



ENERGY TRANSITION AND CLIMATE SUSTAINABILITY WORKING GROUPS

Joint G20 Energy-Climate Ministerial Communiqué **JULY, 23 2021**

Introduction

- 1)** We, the G20 Ministers in charge of Energy and Climate, met in person and remotely in Naples, on 23 July 2021, with the aim of strengthening our shared vision and partnership accelerating the clean energy transitions to tackle climate change and achieve SDG 7 in order to build a prosperous, inclusive, resilient, secure, and sustainable society that leaves no one behind.
- 2)** We met at a time when we continue to fight COVID-19 pandemic and its devastating impacts on peoples' lives. We recognize the economic impact it has unleashed, which continues to dominate the global economic and social landscape. In recognizing that these events have different effects on countries, we affirmed our sympathy and solidarity with hardest hit. We also stress that there is the opportunity to cooperate for finding joint responses to existing challenges and turning them into opportunities to build forward better towards an inclusive and sustainable, prosperous climate and nature-positive future. In this context, clean energy transitions are a tool for accelerated inclusive socio-economic growth, job-creation, technological innovation within the ambit of a just transition.
- 3)** We acknowledge that the COVID-19 crisis has reaffirmed the importance of science-based approach in policymaking. We emphasize the serious warning coming from the global scientific community, that this must be the decade of action to address the urgent challenges of climate change and its linkages with biodiversity loss and human health. We thus resolve to work together to ensure that our collective international commitments, as well as national actions, remain informed by the best available science.
- 4)** Acknowledging the major contribution of the energy sector to the global GHG emissions, we stress the close nexus between climate and energy. In this context we underline the importance of clean energy transitions which foster growth and resilience, promote international technology cooperation, free and open trade and investments, address present and future energy needs, reduce global emissions and enhance adaptation to climate change thus enabling the achievement of the 2030 Agenda for Sustainable Development goals, the UNFCCC and the Paris Agreement.
- 5)** Thus, we welcome the decision of the Italian Presidency to organize the first ever G20 Energy-Climate ministerial.



1. Combatting climate change

6) In advance of the United Nations Framework Convention on Climate Change (UNFCCC) COP26 in Glasgow we reaffirm our steadfast commitment to tackle climate change by strengthening the full and effective implementation of the Paris Agreement by the Parties, reflecting common but differentiated responsibilities and respective capabilities, in light of different national circumstances. We recall our collective commitment to hold the global average temperature increase well below 2° and to pursue efforts to limit it to 1,5°C above pre-industrial levels and stress the need to accelerate action to achieve this temperature limit across mitigation, adaptation, and finance during the critical decade of the 2020s, recognizing that the impacts of climate change at 1.5°C are much lower than at 2°C. We are determined to accelerate efforts and investments to reduce both short and long term GHG emissions taking into account different national circumstances and in accordance with best available science and to strengthen resilience and reduce vulnerabilities to the impacts of climate change. We will tailor our national and international efforts to local conditions, national circumstances, priorities and needs, while scaling up finance and support to developing countries, particularly to the most vulnerable, including by strengthening cooperative actions on technology development and transfer and enhanced country driven capacity building.

7) We recall and reaffirm the commitment made by developed countries, to the goal of mobilizing jointly USD 100 billion per year by 2020 and annually through 2025 to address the needs of developing countries, in the context of meaningful mitigation actions and transparency on implementation, and those funds may come from a wide variety of sources, public and private, bilateral, and multilateral, including alternative sources. In this regard, we welcome the new commitments made by some of the members of the G20 to each increase and improve their overall international public climate finance contributions through to 2025 and look forward to new commitments from others well ahead of COP26. We also recall the Paris Agreement aim to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, and that one of its goals is to make finance flows consistent with a pathway towards low GHG emissions and climate-resilient development.

