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Ensuring access to affordable, reliable, sustainable and modern energy for all

Report of the Secretary-General

Summary

Submitted pursuant to General Assembly resolution 75/221, the present report provides an overview of the progress made towards ensuring access to affordable, reliable, sustainable and modern energy for all and highlights actions taken by Member States and other stakeholders to accelerate progress towards that objective. The report also provides an update on the implementation of the United Nations Decade of Sustainable Energy for All, the preparations in connection with the high-level dialogue on energy to be held in September 2021 and recent and planned efforts of UN-Energy in support of Sustainable Development Goal 7.

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I. Introduction

1. The present report is submitted pursuant to General Assembly resolution 75/221, in which the Assembly requested the Secretary-General to submit, at its seventy-sixth session, a report on the implementation of the resolution, including activities carried out to mark the United Nations Decade of Sustainable Energy for All.

II. Ensuring access to affordable, reliable, sustainable and modern energy for all in the time of the coronavirus disease pandemic

2. Energy is central to the achievement of both the 2030 Agenda for Sustainable Development and the Paris Agreement under the United Nations Framework Convention on Climate Change. Access to affordable, reliable, sustainable and modern energy for all is fundamental to human development and to many of the Sustainable Development Goals. A shift towards sustainable energy solutions is also essential to the achievement of the Paris Agreement.

3. Decisive action on sustainable energy can catalyse progress towards the other Sustainable Development Goals: ending poverty (Goal 1); ending hunger (Goal 2); running health-care facilities (Goal 3); providing access to education (Goal 4); improving gender equality (Goal 5); providing access to clean water and sanitation (Goal 6); promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all (Goal 8); building resilient infrastructure and promoting inclusive and sustainable industrialization (Goal 9); reducing inequalities (Goal 10); building sustainable cities and communities (Goal 11); promoting sustainable production and consumption (Goal 12); taking urgent action to combat climate change (Goal 13); life below water (Goal 14); life on land (Goal 15); creating peace, justice and strong institutions (Goal 16); and promoting global partnership for sustainable development (Goal 17).

4. The coronavirus disease (COVID-19) pandemic presents not only challenges but also an unexpected opportunity to both advance progress towards sustainable energy goals and reduce social and economic inequality. With strategic planning and collaboration, Governments can use this otherwise tragic time as a catalyst for building back better, leveraging their pandemic-related economic stimulus packages to scale up investments in sustainable energy solutions for a just transition that will support new employment opportunities and more equitable societies.

5. It is necessary to capitalize on the growing global momentum and commitments of stakeholders towards clean energy transition and net zero emissions to advance action on Sustainable Development Goal 7 in pursuit of the objective of limiting global warming to 1.5 degrees Celsius above pre-industrial levels. Current levels of ambition related to sustainable energy as reflected in nationally determined contributions under the Paris Agreement are not yet in line with a net zero emissions trajectory by 2050. It is urgent to establish bold policy action facilitating a faster transition to more accessible, affordable and sustainable energy systems.

6. Pursuant to resolution 74/225, a high-level dialogue on energy will be convened by the Secretary-General at the summit level in New York in September 2021, during the seventy-sixth session of the General Assembly, with the support of relevant United Nations system entities. Its aim is to promote implementation of the energy-related goals and targets of the 2030 Agenda, in support of the implementation of the United Nations Decade of Sustainable Energy for All (2014–2024), including the global plan

of action for the Decade, and the high-level political forum on sustainable development.

7. As the first global gathering on energy under the auspices of the General Assembly in 40 years, the high-level dialogue can serve as a crucial vehicle for galvanizing the political commitment and accelerated implementation required in the coming years. It will represent an unparalleled opportunity to mobilize worldwide action on Sustainable Development Goal 7 and net zero emissions in support of achieving poverty eradication and other Goals. Synergies with forthcoming intergovernmental processes, including on transport, oceans, biodiversity, food systems, climate change and the least developed countries, should also be fully leveraged.

III. Progress towards ensuring access to affordable, reliable, sustainable and modern energy for all[1]

A. Global overview

8. The world has made significant progress towards the achievement of Sustainable Development Goal 7 in some areas. Nevertheless, efforts remain well below the scale required to meet the Goal by 2030. If global momentum towards universal energy access and a decarbonized, climate-resilient energy system is not accelerated, it will not be possible to deliver successfully on Goal 7 and many other Goals.

Access to electricity

9. The share of the global population with access to electricity increased from 83 per cent in 2010 to 90 per cent in 2019, with 1.1 billion people gaining access during that period. After accounting for population growth, the global population without access to electricity fell from about 1.2 billion in 2010 to 759 million in 2019. There was continuous progress from 2017 to 2019, with 130 million people gaining access to electricity annually, compared with an average of 127 million people per year between 2010 and 2017.

10. The world's electricity access deficit is primarily concentrated in sub-Saharan Africa. The access rate in sub-Saharan Africa increased from 33 per cent in 2010 to 46 per cent in 2019, leaving 570 million people without access to electricity. The three countries with the largest numbers of people lacking access are in sub-Saharan Africa: Nigeria (90 million), Democratic Republic of the Congo (70 million) and Ethiopia (58 million).

11. Despite recent progress in global electrification growth rates, the world still falls short of what is needed to achieve the goal of universal access to electricity by 2030. To close the gap, it has been estimated that the annual rate of growth in electrification would have to rise to 0.9 per cent annually until 2030, compared with 0.7 per cent for

[1] This and subsequent sections of the report draw on the following documents: the policy brief entitled *Leveraging Energy Action for Advancing the Sustainable Development Goals*, compiled by the technical advisory group on Goal 7 in support of the 2021 session of the high-level political forum on sustainable development; *Tracking SDG 7: The Energy Progress Report 2021*, a joint report of the International Energy Agency, the International Renewable Energy Agency, the Statistics Division of the Department of Economic and Social Affairs, the World Bank Group and the World Health Organization; and the five technical working group theme reports in support of the high-level dialogue on energy.

the period from 2017 to 2019. Economic disruptions related to the COVID-19 crisis could make it even harder for some countries to reach their targets.

