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MAINSTREAMING SUSTAINABLE DEVELOPMENT
AND CLIMATE RESILIENCE FOR COLLECTIVE ACTION

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G20 Leadership for a Green Development Pact

PLENARY SESSION SUMMARY

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Making Words Count @WSDS 2023

“ Climate change is accelerating and affecting many lives. At the same time, the steps we take to fight climate change can also benefit the economy and public health by cleaning the air and water. India’s G20 presidency is a great opportunity to show the way forward. India is helping other countries to work together and share ideas.

H.E. Mr Michael Bloomberg
UN Secretary-General’s Special Envoy for Climate Ambition and Solutions

“ Irrespective of its contribution to carbon emissions, India believes that it must be the first country in the world to industrialize without carbonizing the world. To be able to produce green hydrogen, you need long-term lending of 25-30 years and new instruments that can enable you to do hedging.

Mr Amitabh Kant
Sherpa, G20, Ministry of External Affairs

“ G20 can go a long way to help the world achieve its climate goals and access clean energy. This is a critical decade for action. Choosing an ambitious path to ensure the best possible future and finding solutions to climate change risks can bring all countries to work together. For this, G20 can play a critical role.

H.E. Mr Steven Guilbeault
Minister, Environment and Climate Change, Canada

“ Demand-side measures identified in LiFE have great potential to reduce global emissions. Moreover, several approaches can identify sustainable advantages in technology to increase resource efficiency, and the circular economy concept under the G20 green development pact is important.

H.E. Mr Hiroshi Ono
Vice-Minister for Global Environmental Affairs, Ministry of the Environment, Japan

“ On the climate and mitigation side, it is a different game. It is not global good, it is about creating a completely new infrastructure and changing the infrastructure (model) from a fossil-fuel-linked infrastructure to a non-fossil fuel and not-carbon-bounded one.

Dr Bruno Oberle
Director General, International Union for Conservation of Nature

“ G20 is an opportunity for Brazil and India to come together. The second-generation biofuels in India will be a revolution.

H.E. Mr Andre Correa do Lago
Ambassador of Brazil to India and Bhutan

“ Universities have played a fundamental role in giving us the technologies that enable us to address climate change. It is not only about science; it is about developing policies as well. Individual institutions trying out things and leading locally are essential. I think we look to our leaders to enable and facilitate that change through policy, robust models, support, and encouragement.

Prof. Iain Martin
Vice Chancellor, Deakin University

“ Unlike many G20 countries whose economic growth depended very closely on fossil fuels, India’s journey will be different because we are already seeing signs of decoupling of India’s growth from fossil fuel consumption because of the deepening of energy efficiency and the renewables into our energy mix.

Dr Anshu Bharadwaj
Chief Executive Officer, Shakti Sustainable Energy Foundation

“ Technologies for tomorrow needs long-term commitments as well as leadership from G20 countries.

Ms Suruchi Bhadwal
Senior Fellow and Director, TERI

Actionable Messages

Message 1: A strong university-government-industry partnership is needed to address climate change. This is an issue that requires coalition and framing through the G20.

Message 2: To decarbonize the world, it is important to decarbonize the hard-to-abate sectors and therefore, one needs renewables to crack water electrolyzers to produce green hydrogen at a long scale.

Message 3: Green Development Pact requires a major behavioural change in terms of the consumption pattern, community, and individual actions. More cooperation on the project is required for the establishment of high integrity problem markets through agency mechanisms from all border countries.

Message 4: Since many of the issues related to pollution in Indian cities is relative to the burning of waste of agriculture, the second-generation biofuels will help to reduce that by using wastes of any product from agriculture to produce biofuels.

Message 5: All standards of flex fuel hybrid cars from Toyota in Brazil are the lowest emitting cars in the world. Further, ethanol is the best way to transport and store while hydrogen is very dangerous to transport and store. So, the agenda of green hydrogen has enormous potential to reduce the dependence on non-renewable resources.