8) We call on all Development Finance Institutions, in particular Multilateral Development Banks to follow up with their commitments, in line with their mandates including those taken at the Finance in Common Summit, to mobilize increased climate finance and step up their efforts to pursue alignment of their portfolio of activities and investments with the Paris Agreement within ambitious timeframes to be communicated before COP26, with a view to support developing countries in line with their climate and development priorities, while continuing to support the achievement of the sustainable development goals.

9) We recall the IPCC Special Report on 1.5°C and its findings on emission pathways consistent with the long-term temperature goal of the Paris Agreement, climate risks and impacts, adaptation, mitigation and support. In this context, we acknowledge that



pursuing efforts to limit the global temperature increase to 1.5°C above pre-industrial levels will require meaningful and effective actions by all countries, in light of the different national circumstances, through the development of clear national pathways that align long term ambition with short- and medium-term goals, in the context of sustainable development and poverty eradication, with international cooperation and support as critical enablers.

10) We will build on the opportunities offered in the short-term by a sustainable, and inclusive recovery from the pandemic, with the aim of fostering sustainable growth and resilience and harnessing the strategic nexus between energy and climate. In this context, we reaffirm our resolve under the Paris Agreement to take into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities. To this end, acknowledging national circumstances and capabilities, we will strive to factor in crucial support, including through recovery plans, as appropriate, to provide retraining and social protection for workers thus facilitating a just and inclusive transition in sectors and regions affected by the transition and to support the creation of new employment opportunities and reskilling existing ones. We acknowledge that a just and inclusive transition that puts individuals and society at the center will require new skills, training, and education and therefore welcome efforts to study the socio-economic elements of such transition, and examples of best practices by relevant international organizations.

11) We, the Ministers, appreciate the progress made thus far at national and subnational level to tackle climate change, and we note with concern the initial findings of the Synthesis Report prepared by the UNFCCC Secretariat on NDCs under the Paris Agreement which highlights many Parties are yet to update or communicate NDCs, confirming the need to enhance global action to achieve the objectives of the Paris Agreement, while acknowledging national circumstances and respective capabilities. To this end, we intend to update or communicate ambitious NDCs by COP26 and we welcome those who have already done so.

12) In this context and bearing in mind our leadership role and our common mission, we acknowledge those who already committed to achieve net zero GHG emissions or carbon neutrality by or around mid-century. We urge all members to formulate such long-term strategies that set out pathways consistent to achieve balance between anthropogenic emissions by sources and removal by sinks and a resilient future, as soon as possible, and strive to do so no later than COP26 to globally and collectively contribute to hold the global average temperature increase to well below 2°C and to pursue efforts to limit to 1.5°C, with the aim of keeping the above temperature limit within reach, reflecting the latest science and taking into account different approaches, including CCE, socio-economic, technological and market developments, and different national circumstances. We look forward to cooperating to identify and address related challenges and opportunities for all G20 members to pursue this effort.¹

¹ For the Republic of India Statement with respect to this paragraph, see attached Statement that will be included in the Presidency Statement.



13) We welcome action from non-state actors in pursuing the Paris Agreement goals, including those under the Race to Zero who have pledged to align their activities with the Paris Agreement and setting and implementing science-based net zero targets by 2050. We encourage further non-state actors to join those efforts, as well as to join the Race to Resilience to mobilize businesses, investors, cities, and civil society to strengthen the resilience of vulnerable communities by 2030.

14) Impacts of climate change are already being experienced worldwide, demonstrating the need to enhance and scale up adaptation actions. We therefore highlight the global need to address adaptation and the importance of integrating adaptation in budgetary processes and in national planning as appropriate to facilitate access to global, international and local finance in line with Members' priorities and locally-led actions. We stress the opportunity to submit Adaptation Communications, as important tools to raise political momentum in view of COP26 and to catalyze adaptation investments and to feed into the 2023 Global Stocktake and beyond, highlighting progress made to date in adapting to climate change risks. We are committed to enhance, accelerate, and scale up support for adaptation actions, particularly for the poorest and most vulnerable, guided by ambitious plans at global, national, sub-national and local levels, including National Adaptation Plans. To this end, we highlight the importance of scaling up effective and accessible financial resources for developing countries, recognizing the importance of adequate and predictable financial resources, with the aim to achieve a balance between adaptation and mitigation, considering country-driven strategies.

