



# WORLD SUSTAINABLE DEVELOPMENT SUMMIT 2019

ATTAINING THE 2030 AGENDA: DELIVERING ON OUR PROMISE

February 11-13, 2019  
India Habitat Centre, Lodhi Road, New Delhi, India

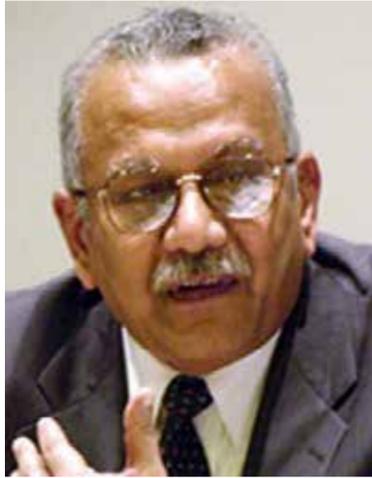
## OVERVIEW



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## FROM THE CHAIRMAN'S DESK



**Mr Nitin Desai**  
*Chairman, TERI*

This Summit Series, began nineteen years ago in 2001. It has ever since become a major gathering of people who feel that the future, not just of our planet but also of our people, depends on promoting the idea of sustainable development. Part of TERI's aim is to facilitate the exchange of ideas and demonstrate that there are people across the world who are united in their conviction that the time to act is 'now'.

A defining characteristic of the World Sustainable Development Summit (WSDS) is the range of solution-driven discussions that take place on its platform. The Summit acts as reinforcement for all its stakeholders who have committed to the goal of sustainable development. In a sense, sustainable development is nothing but 'responsible development', which is an answer both for over-development and for under-development.

I have been involved in promoting 'sustainable development' for thirty-five years now. When we brought in the idea of sustainable development into the Brundtland Commission, it was to find a bridge between those people who thought that growth and development are a threat to the environment – the conservation movement and the developed Western nations – and those, like the developing nations, who felt that the whole idea was meant to stop growth and development. But soon enough, the idea of sustainability caught on. Consider the following two conferences for contrast – when we had done the Rio Conference, the driving force behind sustainable development had come mostly from environmental groups and NGOs, and some other players – corporations for instance. With some difficulty we put together a World Business Council for Sustainable Development with around 20-25 CEOs. But by the time we did the Johannesburg Conference, the scale of corporate involvement was such that we had to organize a parallel conference with several hundred corporate honchos present.

The reason for this was that there was a greater consensus among the scientific community by then. Since Johannesburg, countries which had stayed on the sidelines of the Sustainability discussions in the early days, like China and to some extent India, became much more deeply involved. Sustainable development went from being an agenda of environmentalists who were suspicious of growth to being driven by big corporations and governments in the developing world. A healthy sense of fear inspired by the inevitability of climate change-led destruction played a role in this. But it would be wrong to attribute global action today merely to fear. Seeing sustainable development as an opportunity rather than as a necessary sanction is one of the big transformations I have observed over the last few years.

This Summit is perhaps the only platform in whole of Asia that regroups concerned leaders, environmentalists, academicians, corporates, and environment enthusiasts on a single stage, giving them the chance to lay added focus on issues of environment and energy importance. The

future editions of the Summit will continue to remind everyone that the responsibility is ours and the solutions to the monumental challenge of sustainable development need to be actioned now.

## FOREWORD



**Dr Ajay Mathur**  
*Director General, TERI*

2018 was an important year for India. We hosted the World Environment Day on June 5 with "Beat Plastic Pollution" as the theme for this year's edition. The day marked the world coming together to combat single-use plastic pollution. Efforts, drives, and initiatives were launched across the country to challenge plastic waste menace. A lesson learnt from these initiatives was that efforts need to be continuous and collective.

TERI's flagship event, the World Sustainable Development Summit (WSDS), in its 2019 edition aimed to mobilise action in all sectors of governance and development. The five mega themes of air, water, energy transitions, sustainable agriculture, and climate finance, formed the crux of the discussions held during the three days of the Summit. An overwhelming majority of speakers, ranging from the government, industrial, corporate, and academic sectors, ensured that the deliberations were both wholesome and robust.

