve the global energy efficiency target by 2030.

3. COVID-19 crisis: impacts and recovery

The COVID-19 crisis serves as an eye opener regarding the multifaceted vulnerabilities associated with the sustainability of our energy systems and their ability to support socioeconomic growth and development. At the same time, the crisis offers a unique opportunity for sustainable energy to play a central role in countries' efforts to recover from the COVID-19 crisis in ways that make them better and stronger. By making the energy transition an integral part of the wider recovery, governments can achieve a step change in the pursuit of a healthy, inclusive, prosperous, just and resilient future.

Greenhouse gas emissions are in sharp decline due to the COVID-19 pandemic, however this trend is expected to reverse unless bold policies and decisive measures are put in place. Emissions were down worldwide due to a decline in economic activity. It is necessary to fully utilize lessons learned from implementing the COVID-19 containment measures, such as reduced travel, use of digital technologies instead of in-person meetings, and increased telecommuting, to design and introduce transformational climate-friendly and energy-saving working arrangements and lifestyles. We should make a concerted effort to demonstrate the value of renewables for post-crisis economic recovery.

Energy services are essential for fighting the pandemic – including for powering healthcare facilities and keeping medicines cold, supplying clean water for people to wash their hands, and providing communications services to connect people, share information, and facilitate education during social distancing. Expanding these services through increased investments in sustainable energy solutions will aid countries in responding to the pandemic and, as well as other future disasters, while also creating a significant number of green jobs, empowering women, reducing GHG emissions and advancing related Sustainable Development Goals. Due to the pandemic, much of education globally has moved to remote modalities. Access to energy is also needed to support adequate access to information through the internet and mobile phones, and at schools that currently lack electricity. Otherwise, there is a risk of generations lagging behind with their education.

The current low fossil fuel prices offer a unique opportunity to phase out harmful fossil fuel subsidies and coal. The COVID-19 pandemic has contributed to historically low oil, gas and coal prices, which will likely persist throughout 2020. This creates an opportunity for reform, including the reduction or removal of inefficient fossil fuel subsidies while protecting vulnerable populations. For countries heavily dependent on imported fossil fuels, energy security is a significant issue. Renewables can provide a more secure alternative to fossil fuels by increasing the diversity of energy sources through local generation, thus contributing to the flexibility of the system and improving resistance to shocks.

For clean energy investments to contribute to a better and stronger recovery from the COVID-19 pandemic, they must be risk-informed. Hazards both impact upon, and can be caused by the energy sector. Investments in hydropower must be informed by the risk of drought, and it is necessary for dams to take the risk of collapse into account in their development. Adequate disaster risk reduction measures, including lessons learned from major accidents in nuclear power, must be incorporated into the design of nuclear power plants and issues regarding the long-term management of nuclear waste resolved. It is critical that this foundational component to other systems that additionally reduce disaster risk in the event of anthropogenic or natural hazards is risk-informed, including to the risk of cyberattacks. The frequency and intensity of extreme weather events is being augmented due to climate change and energy generation must be resilient and adaptive to cope.

4. Policies and actions to maximize synergies, mitigate trade-offs and drive transformation

Achieving SDG 7 will catalyze actions to combat climate change and advance targets of the other SDGs, including: poverty eradication, gender equality, food security, health, education, sustainable cities and communities, clean water and sanitation, decent jobs, sustainable industrialization and innovation, transport, disaster risk reduction, and refugees and other situations of displacement. Special emphasis should be placed on mainstreaming gender considerations into all SDG-related energy actions, as well as climate change responses, and on promoting energy services for productive end uses to enhance development benefits.

Clean energy developments have multiplier impacts throughout the socio-economic footprint, including in terms of GDP, employment and human welfare. Transforming the energy system can boost global GDP in 2050 by 2.4%. The cumulative gain from 2019 to 2050 amounts to USD 98 trillion. While the economy-wide employment increases by 0.15% (6.5 million more) in 2050, the energy jobs overall would reach 100 million by 2050, about 40 million more than today. The job gains from transition-related technologies (renewable energy, energy efficiency) would outweigh the losses in conventional energy jobs (fossil fuels and nuclear energy) in all regions. It is however necessary to ensure a just transition of workforce from fossil fuel-based energy jobs to clean energy ones by providing access to skill development and training.[2]

Investing in energy access will enhance opportunities to end hunger and achieve global food security (SDG 2). Strengthening the capacity of countries in harnessing clean and renewable energy technologies will strengthen food security, expand sustainable food production and

[2] https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020

address other challenges related to the Water-Energy-Climate-Food Nexus. Resource extraction and thermal cooling both require substantial amounts of water, and thermal and chemical pollution from the energy sector can affect aquatic ecosystems. This can lead to increased disaster risk, both in terms of water scarcity and contributing to the degradation of both land (SDG 15) and marine (SDG 14) environments. The concept of circular economy with the focus on waste, renewable energy and sustainable bioenergy is a critical factor in the energy transition.

The energy sector is pivotal to reduce greenhouse gas emissions and mitigate climate change, thereby achieving SDG 13. The rapid deployment of renewables, coupled with energy efficiency, can achieve most of the decarbonisation in the energy sector needed by 2050, while advancing economic growth and development. The new round of Updated Nationally Determined Contributions (NDCs) under the Paris Agreement due in 2020 should fully reflect the significantly elevated ambition required to deliver on the Paris Agreement.