15) We recognize the interlinkages between biodiversity loss and climate change, with climate change being one of the main drivers of biodiversity loss and negatively impacting the delivery of many ecosystem services on which our livelihoods, economies and public health depend. At the same time, the loss and degradation of ecosystems is an additional driver for climate change, and the loss of biodiversity debilitates ecosystems' ability to sequester and store carbon that hampers mitigation and reduces our options to adapt to climate change impacts. We who are Parties to the UNCBD commit to develop and implement an ambitious, realistic and effective post-2020 global biodiversity framework to be adopted by Parties to the Convention on Biological Diversity aimed at promoting the conservation, of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. We who are Parties to the UNCBD support China to host a successful COP15 under the theme of Ecological Civilization: Building a Shared Future for All Life on Earth. Thus, we who are Parties to the UNCBD will engage also at multilateral level to find ways to harness the power of nature, including through nature-based solutions or ecosystem-based approaches, to boost resilience and complement ambitious greenhouse gas emissions reductions while providing multiple benefits across the economic, social, and environmental domains.

16) We will work constructively to pave the way for a successful COP26 and to reach an ambitious and balanced set of outcomes to be adopted in Glasgow. We therefore stress the importance of finalizing the outstanding mandates related to the Paris Agreement, which will help facilitate its full implementation by the Parties, while



promoting transparency and compliance. We underscore the importance of multilateralism and international cooperation, and the provision of technical and financial support to developing countries, in their adaptation and mitigation actions, unleashing the great potential of all sectors, with particular reference to the energy sector and the use of clean technologies to advance such efforts.

2. Accelerate the clean energy transitions

17) We recognize the need to fully use the potential of existing clean energy solutions, as well as to accelerate the development and deployment of zero and low emissions technologies and cutting-edge innovations in guiding the energy transitions to advance prosperity and social, economic and environmental sustainability at local and global level. Therefore, we underline the immediate need to step up international and public private collaboration in each sector.

18) We highlight the significant progress achieved in the development and deployment of renewable energies and clean technologies, benefiting from robust policy support, innovation and significant cost reduction and we support their further integration in energy systems. We note that in many countries and regions, especially in some of the G20 members, the overall costs of some renewable energy is competitive with fossil-based sources. We commit to invest further in critical low emissions and innovative clean technological solutions, recognizing the importance of getting these technologies to cost parity, thus contributing to SDG7 and Paris Agreement Goals.

19) Without prejudice to other technologies, we note the great potential of offshore renewables including the potential offered by ocean energy, and welcome the opportunity to further explore their deployment in interested Members, with a view to include them in their national energy and climate policies and recovery plans, according to national circumstances, in order to provide a short and long-term signal to private developers, research institutions and financial actors. Therefore, we welcome the Presidency's work on a set of recommendations, to facilitate offshore renewable development to be applied according to national circumstances for their fast-track deployment as per Annex I.

20) We recognize the key role played by energy efficiency as a key driver in clean energy transitions and in promoting economic growth while reducing GHG emissions and improving competitiveness. Therefore, we strive to enhance multilateral initiatives already existing at the global level, including the G20 Energy Efficiency Leading Programme (EELP) and the Energy Efficiency Hub. We recognize the opportunity to act on efficiency, sustainable production and consumption patterns and circularity, aware that no single fuel or technology on its own can enable the entire energy sector to reduce GHG emissions. We thus note the Presidency work on efficiency and circularity in the context of post-COVID recovery and its main elements: "Sustainable Input", "Flexibility" and "Decentralization" (see the relevant Annexed document "Energy Efficiency and Circularity in a Post Pandemic Economy").