The need for sustainable development is here more than ever before. The icing on the cake however, is that there are a large number of solutions that are available. These solutions need to be actively accepted into the mainstream of climate action and implemented across. The WSDS 2019 delivered on its aim of providing a sustainable platform to all its stakeholders to institute new partnerships that will take these solutions from the few to the many.

I wish to extend my gratitude to all the Summit speakers, participants, and exhibitors who increased the magnitude of the Summit's reach. The success of any event lies heavily on the support extended to it by its multiple partners. I need to especially thank the Ministries of Environment, Forest, and Climate Change; of Earth Sciences, and of New and Renewable Energy, Government of India, for their unwavering support. I thank all the Summit Partners and look forward to extended and strengthened associations with them over the next editions of the Summit.

Together, we aim to learn, understand, and build partnerships that will address the problems of today for a viable tomorrow.

# ACKNOWLEDGEMENTS



**Dr Annapurna Vancheswaran**  
Senior Director,  
Communication  
Outreach & Advocacy  
Unit, TERI

The World Sustainable Development Summit (WSDS) serves as a vital platform for nations of the world to discuss and debate strategies in the realm of sustainable development and explore avenues for synergy. The Summit allows representatives from different walks of life; namely, polity, economy, academic, and civil society to contribute to the formulation of effective policies that would benefit both the people and the planet.

The Summit in its journey of seventeen years has emerged as a focal point for international policy makers, heads of multilateral and bilateral organizations, and leading practitioners, to congregate at this platform to discuss and deliberate over climatic issues of universal importance.

The 2019 edition of WSDS, inaugurated by the Hon'ble Vice President of India, Shri Venkaiah Naidu, aimed to open a series of thought provoking, pragmatic, and goal-oriented discussions, steered by a host of global leaders. I take this opportunity to thank the many speakers who invested their valuable time in educating the esteemed audience about important and urgent environmental concerns.

An event as dynamic as the WSDS series can witness mammoth success only through the support extended by its multiple partners. The Summit acknowledges with gratitude, the immense support received for this edition of the Summit from the Government of India through the Ministry of Environment, Forest, and Climate Change (MoEFCC), the Ministry of External Affairs (MEA), the Ministry of New and Renewable Energy (MNRE), and the Ministry of Earth Sciences (MoES). The Summit also recognises and accolades the technical and specialised support received from our other Summit partners whose support ensured the success of WSDS 2019. I extend my deepest appreciation to all the partners and look forward to continued partnerships with all.

I also thank all the Exhibitors who demonstrated sustainable ideas, and the very best of technologies in their pavilions. The guidance as extended by the members of the International Steering Committee (ISC) remains unmatched and the WSDS Secretariat acknowledges their continued support with regard.

The annual WSDS synergizes the resources of TERI to deliver on its motto 'creating solutions for sustainable development'. The synchronized efforts and significant contributions made by all divisions within TERI ensure that the Summit takes a most wondrous shape. I must acknowledge the TERI colleagues for their support in taking the lead in facilitation, rapporteuring, preparation of background notes for the thematic tracks and plenary sessions, administration, logistics, and production of the Summit collaterals during and after the proceedings of the Summit.

I warmly and sincerely thank everyone associated with the WSDS in one form or the other for their untiring efforts, cooperation, and support.

# SUMMIT SERIES

## 2001-2019

Year	Theme
2019	Attaining the 2030 Agenda: Delivering on Our Promise
2018	Creating Partnerships for a Resilient Planet
2016	Beyond 2015: People, Planet & Progress
2015	Sustainable Development Goals and Dealing with Climate Change
2014	Attaining Energy, Water and Food Security for All
2013	The Global Challenge of Resource-Efficient Growth and Development
2012	Protecting the Global Commons: 20 Years Post Rio
2011	Tapping Local Initiatives and Tackling Global Inert
2010	Beyond Copenhagen: New Pathways to Sustainable Development
2009	Towards Copenhagen: An Equitable and Ethical Approach
2008	Sustainable Development and Climate Change
2007	Meeting the MDGs: Exploring the Natural Resource Dimensions
2006	Linking across MDGs: Towards Innovative Partnerships and Governance
2005	Beyond Universal Goals: Steering Development Towards Global Sustainability
2004	Partnerships for Sustainable Development: Addressing the WEHAB Agenda
2003	Beyond Johannesburg: Translating Resolve into Action for a Sustainable Future
2002	Ensuring Sustainable Livelihoods: Challenges for Governments, Corporates, and the Civil Society
2001	Poverty: The Global Challenge for Governments, Industry, Scientists, and the Civil Society