12. Particularly concentrated efforts are needed to close the access gap in sub-Saharan Africa. At the current rate of progress, it is estimated that about 555 million of the 660 million people without access to electricity in 2030 will be in sub-Saharan Africa.

13. The pace of progress in access to electricity must accelerate significantly, however, to reach the target by 2030. An integrated approach to access to electricity and increased financing across technologies, including mini-grid and off-grid solutions, are required. The promotion of productive uses of electricity will leverage the socioeconomic benefits of electrification while increasing the viability of business models. Support training and skills-building will also be critical, along with creating opportunities for employment, encouraging the participation of women in the sector and engaging with communities to increase awareness.

Access to clean cooking solutions

14. The share of the global population with access to clean fuels and technologies for cooking increased from 57 per cent in 2010 to 66 per cent in 2019, leaving approximately 2.6 billion people without access. The Latin America and the Caribbean region has remained stable, with access at 88 per cent. The regions of Central and Southern Asia and Eastern and South-Eastern Asia account for the highest access gains for the period from 2010 to 2019, with annualized increases in access to clean cooking solutions of 2.5 per cent and 1.4 per cent, respectively.

15. The increase in access between 2010 and 2019 was led by the following five countries, in order of the number of people who gained access: India, China, Indonesia, Brazil and Pakistan. The global access rate for all other low- and middle-income countries has remained stagnant.

16. In sub-Saharan Africa, population growth between 2010 and 2019 was higher than the growth in the number of people with access to clean cooking solutions, leaving around 85 per cent of the population in 2019 without access to clean fuels and technologies for cooking. Some 20 countries accounted for 81 per cent of the global population without access to clean fuels and technologies in the period from 2015 to 2019, and 7 of those countries had access levels of 5 per cent or less: Democratic Republic of the Congo, Ethiopia, Madagascar, Mozambique, Niger, Uganda and United Republic of Tanzania.

17. The improvement in the global access rate over the past few decades has been slow. If current trends continue, only around 70 per cent of the global population will have access to clean cooking fuels and technologies by 2030. That would leave 2.3 billion people, split almost equally between developing Asia and sub-Saharan Africa, relying on traditional use of biomass, kerosene or coal as their primary cooking fuel.

18. To achieve the goal of universal access to clean fuels and technologies for cooking, it is estimated that gains in access need to increase by at least 3 per cent annually until 2030, compared with 1 per cent in the period from 2010 to 2019.

19. Strengthened political commitment to providing clean cooking fuels and technologies is necessary. Major initiatives and substantial investment, both public and private, will be needed to encourage the uptake of clean cooking fuels and technologies by 2030. This is particularly important after the economic challenges that the COVID-19 pandemic has caused, which threaten to reverse recent progress in some regions. Innovative solutions relying on biogas fuel and solar energy should be considered in addition to the more common solution of improved cooking stoves.

Countries should take advantage of tools available to help to identify the costs and benefits of transitions to cleaner fuels and technologies. As the effect of the parallel use of fuels and technologies (fuel stacking) becomes more common in transitioning areas, policies should promote cleaner stacking.

Renewable energy

20. The share of renewable energy in total final energy consumption reached 17.1 per cent in 2018, which is still below the 17.5 per cent level achieved in 1999, the highest level recorded since 1990. The largest increase in the share of renewables has been for electricity, reaching 25.4 per cent in total, while the transport and heat sectors have registered much slower progress, or none at all.

21. Heat is the largest of the three end uses worldwide, accounting for about half of global final energy consumption. Two simultaneous trends have been seen in this sector: traditional uses of biomass have been slowly declining, while the share of modern renewables in total final energy consumption has increased to 9.2 per cent, resulting in stagnation of the overall share of renewables in the heat sector.

22. Renewable energy used in transport grew by 7 per cent in 2018, the largest increase since 2012, bringing its total share to 3.4 per cent, up from 3.3 per cent in 2017. Biofuels, primarily crop-based ethanol and biodiesel, supplied 91 per cent of that renewable energy. Nevertheless, the expansion of renewable electricity and of sales of electric vehicles is leading to record increases in the use of renewable electricity in transport.

23. The Latin America and the Caribbean region reported the largest share of modern renewables owing to the extensive use of bioenergy in industrial processes, biofuels for transport and hydropower electricity generation. Sub-Saharan Africa has the largest share of renewable sources in total final energy consumption, although traditional uses of biomass account for 85 per cent of renewable energy consumption.

24. A substantial increase in the share of renewable energy in the energy mix is needed. Under current and planned policies, the share of all renewables, including traditional uses of biomass, is projected to rise to around 21.5 per cent of total final energy consumption by 2030, up from 17.1 per cent in 2018, while the share of modern renewables would increase to 16 per cent by 2030, up from 10.5 per cent in 2018.

25. The International Energy Agency Sustainable Development Scenario shows that intensified policy support and cost reductions could push the share of modern renewables in total final energy consumption to over 25 per cent by 2030, in which case renewables would supply a little over half of all electricity supply.

26. The International Renewable Energy Agency Transforming Energy Scenario for 2030 shows a pathway along which the rise in the share of modern renewables is slightly higher, reaching 28 per cent and supplying 57 per cent of global electricity generation.

27. There has been solid progress in the adoption of renewable energy in the power sector, in contrast to other end uses, for which much greater effort is needed.

28. Heat, despite its large share of final energy consumption, receives limited policy attention globally compared with other end use sectors. Policy support is also critical for the outlook in transport, in particular in the context of lower oil and gas prices.