Narrative

The plenary session titled, “G20 Leadership for a Green Development Pact” was conducted as part of the World Sustainable Development Summit (WSDS) - the annual flagship initiative of The Energy and Resources Institute (TERI). The aim of the session was to explore the recommendations for green development pacts as well as mechanisms to ensure the operationalizing of the Pact, specifically for the outcomes of the current G20 presidency. The moderator for the session was Dr Anshu Bharadwaj, Chief Executive Officer, Shakti Sustainable Energy Foundation and Ms Suruchi Bhadwal, Director, TERI. Discussions on various topics unfolded, which included: proposals on the specifics of the Green Development Pact, internalization of LiFE through the G20 forum, collaboration of G20 countries to further circular economy, norms on climate finance that can be pushed for through the G20 and G7 forums, collaboration of G20 countries to address the energy trilemma of energy security, energy equity, and environmental sustainability, and the role of G20 in accelerating progress on the sustainable development goals.

The moderator **Dr Anshu Bharadwaj** set the context for G20 as a group to solve the climate problem. He highlighted that G20 occupies majority of the world’s GDP economic output, exports, emissions, historical stock of emissions, etc. To find meaningful solutions to climate, the role of G20 is very important. Since India took the G20 presidency this year, this has added an extra layer of importance to this discussion for a few reasons. One reason is that among the G20 countries unlike other countries which have achieved very high levels of prosperity and economic growth, India still is a developing country with an unfinished developmental agenda. He added that though we are making very good progress, there is still some distance to go. Second, unlike many G20 countries whose economic growth depended very closely on fossil fuels, India’s journey most likely will be different because we are already seeing signs of decoupling of India’s growth from fossil fuel consumption because of the deepening of energy efficiency and the renewables into our energy mix. So, the path which India takes will be different from what other countries have already done in history where their growth came very closely coupled with fossil fuels. Finally, we are living in a time where we are seeing unprecedented innovation and R&D in clean technologies, for example, solar batteries, energy efficiency. There is a very robust innovation happening everywhere that gives us confidence that what India does could be a new economic growth model for the rest of the developing world to follow. So, in that sense, this becomes a very important discussion on how India can weave into the G20 narrative a new growth paradigm which is climate-friendly and doesn’t cause any environmental or ecological damage.

The session started with a video address by **H.E. Mr Michael Bloomberg, UN Secretary-General’s Special Envoy for Climate Ambition and Solutions** and also the founder of Bloomberg Philanthropies. He highlighted that climate change is accelerating and affecting more and more lives. At the same time, the steps we take to fight climate change also benefit the economy and public health by cleaning the air and water. The faster we act, the more lives we can save. He added that India’s G20 presidency is a great opportunity to show the way forward. India has set ambitious goals for more clean energy and electric vehicles and is taking important steps to turn those commitments into action through the International Solar Alliance and the Coalition for Disaster Resilient Infrastructure. India is helping countries work together and share ideas and Indian businesses are finding innovative ways to cut emissions and to collaborate with government leaders to attract more green investment capital.

Following the video message, **Professor Iain Martin, Vice Chancellor, Deakin University** was asked to share his thoughts with regard to institutional commitment in terms of green development and contributions to the G20 and leadership. He highlighted their launching of the renewable energy microgrid in 2021, which is the largest solar farm on any Australian University and actually one of the largest anywhere in the world. The grid delivers about 7 MW linked to a quarter of megawatt of rooftop storage generation and is a state-of-the-art research centre. It forms a central part of the University’s commitment to be carbon neutral by 2025 and carbon positive by 2030. To be carbon neutral, we’ve got to find about another 15,000 tons of carbon reduction per annum. He highlighted that they think they can do it, they have plans but it is going to require an ongoing commitment and it’s not a commitment that the university alone can deliver. G20, as a driver, has to find ways of building bridges between universities, governments, and industry, linked together by policy that recognizes the sheer complexity and local impact. He mentioned that we’re a relatively small carbon producer and our efforts while significant for us pale in the face of the global challenge.