World Sustainable Development Summit (WSDS)

Delhi Sustainable Development Summit (DSDS)

# LEADERS' SPEAK

*Our leaders from across the world – either holding or having held political or bureaucratic office – are uniquely placed, both to put their fingers on the exact nature of the challenges and coming up with actionable suggestions informed by learnings on the job. Below is a review of some key insights our global leaders shared at the latest Summit edition, for expert stakeholders as well as interested non-specialists alike to profit from.*



## Shri M Venkaiah Naidu, The Hon'ble Vice President of India

"Platforms like the WSDS play a crucial role in exchanging information, knowledge, experiences, lessons learnt and best practices from across the globe.

They forge new partnerships, lead to syntheses of new ideas and bring people and nations together, inspiring them to work as a team to achieve the common goal."



### HE Mr Cassam Uteem, Former President, Mauritius (1992-2002); Member, World Leadership Alliance-Club de Madrid

"I come, ladies and gentlemen, from a small island state. And as you know, small island states are particularly vulnerable to the effects of climate change, simply because on many of those islands there is nowhere to go when the sea rises, nowhere to hide when extreme weather events like cyclones or hurricanes arrive."



### HE Ms Chandrika Kumaratunga, Former President, Sri Lanka (1994-2005); Member, World Leadership Alliance-Club de Madrid

"We pride ourselves in the fact that humanity has taken many strides forward in the way of what we understand as development, but I do not think governments have taken note of the fact that we have to be concerned about protecting the nature around us. NGOs, civil society, some political parties like the Green Parties in the West, may have to come up with massive people's movements to persuade – or perhaps a little bit more violently to force, to oblige governments to take the necessary action before we all extinguish ourselves."



### Mr H S Puri, Hon'ble Minister of State (IC), Ministry of Housing and Urban Affairs, India

A key takeaway from Mr Puri's address was that India's postcolonial reconstruction story will not be complete till we have successfully mitigated poverty, and urbanisation can potentially make a substantial dent in poverty over the next few years.

He also underscored that the MDGs were successful because a large economy like China was able to lift vast numbers of people out of poverty. Similarly, he stressed, the SDGs will succeed because India will implement the SDGs well before 2030, ensuring the success of the overall SDG packet in the process. India is pivotal to that exercise.



### Mr Suresh Prabhu, Hon'ble Minister, Ministry of Commerce & Industry and Civil Aviation, India

"WSDS is a signature event for attaining the 2030 SDG agenda."

Mr Prabhu mentioned that non-fossil fuel-based energy sources are actually the traditional sources of energy, while fossil fuels are energy sources that have been discovered by the human race. The fossil-fuel era is not going to last forever and, therefore, it is important for us to leverage technological advancements, scientific innovations, and non-fossil fuel-based energy sources such as solar and hydro. He further added that India is already undertaking significant strides to promote expansion of clean energy sources in the energy mix and energy-efficient technologies across all sectors of the economy.

# LEADERS' SPEAK



## **Dr Barshaman Pun, Hon'ble Minister, Ministry for Energy, Water Resources and Irrigation, Nepal**

"It is an honour to speak at WSDS 2019, with the theme 'Attaining the 2030 Agenda – Delivering on our Promise'. We envision Nepal to be an enterprise friendly, middle income country by 2030, by continuously striving to meet the targets of SDG 7, among others. I would like to stress here that the UN tools to meet the global SDG 7 targets are broadly aligned with our country specific vision.

Moreover, the view on 'Energy for Tomorrow' needs to be perceived through the lens of energy security. More than 80% energy in Nepal is dominated by traditional forms of energy – biomass and petroleum. The stake of grid electricity and renewable energy together is 7 % only. Our energy policy focuses on gradual replacement of traditional forms of energy to renewable sources."