29. The heating sector accounts for almost half of global energy consumption and there is an urgent need to decarbonize it. Barriers persist – such as high upfront costs, regulatory and institutional frameworks based on fossil fuels, consumer inertia and technical hurdles – but can be overcome with support policies. Some pathways to

decarbonize the heating and cooling sectors include renewables-based electrification, renewable gases, sustainable use of biomass and direct use of solar thermal and geothermal heat.

30. Measures to scale up renewable heating can and must be aligned with broad socioeconomic policies and objectives, such as improving conditions for vulnerable segments of the population, developing key economic sectors, setting long-term energy plans and pursuing international climate and sustainability goals. A coherent, consistent, long-term policy approach to renewable energy and decarbonization of the energy system will inspire confidence in investors and project developers. Importantly, international cooperation can be a key accelerator of energy transition and help to address climate change, economic inequality and social injustice.

Energy efficiency

31. After an upward trend from 2010 to 2015, there has been a steady deceleration in improvement rates for global primary energy intensity, which is the total energy supply per unit of gross domestic product. In 2018, global primary energy intensity was 4.75 megajoules per United States dollar at 2017 purchasing power parity, a 1.1 per cent improvement from 2017, well below the average annual rate of 3 per cent required in order to meet the goal of doubling the global rate of improvement in energy intensity by 2030.

32. Between 2010 and 2018, primary energy intensity in Eastern and South-Eastern Asia improved by an annual average rate of 3.1 per cent. In Central and Southern Asia and Oceania, the average annual improvement rate of 2.6 per cent between 2010 and 2018 was above the global average of 2 per cent. Rates of improvement were just below the global average in North America and Europe (1.9 per cent), with the lowest rates of improvement in Western Asia, North Africa, Latin America and the Caribbean (0.8 per cent) and sub-Saharan Africa (1.4 per cent).

33. Doubling the global improvement rate for energy intensity by 2030 and thus achieving Sustainable Development Goal target 7.3 is key as it also supports the other targets of Goal 7. Between 2010 and 2018, the average annual rate of improvement in global primary energy intensity was 2 per cent. Although this was better than the rate of 1.2 per cent between 1990 and 2010, it was well below the objective of 2.65 per cent under target 7.3.

34. Annual improvement until 2030 will now need to average 3 per cent to meet the objective set in Sustainable Development Goal target 7.3. However, under current and planned policies, and taking into account the COVID-19 crisis, the annual improvement in efficiency is projected to reach only 2 per cent between 2018 and 2030. In contrast, the International Energy Agency Sustainable Development Scenario shows that a combination of well-implemented policies and regulations could lead to an annual average improvement rate of 3.4 per cent in energy intensity between 2018 and 2030.

35. Recent shortfalls in improving energy intensity, below the rate necessary to meet the objective under Sustainable Development Goal target 7.3, will require strengthened government policies. Making energy efficiency measures a priority in policy and investment over the coming years can help the world to achieve target 7.3, improve economic development and ensure universal access to clean, efficient energy.

36. Decades of global experience demonstrate that well-designed and well-implemented energy efficiency policies can deliver a range of benefits in addition to energy and emissions savings. Minimum energy performance standards, for example, are a proven tool in policymaking. The introduction of these standards is one means

to expand mandatory policies and cover more products in a greater number of sectors globally.

37. Government actions to reduce the cost of energy-efficient equipment or building retrofits, including by means of economic incentives such as grants or loans, have proven effective in many countries. Digitization has also been an emerging trend in facilitating progress towards improved energy efficiency. Adopting large-scale data collection, analysis and use of digitization tools can help to improve energy efficiency and leverage opportunities for flexibility at the systems level.

Means of implementation

38. Reaching Sustainable Development Goal 7 and net zero emissions requires an urgent and steep rise in clean energy investment and finance. Worldwide investment in clean energy and energy efficiency will need to triple over the next 10 years to put the world on track for net zero emissions by 2050, with a priority focus on the needs of the least developed countries and universal access to electricity and clean cooking solutions by 2030. This is a massive opportunity and one that requires concerted policy interventions, public finance and private investments to be realized at the required scale.

39. International public financial flows to developing countries in support of clean energy totalled $14 billion in 2018, a 35 per cent decrease from $21.9 billion in 2017. The decline in 2018, although notable across most regions and technologies, was primarily attributable to a 61 per cent drop in hydropower commitments, following a peak in 2017 due to a large single-project commitment.

40. Overall, the trend in public financial flows has been positive over the past decade, with a threefold increase during the period from 2010 to 2018, based on a five-year moving average. In that period, developing countries received a total of $134.8 billion, with the largest yearly average share of commitment allocated to hydropower (42.2 per cent), followed by solar power (22.9 per cent), multiple or other technologies (21.7 per cent) and wind power (7.6 per cent). After focusing mainly on hydropower before 2010, a growing share of public financial flows has been targeted at supporting solar and multiple or other technologies, including through multipurpose green funds and support for infrastructure.

41. Since 2010, financial flows have seen a positive trend across all regions, with the largest relative increase in Central and Southern Asia, where there was a sixfold increase. Sub-Saharan Africa achieved a twofold increase, based on a five-year moving average. However, while the positive trend in public financial flows to renewables has been promising, it masks some important distributional discrepancies. Only 20 per cent of flows reached the least developed countries, the total for 2018 ($2.8 billion) being the same as the level for 2017.

42. Financial commitments to developing countries need to increase, given the need to substantially scale up overall renewable energy investments in order to reach the targets of Sustainable Development Goal 7. Higher financial flows will surely be needed in the short term, in the light of the COVID-19 crisis, in particular in the least developed countries that have fallen furthest behind in reaching the Goal.