- 21)** We acknowledge the critical need to advance on technologies and the commercial scale of zero and low emission hydrogen and ammonia for energy use. In this context, we acknowledge the relevant contribution that hydrogen and ammonia can provide to reduce and manage emissions in particular in hard-to-abate sectors, while providing additional system flexibility and opportunities for equitable economic growth. We also note the importance of the possible contribution of international hydrogen trade, including transportation technologies.
- 22)** We recognize the relevant role of modern bioenergy in fostering clean energy transitions in all end-use sectors and the related policies that stimulate further technological advancements, enhance productivity and ensure sustainable feedstock availability.
- 23)** Those countries that opt to use nuclear energy reaffirm its role in their energy mix and recognize its contribution to the overall reduction of GHG emissions and reliable supply of affordable energy. We call upon all countries to uphold the highest standards of nuclear safety, security and non-proliferation.
- 24)** Taking into account that fossil fuels still play a significant role in the energy mix, we recognize the need for investment and financing for advanced and clean technologies, including CCUS/Carbon Recycling and other related technologies to abate their emissions, depending on national circumstances, reaffirming our G20 2016 call for the need to use the best available technologies and practices in order to address the environmental impacts, including GHG emissions, of their production, transport and consumption.
- 25)** We acknowledge that methane emissions represent a significant contribution to climate change and recognize, according to national circumstances, that its reduction can be one of the quickest, most feasible and most cost-effective ways to limit climate change and its impacts. We welcome the contribution of various institutions, in this regard, and take note of specific initiatives on methane, including the establishment of the International Methane Emissions Observatory (IMEO). We will further promote cooperation, to improve data collection, verification, and measurement in support of GHG inventories and to provide high quality scientific data.
- 26)** We acknowledge the disproportionate impacts brought about by COVID-19 pandemic onto vulnerable populations, especially those without access to energy. Recognizing that the world is not on track to meet SDG7, we stress our commitment in the context of a sustainable recovery and SDGs, providing clean cooking facilities and ensuring that everyone, including the most vulnerable populations, enjoy universal access to affordable, reliable, sustainable and modern energy for all as a key driver to generate inclusion. Building upon previous presidencies' work on this crucial matter, including the G20 Initiative on Clean Cooking and Energy Access endorsed last year and regional action plans on energy access, we reiterate the crucial role G20 Members must play in promoting energy access and eradicating energy poverty.



27) To this aim, building on previous G20 Energy Ministers' communiqués to advance towards energy poverty eradication, we note the options specified in the relevant Presidency documents to work on an appropriate definition of energy poverty; a minimum set of standards to measure it; an integrated policy solution at all levels of government; and a mechanism to ensure stability and continuity of action, taking into account the options specified in the relevant Presidency documents Annex II.

28) We also emphasize the essential role of energy access in achieving gender equality. In this regard, we encourage gender equality and diversity in the energy sector and initiatives that promote a more inclusive and equitable energy future, such as the Equal by 30 Campaign.

29) We emphasize the importance of maintaining uninterrupted flows of energy from various sources, suppliers and routes, exploring paths to enhanced energy security and markets stability, while promoting open, competitive and free international energy markets - Building on the G20 Energy Security and Markets Stability Cooperation, we recognize the role of digitalization in enhancing energy security and markets stability through improved energy planning, while ensuring the security of energy systems against risks of attacks including through malicious use of ICT.