## **Mr Arjun Ram Meghwal, Hon'ble Union Minister of State, Ministry of Water Resources, River Development & Ganga Rejuvenation, India**

"We have sufficient water, but we don't have judicious systems and patterns of management. As Shri Nitin Gadkari Ji has also reiterated time and again at various platforms – we have water enough in India for human consumption. We have a plethora of schemes for irrigation, water conservation and management, but a lot of the leakages that happen in day to day life which have to be identified and addressed. Water in our houses, farms & waterbodies is being misused and mismanaged. Essentially, management is our challenge, more than scarcity."



## **Mr Vidar Helgesen, Norway's Special Envoy for the Ocean, Ministry of Foreign Affairs, Norway**

"There is no single message on how to fight plastic pollution; it is a collaborative effort", stressed Mr Helgesen, calling on agencies, departments, governments and ministries and all other stakeholders to come together to fight the menace of marine litter that threatens to irrevocably damage marine habitats and has already started impacting human health for the worse by entering into that universal staple of human diets – salt – in the form of microplastics.



## **Mr Manish Sisodia, Deputy Chief Minister, Delhi**

"Energy is not about money; it is about our very existence, about our Earth."

Mr Sisodia opined that the right approach when inculcating an energy efficient mindset in children is not through fear of high electricity bills or citing the cost factor in any other way, but rather by instilling a respect for nature. The fear of exorbitant bills won't hold or dissuade them for long, he felt, but driving home how precious natural resources are could do the trick. He called for programmes like 'Energy Wise Energy Rise' (EWER) to be contextualized in the "larger canvass of human contract with nature."



## **Mr Jairam Ramesh, Member of Parliament, Rajya Sabha**

According to Mr Ramesh, most of the quantitative targets India ratified as Nationally Determined Contributions (NDCs) under the Paris Agreement are well within India's grasp, and we will comfortably achieve – even overachieve some of them by or before 2030. But he identified the challenge of increasing 'carbon sink' (a natural or artificial reservoir that accumulates and stores CO2 to remove it from the environment) as the major hurdle that could stymie efforts towards comprehensive completion of our NDCs.

"The problem becomes particularly grave in light of the discovery of new good coal reserves, which are all in densely forested areas. The extent of CO2 sequestration as envisioned in India's NDC is a pipe dream."



## **HE Andre Aranha Correa do Lago, Ambassador of Brazil to India**

"For sustainable mobility, transportation must be made economically attractive for business government and people."

He discussed the experiences of Brazil in the mobility sector, which like India is yet to be completely motorized. Brazil adopted alternative fuels in the transport sector in the 1970s due to the lack of coal. It also developed an extensive BRT (Bus Rapid Transit) network, which is 80 times cheaper in terms of investment than underground metro rail.

# LEADERS' SPEAK



**Mr Michael Bloomberg, Founder, Bloomberg LP & Bloomberg Philanthropies; 108th Mayor of New York City (via Video)**

"Bloomberg Philanthropies is glad to work with TERI and support this year's World Sustainable Development Summit. When I was Mayor of New York City, our team saw how economic growth, public health and environmental sustainability go together. As a result of our efforts, carbon emission fell by nearly 20%, life expectancy increased by 3 years, and job creation rose to record levels. The lesson is clear – people want to live where air is clean and where people live, businesses want to invest. That is why we are glad to support India's National Clean Air Programme. India isn't just tackling climate change but is on its way to a healthier, more prosperous and more sustainable future."



**Dr Rajeevan M, Secretary, Ministry of Earth Sciences (MoES), India**

"The rate of warming in the Indian Ocean is much faster than any other ocean – with serious implication on our economy. The MoES has the mandate of monitoring ocean waters – we have noted that the seawater quality there has deteriorated because of the influx of sewage water discharged in rivers. Plastic waste makes up 80% of all marine debris – from surface water to deep sea sediments. There is an urgent need to explore the use of existing, legally binding international agreements. We want to know what other countries are doing to tackle this problem, and how these approaches can be customized for India to avoid and arrest plastic leakage."