43. As public resources are generally limited, they should be used strategically to attract additional private capital, especially in sectors and regions that private investors perceive as too risky for investment. The predictability and reliability of policies and regulations are vital considerations for attracting investors, as they reduce risks related to policy reversals or renegotiations. In this regard, Governments have a key role to play in the establishment of stable and coherent policy and regulatory frameworks.

44. There are significant and persistent policy, technological, financial and social challenges to energy innovation, technology development and deployment, and data improvement. Existing technologies are underdeployed, and approximately half of the technologies necessary to meet the 2050 target are still in the early stages of development and demonstration.

45. To increase clean energy innovation, international cooperation and national commitments in partnership with the private sector need to be enhanced. Expanded innovation should be based on targeted, sustained, outcome-based funding for research, design, development and demonstration that is proportional to the challenge at hand and sets solid milestones for scaled-up commercial adoption.

46. Better systems of data collection and application that are open, reliable and complete are necessary to accelerate the effective development of inclusive energy policy, planning and systems. An inclusive and integrated enabling environment should be developed to leverage the power of digitization not only for improving affordability, reliability and accessibility to clean energy technologies, but also to strengthen capacity and knowledge around digital technologies to address the digital divide.

47. Countries need well-trained, skilled people to work on energy projects in order to meet their renewable energy ambitions. Support for educational and training programmes, including digital capacity programmes on sustainable energy, to build local knowledge and capacity and promote renewable energy projects is mission-critical, as is scaling up capacity-building efforts, including on enabling frameworks, technology cooperation, investment measures, the transfer of technical knowledge and staff training activities.

B. Regional overview

Africa region

48. The COVID-19 pandemic came at a time when African countries were already facing severe challenges in achieving universal access. Financing energy infrastructure will now be an even more significant challenge, as there is greater need for the diversification of financing sources, especially from the private sector. Government resources will not be enough to afford much-needed investments, in particular for exploiting the continent's vast renewable energy sources and other transitional fuels such as gas and for improving transmission and distribution networks, which are in short supply.

49. The world's electricity access deficit is primarily concentrated in sub-Saharan Africa. The access rate in sub-Saharan Africa increased from 33 per cent in 2010 to 46 per cent in 2019, leaving 570 million people without access to electricity.

50. Access to clean cooking solutions is still a significant challenge. In sub-Saharan Africa, population growth between 2010 and 2019 was higher than the growth in the number of people with access to clean cooking solutions, leaving around 85 per cent of the population in 2019 without access to clean fuels and technologies for cooking.

51. Meanwhile, renewable energy penetration is still slow and, as a result, has a limited impact on the African population, even though almost all countries in the region present great opportunities for investors in the renewable energy sector.

52. Reforms related to energy policies, regulatory frameworks and investment plans need to be accelerated to ensure stepped-up financing, including from the private sector, to close the continent's chronic energy access deficit and build a more resilient energy mix, with systems that can withstand shocks such as natural disasters and

pandemics. The COVID-19 pandemic provides an opportunity to speed up the delivery of energy services, as it could encourage Governments to build back better through a green recovery approach that prioritizes investments in clean energy.

Arab region

53. The Arab region is falling short in its efforts to achieve Sustainable Development Goal 7 and, without course corrections, this will lead to reduced social, economic and environmental outcomes for its residents.

54. In several Arab countries, conflict and instability are crippling progress, but in others, given high levels of government subsidization of energy and rising oil prices, there are strong economic forces incentivizing Governments to promote energy efficiency – and therefore reduce their budget demands. Market forces are already driving a sharp uptick in new solar projects and efficiency efforts across the region.

55. The COVID-19 pandemic has exacerbated the vulnerabilities of Arab countries with respect to the sustainability of their energy systems and their ability to support socioeconomic growth. However, it also provides opportunities to accelerate the energy transition, formulate policies to capture the cost savings of renewables and support future economic growth, especially through cross-sectoral approaches involving water, food and end use sectors.

56. Access to modern energy reached 90 per cent in 2019, representing a 4 per cent increase over the past decade. The Arab region is one of the most electrified regional groups. However, access is not uniform, and the least developed countries account for almost all the deficit, with only 79 per cent access. Rural populations in the least developed countries are still far behind urban areas, where access is nearly universal.

57. Even with widespread access to electricity, unplanned service disruptions continue to plague several countries in the region, regardless of income levels or location (urban or rural), in particular in countries affected by conflict and displaced populations.

58. Access to clean fuels and technologies for cooking also remains high in the Arab region, with an average of 87 per cent access. There are 13 countries with full or almost full access. The situation for the least developed countries, however, is quite different, as 96 per cent of the clean fuels and technologies deficit is concentrated there and the access rate for three countries is less than 10 per cent.

59. Despite a decline in overall energy intensity over the past decade, the Arab region is not on track to meet global energy efficiency targets. By comparison with other regions, the energy intensity level in the Arab region is one of the lowest, but the rate of decline in energy intensity is only -1.6 per cent. This is of particular concern in the transportation sector, in which the energy intensity level is among the highest in the world.

60. Renewable energy in the Arab region accounts for around 13 per cent of the energy consumption mix. Two countries alone account for 72 per cent of renewable energy consumption, including traditional renewable sources such as solid biofuels. Traditional renewable sources represent 86 per cent of renewable energy in the region. However, solar power and wind systems are beginning to build momentum, as the costs of these technologies are now below, or competitive with, conventional sources.

61. Structural economic diversification, boosting energy productivity and redirecting energy subsidies to mobilize sustainable energy technologies, in particular in remote and vulnerable communities, will be key in the Arab region.

62. Enhancing interregional cooperation for greater resource mobilization, including through trade and grid interconnections and the transfer of best practices, holds great potential for a more stable and prosperous region.