30) We recognize that the urgencies of global recovery and the increased pace of the sustainable and global clean energy transition may require an update of the 2014 G20 Brisbane principles on energy collaboration to align them with our enhanced understanding of energy security, including the crucial aspect of diversification of energy delivery, energy types and sources and markets stability in the context of national circumstances. Therefore in addition to addressing traditional energy security challenges, we need to consider and address evolving aspects of energy security, such as the integration of higher share of intermittent energy sources, growing demand for energy storage, reliable, responsible, systems flexibility, resiliency and adequacy, changing climate patterns, extreme weather events, responsible development of energy types and sources and other risks that could disrupt energy security, markets stability and reliable and sustainable supply chains of critical minerals and materials as well as semiconductors and related technologies.

31) We welcome the Presidency work in the relevant document placing a complementary concept of energy security and cooperation at the core of clean energy transitions by prioritizing energy efficiency; supporting solid expansion of all clean options; enabling flexibility with a large array of clean energy technologies, including demand-side measures; enhancing resilience of existing energy infrastructures; strengthening preparedness against new threats and considering the needs for just and inclusive transitions that put individuals and society at the center (see Presidency document in Annex III).

32) At the same time, we will build on the past initiatives under the previous presidencies recognizing the role of the "3E+S" (Energy Security, Economic Efficiency, and Environment + Safety) and the G20 Karuizawa Innovation Action Plan, stressing the use of innovative technologies that will help to abate, and remove GHG emissions,



while also recognizing the efforts made into reducing, reusing, recycling and removing as outlined by the Circular Carbon Economy (CCE) framework.

3. Paris-aligned financial flows

33) We emphasize the importance to enhance international cooperation to make financial flows consistent with the Paris Agreement and its goals, taking into account efforts to eradicate poverty, in view of enabling the economy and society-wide structural changes needed to pursue Paris-aligned pathways, mutually reinforcing the achievement of the Sustainable Development Goals in the context of a just and inclusive transition.

34) We recognize that aligning finance flows and recovery efforts with the goals of the Paris Agreement can represent an opportunity for economic growth facilitating investments to increase the deployment of already available solutions including renewable energy generation and low emitting technologies and investing in the best options in accordance with national needs. To this aim, we acknowledge the need to better leverage the full suite of policy levers and tools available, considering national priorities and circumstances, including but not limited to the integration of Paris-aligned measures and investments in the COVID19 recovery packages.

35) We acknowledge that climate adaptation and resilience can be further mainstreamed within domestic and international finance flows. We also recognize the importance to further mobilize public and private finance to both adaptation and mitigation actions, including by: exploring alternative sources of finance, crowding in private capital, improving enabling environments to better manage physical climate risks in infrastructure and investment decisions, and working on markets for disaster risk finance, early action and preparedness. We acknowledge the importance of ensuring the consideration of current and future climate risks throughout the investment and policy agendas. In this context, we recall the ongoing work to promote the implementation of the private sectors' identification and disclosure of climate-related financial risks, and welcome the outcome of the third Finance Ministers and Central Bank Governors Meeting work to promote implementation of disclosure requirements or guidance, building on the FSB's Task Force on Climate-related Financial Disclosure (TCFD) framework, in line with domestic regulatory frameworks, to pave the way for future global coordination efforts, taking into account jurisdictions' circumstances, aimed at developing a baseline global reporting standard.

4. Sustainable and inclusive recovery and opportunities offered by innovative energy technological solutions

36) We acknowledge recovery measures aligned with the Paris Agreement and Sustainable Development Goals have the potential to move us beyond a business-as-usual approach, increase global economic and social resilience and thus bringing us on the pathway to achieving the Paris Agreement goals. To this end, we recognize the opportunity of introducing policies, measures and sustainable technologies which,



taking into account the UNFCCC Gender Action Plan, allow for substantial progress towards the long term goals of the Paris Agreement and climate resilient future, while also ensuring and providing a boost to social welfare and sustainable economic growth and development in both the short and long term. In this context, we note the Presidency report “Aligning short-term recovery measures with longer-term climate and environmental objectives”, developed in cooperation with the OECD.