Cities need to turn into centers of action on decarbonization. Cities are responsible for 70% of the global greenhouse gas emissions from burning fossil fuels, and shall be supported in their rapid decarbonisation. The switch to clean renewable energy sources and boosting energy efficiency, along with cost reductions and developments in urban electromobility, would contribute significantly to SDG11 aiming to make cities and human settlements inclusive, safe, resilient and sustainable.

Energy poverty impacts women disproportionately especially due to domestic dependence on biofuels, traditional gender roles, and related health problems, exacerbating vulnerability. For women to be key agents of sustainable energy, they need to be empowered and fully engaged at all levels of decision-making processes, recognizing their transformational role in providing innovative energy solutions.

5. Means of implementation: mechanisms and partnerships to accelerate progress

Science and technology

Energy technology innovation will be key in accelerating the energy transition. Innovation has already helped enable dramatic reductions in the costs of key renewable energy technologies. Significant further innovation is needed however, in all aspects of the energy system, if we are to markedly accelerate the energy transition, achieve the SDG 7 targets and meet the Paris Agreement on climate change. Getting to zero emissions requires concurrent deployment of various technological options. Electrification powered by renewables needs to be the driver for deeper decarbonisation, including of the heating/cooling and transport sectors. To integrate variable renewable resources into grids at the scale necessary to mitigate climate change, energy

storage will be key. It is also critical to foster innovation to address challenging sectors such as shipping, aviation and heavy industry. Increased support is needed for innovation across the innovation chain (research, development and demonstration) including taking a systemic approach where technology development is partnered with innovations in business models and changes in the way processes operate and is enabled by innovative approaches to policy and market design.[1] Governments will need to design policies and incentives to encourage the necessary risk-informed and resilient investments to support those technologies and approaches as well as R&D as a whole.

Mobilizing Investments

The overall financing for SDG 7 will need to be more than double globally, to US$ 1.3 to 1.4 trillion per year. The bulk of investment will need to come from the private sector, but appropriate governance, institutional and regulatory structures are key to attract the capital required. The renewable energy investment landscape is witnessing a proliferation of new business models and investment vehicles, which can activate different investors and finance all stages of a renewable asset's life. Examples include the rise of the green bond market, growing interest in corporate procurement of renewable power and new business models for small-scale renewables such as the pay-as-you-go model.

Capacity building

Strengthened capacity-building is necessary to ensure effective implementation of SDG7. Across countries, a wide variety of capacity-building strategies and activities have been used to promote access to clean energy, and a wider deployment of energy efficiency and renewable energy technologies and services. Regional cooperation is crucial for developing effective capacity-building. These lessons need to be synthesized to provide a solid basis for scaling up capacity-building efforts, including on enabling frameworks, technology cooperation, investment measures, technical know-how transfer and training of staff.

Data

Sustained efforts are needed to improve data quality and availability. Current indicators do not make it possible to capture the affordability and reliability dimensions emphasized by SDG7. It is important to strengthen statistical capacity to produce accurate energy balances, particularly in the developing countries, where many challenges remain in capturing, for instance, the traditional uses of biomass. There is still relatively little information on the energy efficiency of major consuming sectors outside of the major economies that is critical to inform policy interventions.

Behavior and lifestyle change

It is paramount to transform human behaviour from energy-intensive lifestyles to more sustainable patterns, promoting risk-informed technological and institutional changes that would result in adequate food, clean water, better education and reduction of poverty, disaster risk, and gender inequalities, together with reductions in air pollution and greenhouse gas emissions.

Global Partnerships

We call on all Member States and other stakeholders to drive the global energy transformation forward by forming transformational partnerships. that involve stakeholders from all levels of civil society. In dealing with the pandemic, strong political commitments by governments and multilateral cooperation will be more crucial than ever in maintaining the momentum for SDG 7. It is critical to harness the power of all stakeholders to drive change through advocacy, capacity-building, mobilization and collaborative action, including businesses, civil society, women, youth. and indigenous communities Multi-stakeholder initiatives play a central role in accelerating action., such as the Coalition for Disaster Resilient Infrastructure (CDRI), which aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks, thereby ensuring sustainable development, launched by the Government of India, in partnership with the UN Office for Disaster Risk Reduction, and in collaboration with the World Bank, the UN Development Programme and the Global Commission on Adaptation, in 2019 at the Climate Action Summit UN entities, international organisations, and multilateral development banks, as well as the private sector, civil society and other stakeholders, must step up and strengthen their efforts to support the implementation of the SDGs. The High-Level Political Forum, the UN Decade on Sustainable Energy for All, and the High-Level Dialogue on Energy in 2021 can all inspire actions in support of SDG 7. Other intergovernmental platforms should also be leveraged to enhance synergies to help achieve the goals of the 2030 Agenda and the Paris Agreement, including the Global Sustainable Transport Conference, the United Nations Ocean Conference, the Biodiversity Summit, the Food Systems Summit, the United Nations Climate Change Conference, the Vienna Energy Forum, the Fifth United Nations Conference on the LDCs and the annual Assembly of the International Renewable Energy Agency.

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