Asia and the Pacific region

63. Progress in the Asia and the Pacific region towards the achievement of Sustainable Development Goal 7 has been mixed. Greater efforts are needed to put the region on track, especially given the setbacks that economies face owing to the COVID-19 pandemic.

64. The area in which the region has made the greatest strides in the past decade is access to electricity. The regional electrification rate reached 95.6 per cent in 2018. The number of people without an electrical connection dropped from 538 million in 2010 to 200 million in 2018. Grid extensions have been the primary enabling factor for increased electrification, although renewable off-grid solutions play a significant role in small and remote communities, as well as in areas with poor grid reliability.

65. The pandemic has highlighted the importance of electricity access as an enabler of modern health care, remote education and telecommuting to maintain productivity while physical distancing measures are in place. While countries of the Asia and the Pacific region have been on track to deliver universal access to electricity by 2030, there is still a disparity between access rates in urban areas compared with rural and isolated areas. There are still policy and regulatory challenges in providing high-quality, reliable electricity services, in particular in the light of competing post-pandemic recovery concerns.

66. In 2010, 2.13 billion people, nearly half the population of the region, relied on highly polluting and harmful cooking solutions. By 2018, the uptake of clean cooking solutions had lowered the deficit to 1.78 billion people, or 39 per cent of the population. In 2016, poor indoor air quality contributed to an estimated 2.8 million premature deaths in the Asia and the Pacific region.

67. The provision of universal access to clean cooking fuels and technologies presents a major challenge for a large proportion of the region, and clean cooking policies have not yet been afforded adequate attention and investment. Greater efforts are needed to understand the multidimensional nature of the challenge, including issues of affordability, health impacts and safety, because without strong policy interventions fewer than three in five people will have access to clean cooking fuels and technologies in 2030.

68. In recent years, the region has been in the lead globally for renewable energy development, in particular in the power sector, in which renewables now present the lowest cost option in many circumstances. In 2018, more than one third of the global year-on-year increase in modern renewable energy consumption took place in Eastern Asia, essentially in China, where wind and solar photovoltaic power dominate growth. While this achievement has not been matched in the process heat and transport sectors, the electrification of end uses provides great opportunities for further progress.

69. The major economies of the Asia and the Pacific region have made good progress in driving the regional average towards the target of doubling the rate of improvement in energy intensity. However, energy intensity in emerging economies is relatively high compared with advanced countries. Many smaller countries are not experiencing enough improvement and require further policy attention in this area.

70. In a major step towards effective climate policy, three of the largest economies in the region – China, Japan and the Republic of Korea – have announced goals to achieve carbon neutrality by around the middle of the twenty-first century.

71. Any investment in coal now risks locking in unnecessary costs, not just because of the negative externalities of worsening air quality and accelerating climate change, but also because renewable energy options are now cheaper than coal in most locations. Further policy efforts across the region will be instrumental in minimizing the negative impacts of using coal and avoiding the high costs of existing and planned coal-fired electricity.

Latin America and the Caribbean region

72. The Latin America and the Caribbean region continues to make progress in the implementation of Sustainable Development Goal 7. Access to electricity has improved, and energy intensity in the region has maintained a downward trend, in particular in the Caribbean. However, the negative impacts on the region's economy caused by the COVID-19 pandemic have limited the progress made. The pandemic has heightened the urgency of solving the energy access gap in the region, and the current situation has led to strong calls for a united effort by the public and private sectors.

73. The region has been steadily increasing access to electricity. Overall, coverage is about 99 per cent, according to the Latin American Energy Organization, but rural areas remain disadvantaged, with coverage of only around 95 per cent. As of 2019, around 18 million people did not have access to electricity. A significant effort must be made to expand coverage, especially as recent studies have highlighted the conditions of unequal access to quality energy services in the region.

74. In many countries, including Belize, the Plurinational State of Bolivia, Dominica, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Paraguay and Peru, more than 10 per cent of the population does not have access to clean technologies for cooking. Around 57 million people in the region lack access to such sources according to the World Health Organization (WHO) 2019 household energy database and, owing to slower than anticipated advancement, the region is unlikely to reach the 2030 target, which requires replacing traditional biomass in cooking and heating with modern sources and a long-term focus on electrification for cooking needs.

75. The region has continued to make significant progress in incorporating renewable energy. The installed capacity of hydropower increased from 227.6 GW to 236.7 GW between 2018 and 2019, according to the International Renewable Energy Agency. Wind energy has become the largest source of variable renewable generation, increasing from 20.8 GW in 2018 to 22.5 GW in 2019. Solar energy sources are also registering significant progress, increasing from 7 GW in 2018 to 8.6 GW in 2019. Bioenergy sources grew from 19.5 GW in 2018 to 19.8 GW in 2019, and that trend will continue as government policies promote the use of renewable energies.

76. The region has historically had the lowest energy intensity in the world. However, there has been no reduction in the intensity level since 2014, and additional efforts will be required to reach the target set for 2030.

77. There is an urgent need to strengthen the role of Governments in ensuring basic access to energy services, which are particularly critical in crisis periods such as the COVID-19 pandemic. Increased cooperation among countries of the region is also important for progress towards greater sustainability. Greater energy integration to reduce dependence on resources external to the region and the use of the advantages offered by energy complementarity such as hydropower and solar and wind energy are key to achieving economic stability after the pandemic.

States members of the Economic Commission for Europe

78. The States members of the Economic Commission for Europe continue to fall short in their progress towards the attainment of Sustainable Development Goal 7. There is 100 per cent access to electrical power and clean cooking fuels, but significant challenges remain in terms of quality of service and affordability.

79. The region accounts for almost half of the 1,971 GW of renewables installed worldwide. The share of renewable energy in the energy mix of the region has increased progressively from 1990 to 2018, with the share in total final energy consumption doubling from almost 6 per cent to just over 12 per cent.