37) While recognizing the need for Members to prioritize efforts to cope with the health consequences of the COVID-19 outbreak, we are determined to ensure that recovery measures seek to optimize social and economic outcomes and avoid environmental damage, while enhancing climate change policy options and measures. We therefore endeavour to allocate an ambitious share of our national recovery and resilience plans in a manner that is conducive to mitigating and adapting to climate change, according to different national circumstances and economic and social needs and priorities. We also fully recognize the need to support investments to create affordable, reliable, sustainable, and modern energy systems that benefit from the full range of technologies needed to meet the Paris Agreement goals.

38) Noting that phasing out inefficient fossil fuel subsidies that encourage wasteful consumption is one of the key policies to reform harmful incentives and align finance flows with the Paris Agreement, we recall our 2009 Pittsburgh and 2013 Saint Petersburg commitments to phase-out and rationalise, over the medium term, inefficient fossil fuel subsidies while providing targeted support for the poorest. Such subsidies reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change. In this context, we intend to increase our efforts to implement the above commitment according to national circumstances, while providing targeted support for the most vulnerable. We note the continued support from the OECD in tracking progress, supporting the peer review mechanism and by helping design of reforms across G20 Members, including transitional policies. We welcome the efforts made by those G20 members who have already participated in voluntary peer reviews, and we encourage those who have not yet done so to initiate their peer reviews as soon as feasible. We also note the value of international initiatives such the OECD’s IPAC, open to all G20 members.

39) We strive to develop, as appropriate, market conditions to further reduce the costs of the innovative and resilient clean technological solutions, enabling the private sector to explore new investments opportunities for growth and employment that are inclusive and aligned with climate and sustainable development goals. In this respect, we also acknowledge the key role of public private partnerships and international financial institutions in supporting developing countries and thus facilitating the mobilization of private finance at scale. We note the interest by some of us in exploring opportunities to collaborate on carbon footprint approaches and related issues.

40) We recommend making best use of recovery plans to mobilize finance, leverage and de-risk private sector investments at scale, also through the promotion of public-private blending of financing tools and public-private partnerships (PPPs), with a view to simultaneously spur economic growth, create jobs, empower women, youth and



marginalized groups, and harness technology to reduce emissions and enhance climate resilience.

41) We recognize the role of international financial institutions, particularly Multilateral Development Banks, in also supporting developing countries by taking a counter-cyclical role to leverage public and private finance. We call on them to further scale their efforts up as part of a sustainable inclusive, recovery. We also support and call upon them to provide new financial tools and funding instruments to accelerate the clean energy transitions.

4.A Sharing best practices to facilitate a sustainable, resilient and inclusive recovery

42) We underline the importance of building effective ex-ante evaluation of recovery measures at the national level that include climate and environmental dimensions, and to share best practices on policies and measures with a view of promoting a lasting and sustainable recovery. In this context, we note existing initiatives undertaken by some G20 Members and international organizations, such as the Online Platform for Redesign 2020. We also note the work of the Presidency, in cooperation with the IEA, in developing a Sustainable Recovery Tracker, and encourage its updating.

43) We welcome the update of the G20 Action Plan which includes a set of commitments to continue supporting our policy response to the pandemic and steer international economic coordination towards a strong, sustainable, balanced and inclusive recovery, while preparing for the post-Covid19 world, particularly its pillar four “protecting the planet”, including their request to encourage International Organizations to monitor recovery strategies. We look forward to further analysis by international organizations on the impact of recovery packages and of adaptation and mitigation policies on climate and environment as well as on jobs, growth and equity.

4.B Harnessing the opportunities offered by innovative technologies within the recovery packages in line with the Paris Agreement goals

44) We acknowledge the key role that well designed national recovery packages play in driving short-term action (NDCs) as well as in shaping and supporting long-term strategies (LTS) to achieve the Paris Agreement goals, leveraging also on the opportunities offered by innovative and ground-breaking technologies. In this regard, we emphasize the role of international institutions, including the NDC-Partnership in supporting countries to develop and implement NDCs under the Paris Agreement.