But today, actually, we are a really important analogy of what needs to be done globally because too often, the argument that comes in facing these challenges, is, we as a nation, community, company are simply too small even if we become carbon neutral, we're not going to make the blindest bit of difference to the global challenge. He argued that it's not having a small impact that matters it's the leadership that does. Our sacrifices as an institution to do what we're doing are small, but we need to recognize that others are going to have to make much bigger sacrifices and changes. The G20 challenge is about leadership. Universities have a unique and fundamental role in giving us the technologies that enable us to address climate change. CO₂ does not stop because there is border, we need universities to drive and discover and implement solutions for climate change and it will continue to rely on university-government-industry partnership. He mentioned that if we cannot align these three forces, we will not be able to deliver what we need to be. This is probably the single issue that requires coalition and framing through the G20. While he talked about the university's great solar rooftop commitment, he highlighted that until we can store significant and industrial quantities of energy, we are not going to solve our challenges. So, working on hydrogen is one of the few available practical solutions at the moment. Currently, they are working through a plan to integrate their solar farm with hydrogen generation storage and fuel cell electricity generation to create a scalable model that smaller communities can actually adopt and use locally. Further, he mentioned that there is no better country at the moment to have the G20 presidency given how India is managing climate-related challenges. He highlighted that it's not just about the science, universities can also help develop the policies that need to sit behind the science because ultimately, it's not about the technology, now it's about policy. Universities can and should be seen as trusted experts who can help our G20 leaders navigate their ways. Since social science and its integration into any strategy to fight climate change is absolutely critical, he thinks that it was absolutely pleasing to see the foundational strategy in the draft Green Development Pact of LiFE, because it emphasizes the importance of social change and social impact. Small changes in behaviour make a huge difference when you multiply it not just millions of times but billions of times. Successful society-wide behavioural change programs create the conditions where it is easier for individuals and organizations to make a choice in the right direction. The G20 is the right political mechanism to drive this because of the sheer scale of the economic power that sits behind it but it needs to drive down from that very high-level conversation around macroeconomics to local communities. He expressed that our leaders should enable and facilitate local leadership through policy, economic models, support, and encouragement. There is no single solution and indeed there is no small number of solutions, we have to have a policy and implementation framework that allows the adoption of many changes that incrementally impact our footprint on the planet.

The session carried forward with the remarks by **Mr Amitabh Kant, Sherpa of G20, Government of India** who was the CEO of NITI Aayog for many years and a distinguished civil servant. He initiated the discussion by mentioning that G20 is critical because it accounts for about 85% of the global GDP, it accounts for about 78% to the global trade, two-thirds of the population. G20 is also important because it comprises all the top leaders of the world when they meet on the 9th and 10th September in Delhi and when leaders of the world meet, they discuss the future of the world. He mentioned that they were discussing a range of issues from LiFE, that is, behavioural change by both individuals and communities, circular economy, energy transitions, resilient infrastructure, financing for climate action and sustainable development goals, equitable development, biofuels, and green hydrogen. He mentioned that the important thing to understand is that many of the developing countries are not responsible for carbonizing the world. If one looks at the total carbon space available at 1.5°C, a country like, India accounts for just 1.5% of the total carbon space utilized. Whereas, logically, on a per capita income basis, it is entitled to about 17.5% of the total carbon space available. The developed countries have accounted for almost 88% of the total carbon space but irrespective of that India believes that it must be the first country in the world to industrialize without carbonizing the world and therefore it took several measures. India was the first country in the world which achieved its NDC targets 9 years ahead of schedule. He highlighted that India had pushed a very rapid renewable program through very transparent competitive bidding. The country is close to about 165 GW of renewable power today. India has the possibility of being a major exporter of green hydrogen, it has the possibility of being a major producer of electrolyzers. He mentioned two key challenges, one is the price of green hydrogen which is about close to 5 dollar per kilogram and needs to be brought down to about 2.5 dollars in the next two to three years and brought down to one dollar per kilogram by 2030. This will require a massive size and scale; no other country can provide the size and scale which India can produce due to its climatic condition