80. There has been some progress in energy efficiency, but much more remains to be done. Between 1990 and 2018, energy intensity declined by 41 per cent for the region. The average rate of decline over the period was 1.85 per cent per year. Analysis for the region indicates that energy sector investment requirements range from $24 trillion to $29 trillion between 2020 and 2050, of which between 6 and 16 per cent would be needed to improve energy efficiency.

81. Significantly, there are countries within the region that export large quantities of fossil fuels and have some of the world's highest levels of energy intensity. Achieving a transition to sustainable energy across the region will therefore require major changes in these economies and societies.

82. As methane is a very powerful greenhouse gas, reducing methane emissions across the value chain of natural gas, coal and crude oil offers significant climate benefits, especially in the near term, and in the long term it can help to support a just and sustainable energy transition. There is a large potential for quick reductions, using cost-effective mitigation technologies that are readily available. Managing methane also delivers important improvements in air quality and safety and can help to enhance the uptake of sustainable hydrogen.

83. A comprehensive framework for responsible resource management would benefit communities worldwide and provide assurances to an investment community calling for tightened environmental, social and corporate governance.

Least developed countries, landlocked developing countries and small island developing States

84. To achieve the targets of Sustainable Development Goal 7, there is an urgent need for enhanced international cooperation and increased investment in sustainable energy in the 91 most vulnerable countries: the 46 least developed countries, 32 landlocked developing countries and 38 small island developing States.

85. Most of these countries have adopted ambitious national and/or regional targets on energy access, renewable energy and energy efficiency, but progress in implementation remains limited and unequally distributed. The countries' individual energy transition pathways face many barriers, which need to be addressed simultaneously and in a cross-sectoral manner. Accelerating access to affordable clean energy can help these countries to move forward in their overall development trajectory.

86. The COVID-19 crisis is likely to heighten the risk of energy insecurity in the least developed countries, landlocked developing countries and small island developing States. In addition, resources needed for pandemic responses may further constrain their already limited fiscal capacities and thus potentially derail investments in sustainable energy.

87. There is an opportunity to align green pandemic recovery measures with increased financial flows to sustainable energy, following the key development priorities of the least developed countries, landlocked developing countries and small island developing States, as outlined in the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014–2024, the SIDS Accelerated Modalities of Action (SAMOA) Pathway and the preliminary deliberations in preparation for the Fifth United Nations Conference on the Least Developed Countries, at which a new programme of action for the least developed countries will be adopted.

88. In 2019, 53 per cent of people in the least developed countries, 58 per cent in landlocked developing countries and 83 per cent in small island developing States had access to electricity. Across the 33 least developed countries in Africa, where two thirds of people live in rural areas, only 19 per cent of the rural population had access to electricity. Even though 15 of the least developed countries are among the top 20 countries with access deficits in the world, the 46 least developed countries in total attracted only 20 per cent of international commitments in support of clean energy to developing countries.

89. With population growth and rapid urbanization in the least developed countries and landlocked developing countries adding to the pressures on existing old electricity grid systems, there is an urgent need for investments in power generation, along with grid reinforcement and upgrading of technology, in order to provide modern and sustainable energy for all and to reduce transmission and distribution losses. In addition, there is considerable scope for the least developed countries and landlocked developing countries to engage in transboundary projects involving South-South cooperation in regional power pools to address grid stability issues, supply constraints and efficiency.

90. Increased deployment of distributed generation can help to close access gaps, including through the use of mini-grids and micro-grids, stand-alone renewable energy systems, rooftop solar photovoltaic and storage systems and other technologies that can be directly linked to livelihood improvements and economic activities, especially in remote low-demand areas. The trend towards decentralization, variable renewable energy integration and the electrification of end use sectors requires a shift towards smart grids and digitization. In addition, several of the least developed countries and small island developing States are starting to look into the option of electric mobility.

91. The least developed countries, landlocked developing countries and small island developing States can directly benefit from the deployment of renewables and the implementation of energy efficiency measures as ways to minimize dependence on conventional sources of energy, thus reducing their overreliance on energy imports. The pathway to net zero emissions requires a substantial increase in the share of renewable energy in all three main end use categories: electricity, transport and heating and cooling. However, despite the potential for scaling up renewables and the falling cost of such technologies, non-renewable capacity is growing faster than renewables in these countries.

92. Governments and development partners could also extend public finance resources, including climate funds, concessional finance, guarantees, grants and subordinated debt, to address investment constraints facing the least developed countries, landlocked developing countries and small island developing States and spur private financing to scale up renewable energy deployment.

93. By placing renewable energy and energy efficiency at the core of green post-pandemic recovery plans, Governments can signal long-term public commitments, thus boosting investors' confidence and scaling up investments needed for renewable

energy and energy efficiency development. In addition, better environments for investment, as well as regulatory and policy reforms and innovative business models, are needed to overcome barriers to deployment.

IV. Preparations for the high-level dialogue on energy

94. Significant progress has been made in preparation for the high-level dialogue on energy, to be held in September 2021. Preparations have been coordinated under the leadership of the Under-Secretary-General for Economic and Social Affairs and Secretary-General of the dialogue, Liu Zhenmin, together with the Co-Chairs of the dialogue, the Administrator of the United Nations Development Programme (UNDP), Achim Steiner, and the Special Representative of the Secretary-General for Sustainable Energy for All, Damilola Ogunbiyi, who are both Co-Chairs of UN-Energy. The Department of Economic and Social Affairs serves as the secretariat for the dialogue.