4.C The role of innovation and R,D&D

45) We underline the key role of innovation and RD&D and emphasize the need to raise levels of public RD&D and market-led private innovation funding and building on international collaborative efforts. We welcome the launch by some of us of the second phase of Mission Innovation as a global platform to deliver a decade of clean energy



innovation and strengthen international cooperation to make clean energy affordable, attractive, and accessible to all. We also commend those Members that took part in the commencement of the Clean Energy Ministerial's third phase as a global platform to share experience, raise ambition, and implement cooperative action for clean energy deployment.

46) We strive to promote trans-disciplinary research and education and enhance technologies, training programs and workshops to explain climate science, spillover of associated policies, raise public awareness, public participation and public access to information and to exploit services and high-level training.

47) We point out that part of the R,D&D investments should be oriented to enhance innovative solutions for improved sustainable energy mix, energy efficiency, circularity, sustainable production and consumption patterns and new business models, including to considerably reduce emissions in the hard-to-abate sectors.

48) We consider the possibility to facilitate environmental policy options that fosters and rewards investment in sustainable innovation, including through fiscal policies and direct government support to mission-oriented projects taking into account economic, social and environmental aspects.

5. Smart, resilient and sustainable cities

49) Acknowledging the importance of national governments to support local and sub national actions and recognizing the pivotal role that cities play in achieving national climate policies, we highlight the role of cities, large urban conglomerated and large metropolitan areas as strategic partners for a sustainable and inclusive growth, to accelerate the pace of our efforts to tackle climate change and speed up the clean sustainable energy transitions. At the same time, cities and their residents are vulnerable to climate change impacts, and we acknowledge the need for reduced vulnerability by increased adaptive capacity. In this context, we recall the crucial importance of sustainable urban development as underlined by the New Urban Agenda. We also acknowledge the key role of bottom-up initiatives such as the Global Covenant of Mayors, the C40 and ICLEI. We also recognize initiatives of some countries to facilitate development of leading net-zero local communities and to facilitate international city-level collaboration toward decarbonization, taking into account the respective country governments' systems.

50) We recognize that the COVID-19 crisis has highlighted the need to analyze the different strategies that can be pursued to turn our cities into better places to live. We recognize the importance of living in harmony with nature, building resilience and accelerating the reduction of greenhouse gas emissions, in line with the long term goal of the Paris Agreement taking into account, economic, environmental and social circumstances of each individual country, the diverse degree of autonomy of sub-national entities, and of the diversity of their urban contexts.



51) We emphasize the need to enhance the coordination and cooperation between national, regional, and local authorities as well as to promote public private partnerships to accelerate an inclusive and clean energy transitions and implementation of NbS or Ecosystem based Approaches within and around cities, and to support the active involvement of all relevant non-state actors, including Indigenous People, local communities, academia, women, youth and underrepresented communities. In particular, we underline that behavioural change, public acceptance, indigenous and local knowledge are key factors in designing sustainable energy and climate solutions.

5.A Energy

52) We recognize cities as innovative laboratories of clean, energy efficient, sustainable, affordable and reliable technologies. Thus, we acknowledge the “Digital Demand-Driven Electricity Networks (3DEN)” initiative, launched by the G20 Presidency in collaboration with the International Energy Agency (IEA). This initiative is open for all countries to join so to maximize its impact across regions.

53) We stress the urgent need to promote sustainable and affordable mobility, including all related infrastructures, taking into account the full life cycle analysis to achieve the long term goal of the Paris Agreement. For this reason, we will collaborate to step up efforts concerning the crucial role of sustainable and safe mobility for developing reliable transport systems and logistics, and deploy soon low emission vehicles and fuels, while accelerating deployment of zero emission vehicles, including regarding public and non-motorized transport systems and more active options such as walking trails and cycling paths.