and good entrepreneurship. To be able to produce green hydrogen on a long size and scale, entrepreneurs do not need technology, they are quite capable of going and getting the best possible technology, which they've done in the case of renewables and many other areas. He also mentioned that the developed countries have not lived up to the commitment they had made in 2009 in Copenhagen, but even if the countries do not live up to it, one needs long-term institutional financing and new instruments like, blended finance, credit enhancement, first loss guarantees and an agency like, Miga to be able to do that in the World Bank. But these institutions were all designed for the post-World War II period and the post Bretton Woods II period, they are not designed to be financing agencies for the climate change era of today and therefore unless you do not structure them to finance for both SDGs and climate finance, it will not be possible to get long-term financing and therefore these international institutions which do a lot of direct lending should actually become agencies for indirect financing for a long period and that is critical. The second challenge is to bring the size and scale and to allow countries to push for green hydrogen, and allow a lot of free trade to take place and the new Inflation Reduction Act and the Chips Act of United States are the most protective pieces of any legislation drafted ever in the post-World War II period. The Acts provide for a subsidy of 3 dollar per kilogram for green hydrogen, only for hydrogen to be produced in the United States of America even if it is commercially non-viable, that is, even if it costs 7.5 dollar to producers, they'll subsidize to an extent of 3 dollar but will not subsidize it for any other place in the world even if it is produced at the lowest cost. This is against the basic theory of market and against the basic theory of free trade which the United States of America has propagated. Therefore, unless you don't allow your trusted partners to produce green hydrogen to size and scale and support it in terms of procurement, you will never be able to get the size and scale. Therefore, there are several components to any Green Development Pact, and it would require a major behavioural change in terms of the consumption pattern, in terms of community and individual action. It will require a complete focus on resilient infrastructure through the disaster risk resilience working group, a huge focus on energy transition through the energy transition working group, a huge focus on circular economy through the climate working group, and you would require financing for climate action and for SDGs through the international financial infrastructure and sustainable finance working groups of the finance track. So, one needs both the SharePoint track and the finance track and a lot of political and administrative will for leaders around the world to transform the world and to make the world a better, cleaner, and a safer place.

Following Sherpa's vision address, **H.E. Mr Steven Guilbeault, Minister of Environment and Climate Change of Canada** shared Canada's commitment to India's G20 presidency. He mentioned that this is a critical decade for action, how we choose to deal with climate change, biodiversity loss, and widespread pollution will decide our future. The G20 can play a critical role as we enter a new year and a new G20 leadership cycle under India's presidency, he as a representative of Canada, welcomed India's leadership and looked forward to working together to advance sustainable development and other key priorities. Canada's fifth federal sustainable development strategy in support of the 17 UN sustainable development goals brings together major social, economic, and environmentally sustainable development initiatives from conserving nature and biodiversity, tackling climate change, and banning single-use plastics to improving the quality of life for all Canadians. He expressed that the Canadian government is looking forward to the G20 summit for its concrete actions toward the full implementation of the new Kunming Montreal Global Biodiversity Framework. Canada also believes that the G20 must deliver strong support for increasing ambition on climate mitigation to keep the 1.5°C temperature goal, especially given that G20 countries are responsible for about 80% of the energy-related CO₂ emissions and hold about 80% of global renewable energy capacity. The G20 can go a long way in helping the world achieve its climate goals and access cleaner energy. Canada looks forward to working with all G20 members to ensure that the path one chooses is the right one for our planet.

The next speaker was **H.E. Mr Hiroshi Ono, Vice-Minister for Global Environmental Affairs from Ministry of the Environment, Japan**. He expressed that India and Japan will collaborate and cooperate to move forward to both G7 and G20 in an integrated and cooperative manner. He discussed few key issues under the G20 Green Development Pact. The first one is the Lifestyle for Environment (LiFE), which has a great potential to reduce global emissions. Japan is expanding its policy measures to promote the development of law and their emission products and services through increased incentives. Further, he

expressed his hope for inclusion of the demand-side actions and sustainable lifestyle choices and differences in the final product of Green Development Pact. Besides LiFE, the second key issue that he focused on in his address was circular economy. He expressed his belief that the current Green Development Pact should deliver a strong message to set up actions based on the Old Sacramento Ocean vision and moreover, a wide range of approaches including sustainable alternatives and technologies should be explored to increase resource efficiency. The third one is climate finance and one of the useful tools to increase or improve or enhance finance team is the market mechanics taken under the Article 6 of the Paris Agreement. The creation and building of a high integrity carbon market is important for G7 and G20 countries. Under the climate finance elements of the green impact, we would like to see the establishment of high integrity problem markets. He expressed his hope towards more cooperation on the project through the agency mechanisms from border countries including India.