Global theme champions

95. Global theme champions consisting of Member States represented at the ministerial level and the European Union have been spearheading global advocacy efforts in preparation for the high-level dialogue on energy around the following five themes:

(a) Energy access: China, Japan, Kenya, Malawi, Netherlands, Russian Federation, Saudi Arabia and European Union;

(b) Energy transition: Brazil, Chile, Colombia, Denmark, Germany, India, Nigeria, Poland, Spain and United Kingdom of Great Britain and Northern Ireland;

(c) Enabling the Sustainable Development Goals through inclusive, just energy transitions: Iceland, Honduras, Nauru, Panama, Portugal, United Arab Emirates and European Union;[2]

(d) Innovation, technology and data: Finland, Mauritius, Morocco and Russian Federation;[3]

(e) Finance and investment: Dominican Republic, Italy, Netherlands, Pakistan and Saudi Arabia.[4]

Technical working group reports: towards a global road map for Sustainable Development Goal 7 and net zero emissions

96. To provide substantive input for preparations for the high-level dialogue on energy, five multi-stakeholder technical working groups were established based on the five themes of the dialogue. The working groups comprise a total of 160 experts and are co-led by the following 16 United Nations and other international organizations:

(a) Energy access: UNDP, Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States and World Bank;

[2] The European Union serves in a supporting role.
[3] The Russian Federation serves in a supporting role.
[4] The Netherlands and Saudi Arabia serve in a supporting role.

(b) Energy transition: International Renewable Energy Agency, Economic and Social Commission for Asia and the Pacific and United Nations Environment Programme;

(c) Enabling the Sustainable Development Goals through inclusive, just energy transitions: Department of Economic and Social Affairs, Economic and Social Commission for Western Asia and WHO;

(d) Innovation, technology and data: Food and Agriculture Organization of the United Nations, United Nations Human Settlements Programme (UN-Habitat) and United Nations Industrial Development Organization;

(e) Finance and investment: European Investment Bank, International Energy Agency, International Finance Corporation and Economic Commission for Africa.

97. The technical working groups presented their theme reports[5] at ministerial thematic forums held in June 2021 in preparation for the high-level dialogue on energy. The reports served to support substantive discussions during the forums, including on a set of recommendations on each of the five themes of the dialogue as contributions towards a global road map for the achievement of Sustainable Development Goal 7 and net zero emissions.

Ministerial thematic forums

98. As an important milestone in the preparatory process for the high-level dialogue on energy, five ministerial thematic forums were held between 21 and 25 June 2021, covering the five themes of the dialogue, and were co-hosted by the 30 Member State global champions.

99. The forums brought together about 1,500 leaders and experts from Governments, businesses, civil society and youth organizations, featuring 300 speakers, including about 50 ministers and over 20 heads of United Nations organizations, and 80 side events.

100. The forums also featured the launch of energy compacts to boost momentum and encourage all stakeholders to mobilize further voluntary commitments ahead of the high-level dialogue on energy.

101. A concise summary of the outcomes of the forums is being prepared and will inform the high-level dialogue on energy. The summary will include key elements of a global road map towards achieving Sustainable Development Goal 7 by 2030 and net zero emissions by 2050, based on deliberations at the ministerial thematic forums and the reports submitted by the five technical working groups.

Energy compacts: mobilizing voluntary commitments by all stakeholders

102. Designed as one of the key outcomes expected from the high-level dialogue on energy, energy compacts are voluntary commitments by all stakeholders, including Member States, businesses, civil society, youth, cities and subnational authorities, that provide a vehicle to translate the global road map into concrete steps and robust plans at the regional, national, local and subnational levels.

103. Energy compacts must demonstrate ambition and accelerated action, be aligned with the 2030 Agenda, ensure coherence with Sustainable Development Goal implementation plans, be aligned with nationally determined contributions under the Paris Agreement and net zero commitments by 2050, ensure that no one is left behind, enable a just transition and be feasible, robust and measurable.

[5] Available at: www.un.org/en/hlde-2021/page/theme-reports.

104. The bulk of investment aimed at achieving Sustainable Development Goal 7 will need to come from the private sector, and it is therefore critical to secure commitments in the form of energy compacts from the private sector. During the ministerial thematic forums, over 25 bold and ambitious energy compacts were showcased or previewed by Member States and stakeholders. For example, the Rockefeller Foundation and the Ikea Foundation announced their intention to establish a $1 billion global platform to scale up energy access for 1 billion people through renewables. Other announcements or previews were made the Governments of Brazil, Denmark, the Dominican Republic, Germany, India, Nauru, Portugal and the Netherlands, as well as the Basque Country in Spain, the city of Ithaca in the United States of America, the European Bank for Reconstruction and Development, the Economic Commission for Latin America and the Caribbean, UNDP, Sustainable Energy for All, the Sustainable Water and Energy Solutions Network, Enel, GOGLA, Google, JK Cement, NTPC, UltraTech Cement, the Alliance for Rural Electrification and Student Energy.

105. UN-Energy will continue to support the mobilization of energy compacts, in collaboration with relevant partners. It will also set up an online platform to keep track of energy compact commitments and feature them during and after the high-level dialogue on energy, in order to unite commitments for Sustainable Development Goal 7 ahead of 2030.

Online stakeholder consultations

106. The Department of Economic and Social Affairs organized a series of online consultations with stakeholders, including businesses, civil society and youth organizations, to seek their input for the preparatory process for the high-level dialogue on energy. The consultations were open for input from all stakeholders, and a summary was published in June 2021.[6]

Expected outcomes of the high-level dialogue on energy

107. Preparations to date for the high-level dialogue on energy have seen strong leadership and engagement by Member States and other stakeholders during the entire substantive preparatory process. Building on this momentum, it is expected that the dialogue will deliver the following outcomes:

(a) A forward-looking summary presenting a global road map towards the achievement of Sustainable Development Goal 7 by 2030 and net zero emissions by 2050;

(b) A series of energy compacts by Governments, businesses and civil society in support of Sustainable Development Goal 7 and net zero emissions.