54) We encourage ongoing progress in the extensive use and investment of the digital technologies in urban conglomerates, for the system integration of variable renewable energy, including energy storage, smart grids, virtual power plants, supply management and demand side management as well as the role of hydropower and modern bioenergy for system stability and the interaction and coordination of power source-grid-load-storage.

55) We support local sustainable distributed generation and energy communities as concrete means to facilitate energy affordability, reliability, viability, accessibility, and sustainability. We recognize that the progressive deployment of renewable energy and technologies may enable consumers to become simultaneously producers (i.e. prosumers). In this context, we acknowledge the crucial contribution of these communities to develop high levels of smart renewable energy supply, maximization of the use of renewable sources in the energy mix, technological innovation in distributed generation promote sustainable housing and buildings and application of efficiency measures.

5.B Nature-based Solutions or ecosystem-based approaches



- 56)** While recognizing that an increasing number of nature-based solutions projects have been implemented in cities, we acknowledge that we would benefit from a common understanding of NbS and that there is still a need for further systematic analysis of their effects - including in the long term - costs and benefits, effectiveness for climate change adaptation and mitigation and provision of multiple benefits and potential impacts. We therefore welcome efforts to improve quantification and monitoring of nature-based solutions in order to inform, as appropriate, planning decisions, sustainable business and finance models.
- 57)** We aim to foster ambitious adaptation, resilience, and mitigation actions in urban and peri-urban landscapes, including through committing to the deployment and implementation of nature based solutions or ecosystem-based approaches in and around cities, and through the sharing of best practices and increased international cooperation, while harnessing the multiple benefits for people, climate and nature and ensuring social and environmental safeguards.
- 58)** We will strive to scale up nature-based solutions or ecosystem-based approaches in and around cities as appropriate including through COVID-19 recovery plans, with the view to build forward better for the conservation, sustainable use and restoration of biodiversity and ecosystem services, while addressing the social and economic challenges of urban areas and significantly reducing negative environmental impacts such as air and water pollution.
- 59)** We will work, as appropriate and on the basis of respective capabilities, towards the integration of nature-based solutions or ecosystem-based approaches into urban infrastructure and land use planning, and in mainstreaming them across all sectors, reflecting the different governance structures in G20 members.
- 60)** To advance towards all the above essential goals, we endorse the “Smart, resilient and sustainable cities Action Plan” (Annex IV)



Sustainable Recovery and opportunities offered by innovative clean energy solutions

- i) "Aligning short-term recovery measures with longer-term climate and environmental objectives", developed in cooperation with the OECD
- ii) "Sustainable Recovery Tracker", developed in cooperation with the IEA
- iii) "Offshore renewables: an action agenda for deployment", developed in cooperation with IRENA
- iv) "Update on Recent Progress in Reform of Inefficient Fossil-Fuel Subsidies that Encourage Wasteful Consumption 2021", developed in cooperation with the OECD and IEA

Smart Resilient and Sustainable Cities

- v) "Empowering Cities for a Net Zero Future: unlocking resilient, smart, sustainable urban energy systems", developed in cooperation with the IEA
- vi) "Resilient, Smart and Sustainable Cities: The Power of Nature-based Solutions", developed in cooperation with UNEP

Paris Aligned financial flows

- vii) "Accelerating Paris-aligned Financial Flows: A typology for facilitating a Paris-aligned COVID-19 Recovery", developed in cooperation with WRI

Energy poverty eradication and universal energy access

- viii) "Energy Poverty: addressing the intersection of Sustainable Development Goal 7 (SDG7), development and resilience", developed in cooperation with SEforAll

Evolving nature of Energy security in the clean energy transitions

- ix) "Security of clean energy transitions", developed in cooperation with the IEA

Energy efficiency and circularity

- x) "Energy Efficiency and Circularity in a Post Pandemic Economy", developed in cooperation with ENEA and RSE