Following H.E. Mr Hiroshi Ono's address, **Dr Bruno Oberle, Director General from International Union for Conservation of Nature** shared his views on two aspects of the norms in climate finance which can be pushed through by G20 and possible collaboration or support under G20 to accelerate the journey towards the SDGs. He said that we need true multilateralism that could be strengthened through the role of the G20. He focused on the facts that we all agree to invest money from a variety of sources that would be a substantial part from the private sector and an important part of the public sector money to trigger the process. Among the seven or eight COPs in the environmental sector, from Sharma-i-Sheikh, the new important tool is the fund on loss and damage. Such insurance systems are needed. He said that this is one of the topics that the G20 can reflect on and give some push in preparation of the Abu Dhabi COP at the end of this year on the climate side. On the mitigation side, it's a completely different game. It is not a global insurance or global good that is being targeted, it's simply about creating a completely new infrastructure, changing infrastructure from a fossil fuel-linked infrastructure into a non-fossil fuel and non-CO₂-bound infrastructure. Further, he focused on the second step of the Kunming Montreal COP, that is, the new framework of targets for the global community to conserve biodiversity. Finally, he focused on plastic pollution, which has severe consequences for the oceans. The Biodiversity Beyond National Jurisdictions (BBNJ) regulations are entering these issues in their final phase. He expressed his hope that it will create a framework to formulate agreed protection rules in international waters.

The last speaker of this session was **H.E. Mr Andre Correa do Lago, Ambassador of Brazil to India and Bhutan**, who is also shortly taking over as secretary of climate energy and environment in Brazil. He mentioned a few additional things to the G20 agenda shared by Mr Amitabh Kant. One is that the G20 can do a lot in that agenda. Because to solve the issues and the challenges of climate change, it's essentially a question of economics and finance and also because we all know that most of the emissions are emissions of energy and energy is simply the engine of all the economies. So, the G20 is also an opportunity for Brazil and India to get even more together. He expressed his hope for a constructive association in future. He also announced that India will be launching the International Biofuels Alliance at the G20, and this element of biofuels that has created debate is one of the elements of stronger association between Brazil and India. He mentioned that the biofuels experience in Brazil has been extraordinary, and India is adopting a policy of biofuels and bioenergy that is by far the most ambitious in the world. He expressed his feeling that he was very happy with it because not only India and Brazil are the two largest producers of sugarcane, both the countries are naturally blessed to have a kind of biofuel that is highly sustainable already in the first generation and also the prospects of the second-generation biofuels are already present. He emphasized that the second-generation biofuels in India will be a revolution because of clean air. Since many of the issues related to pollution in Indian cities is relative to the burning of waste of agriculture, the second-generation biofuels will help to reduce that by using wastes of any product from agriculture to produce biofuels. Additionally, he mentioned that one will be also able to produce pellets of biomass which substitutes coal in the coal thermoelectric with the same efficiency as coal. So, biofuels in India and Brazil are an agenda of lower emissions. Biofuels will help cars to emit much less. He shared that Brazil has only two options at the pump, you can either put gasoline with 27% ethanol or use 100% percent ethanol. India is on its way to reaching 20% mix of ethanol very soon and there is a mandate for the production of flex fuel cars which can put as much gasoline or ethanol as you want and in Brazil, 97% of the cars produced are flex cars. He also mentioned that all standards of flex fuel hybrid cars from Toyota in Brazil are the lowest emitting cars in the world. He

also highlighted the issue of strengthening the lifestyle and behavioural changes taken under India's G20 presidency, which he thinks is one of the most relevant agendas for SDGs.

Finally, the moderators **Dr Anshu Bharadwaj, Chief Executive Officer, Shakti Sustainable Energy Foundation** and **Ms Suruchi Bhadwal, Director, TERI** closed the session by thanking all the speakers for the enriching discussions where they highlighted the needs required to be met at a global scale in technologies, finance business models, institutional architecture innovation, and R&D, and the global solutions that the countries can work together for a sustainable, greener future.