V. Strengthening coherence and coordination through a revitalized UN-Energy

108. The General Assembly, in its resolution 74/225, encouraged UN-Energy to support coherence and coordination across the energy-related activities of the entities of the United Nations development system, within their respective mandates. Under the leadership of its Co-Chairs, UN-Energy has been revitalized and is implementing its plan of action to bring the United Nations system together for a more integrated

[6] United Nations, Department of Economic and Social Affairs, “Stakeholders thematic e-consultation for the United Nations high-level dialogue on energy: summary report” (New York, May 2021).

and coherent delivery of policy and normative support. The Department of Economic and Social Affairs provides the dedicated secretariat for UN-Energy.

109. UN-Energy has played a major role in providing substantive technical support for preparations for the dialogue, including through the five technical working groups, technical support for the Co-Chairs of UN-Energy serving as Co-Chairs of the dialogue and the mobilization of energy compacts from Member States and other stakeholders. A UN-Energy multi-partner trust fund has been established to mobilize resources for relevant UN-Energy activities.

110. In 2021, the high-level dialogue on energy and the preparatory processes leading to key international conferences such as the second Global Conference on Sustainable Transport, to be held in Beijing, and the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, to be held in Glasgow, United Kingdom, will represent important opportunities to engage with national and local policymakers, finance institutions, business leaders and others on how to accelerate the achievement of Sustainable Development Goal 7 and the Paris Agreement.

111. UN-Energy will take advantage of these critical moments to ensure accelerated progress and increased ambition towards the achievement of Sustainable Development Goal 7 by 2030 and net zero emissions by 2050. Its secretariat will continue to be strengthened to provide policy coordination support and deliver on growing demand for services in the lead-up as well as the follow-up to the high-level dialogue on energy and other major global engagements, in close collaboration with UN-Energy members and partners, as well as the Development Coordination Office as needed.

VI. Accelerating implementation of the United Nations Decade of Sustainable Energy for All

112. The General Assembly called for the rapid implementation of the strategic objectives as defined in the global plan of action for the United Nations Decade of Sustainable Energy for All (2014–2024), most recently in its resolution 72/224. The midpoint review organized in 2019, as mandated in resolution 73/236, proved to be particularly useful in convening key stakeholders to discuss the implementation of Sustainable Development Goal 7.

113. Building on the achievements to date and as a follow-up to the midpoint review of the United Nations Decade of Sustainable Energy for All, a wide range of activities is being undertaken by members and partners of UN-Energy, international organizations and stakeholders to deliver on the global plan of action for the Decade.

114. To provide an overview of progress towards Sustainable Development Goal 7, a report entitled *Tracking SDG 7: The Energy Progress Report 2021* was prepared jointly by the International Energy Agency, the International Renewable Energy Agency, the Statistics Division of the Department of Economic and Social Affairs, the World Bank Group and WHO.

115. A report entitled *Leveraging Energy Action for Advancing the Sustainable Development Goals* was prepared and published, as the fourth in a series of policy briefs, in support of the 2021 session of the high-level political forum on sustainable development. The policy briefs were compiled by the multi-stakeholder technical advisory group on Sustainable Development Goal 7 convened by the Department of Economic and Social Affairs and include contributions by over 40 United Nations entities and other organizations.

116. To promote synergetic actions on Sustainable Development Goal 7 and other Goals through multi-stakeholder partnerships, the Health and Energy Platform of Action has continued to be operated jointly by WHO, the Department of Economic and Social Affairs, UNDP and the World Bank and seeks to advance progress on a number of Goals.

117. The global conference and consultations on synergies between climate and the Sustainable Development Goals, jointly organized by the Department of Economic and Social Affairs and the secretariat of the United Nations Framework Convention on Climate Change, provide a useful platform every year for sharing experiences and best practices on maximizing synergies and minimizing trade-offs between climate action and the Goals to enable increased ambition for implementation across the 2030 Agenda and the Paris Agreement.

118. Recognizing the need to address the interlinkages between water and energy and their contributions to the advancement of various Sustainable Development Goals, the Department of Economic and Social Affairs and Itaipu Binacional joined efforts in 2018 to create the global Sustainable Water and Energy Solutions Network to explore interlinkages between Goals 6 and 7, with a large number of stakeholders from all regions and constituencies joining since.

119. In future, the global plan of action for the United Nations Decade of Sustainable Energy for All should be substantively reviewed in the light of the outcomes of the high-level dialogue on energy. Such a global stock-taking should ideally be convened at least one year before the end of the Decade in 2024, to consider subsequent follow-up action, in support of the decade of action for the Sustainable Development Goals. The Department of Economic and Social Affairs will continue to support the Secretary-General in coordinating the activities of the Decade, including stock-taking activities, in close collaboration with UN-Energy and other stakeholders.

VII. Conclusion

120. The high-level dialogue on energy provides a historic opportunity to advance actions towards achieving Sustainable Development Goal 7 and strengthen international cooperation in the area of sustainable energy. Synergies with forthcoming intergovernmental processes and milestones, including on transport, oceans, biodiversity, gender equality, food systems, climate change and the least developed countries, should also be leveraged.

121. It is vital that all Member States and other stakeholders should raise ambitions and commitments. UN-Energy will work with all stakeholders in preparation for and after the high-level dialogue on energy to rally support, maintain momentum and mobilize a network of partnerships and energy compacts from the public and private sectors, while helping to raise ambition and track progress.

122. The United Nations Decade of Sustainable Energy for All provides a unique global platform to strengthen ambition and action in response to the outcomes of the high-level dialogue on energy. Global stock-taking will be a useful step to further galvanize political commitment and strengthen concerted action in support of Sustainable Development Goal 7 and net zero emissions.

123. It is only through resolute action that sustainable and resilient societies can be built, ensuring that no one is left behind, while bringing the objectives of both the 2030 Agenda and the Paris Agreement within reach.