**Mr Raimund Magis, Chargé d'Affaires, Delegation of the European Union to India**

Mr Magis said, "We are working closely with India on nine identified priority areas in the water management sector. With the added expertise and support by the member states, institutions and the businesses, we hope to further step up this collaboration."



**Mr C K Mishra, Secretary, Ministry of Environment, Forest and Climate Change (MoEF&CC), India**

Mr Mishra identified three major sectors, controlling which will bring a substantial reduction in the air pollution: industry, transport, construction and demolition.

"Having cleaner fuel is one aspect, but its judicious use is another aspect," he stressed, emphasising the importance of people's participation and private funding, along with the government's role in the success of the National Clean Air Programme.



**Ms Marianne Hagen, State Secretary (Deputy Minister), Ministry of Foreign Affairs, Norway**

"The WSDS is one of the few international fora that give due attention to the emerging economies such as India. Small countries like Norway can provide technology and know how, but we need to merge with partners in the emerging economies whose size, speed and momentum is crucial for achieving large scale sustainable development. Indeed, eradicating poverty and achieving the SDGs will only be possible when the 1 billion people with no access to energy are connected to the grid, in a sustainable way."



**Mr Anand Kumar, Secretary, Ministry of New and Renewable Energy (MNRE), India**

Outlining the actions taken by the government to achieve the renewable energy target, Mr Kumar affirmed, "We have the commitment to move towards RE to fight climate change and support other nations globally."

He added, "Energy transition is the biggest thing happening in the century. We should not miss the bus with regard to the indigenous manufacturing of battery storage as we missed in solar PVs."



**Mr Tomasz Chruszczow, High Level Climate Champion for Climate Action, Poland**

"Climate, energy and development can't be dealt with separately, the interlinkages have to be taken into account. Whenever we talk about climate, we talk about extreme weather, slow onset events – droughts, floods, hitwaves etc. These are not any longer those horrible TV stories happening elsewhere and not in my backyard. The responsible response is to adapt, to mitigate the pressure on environment, to transform the way we plan and develop the future. Businesses, manufacturers, financial institutions have to engage along with environmentalists and actively face the challenges of tomorrow – today."



**Mr Rajiv Kumar, Vice-Chairman, NITI Aayog, India**

"This Summit, now in its 18th edition, has really become a landmark event on climate change, environment and energy around the world. We're probably here because we all take it for granted that the ecological crisis that we face today is a grave reality. I think we may be making a mistake there, as a large segment of the population at the bottom of the pyramid lacks awareness about the magnitude of the crisis. We need to give far more attention to raising awareness and sensitising the general public about the health of the planet. It's important to communicate to them, in their idiom and their language, about how what they do today influences our tomorrow."

# INAUGURAL CEREMONY



» LEFT TO RIGHT - Hon'ble Vice President of India, Shri M Venkaiah Naidu (extreme left); Mr Nitin Desai, Chairman, TERI; Ms Marianne Hagen, State Secretary (Deputy Minister), Ministry of Foreign Affairs, Norway; HE Mr Cassam Uteem, Former President, Mauritius; Dr Harsh Vardhan, Incumbent Minister - Ministry of Science & Technology, Ministry of Environment, Forest and Climate Change and Ministry of Earth Sciences, Government of India; HE Ms Chandrika Kumaratunga, Former President, Sri Lanka; Mr Junaid Kamal Ahmad, Country Director for the World Bank in India; Dr Ajay Mathur, Director General, TERI

# INAUGURAL ADDRESS

## SHRI M. VENKAIAH NAIDU

Honourable Vice President at the inaugural ceremony of the World Sustainable Development Summit 2019



"It is indeed a pleasure to be here at the inauguration of the World Sustainable Development Summit. I welcome the delegates who have come to join us today from different parts of the globe.

I am happy to note that over the past 18 years, the World Sustainable Development Summit has emerged as a credible institution, a powerful meeting point of the world's leading experts on sustainable development. Platforms like the WSDS play a crucial role in exchanging information, knowledge, experiences, lessons learnt and best practices from across the globe. They forge new partnerships, lead to synthesis of new ideas and bring people and nations together, inspiring them to work as a team to achieve the common goal. And let me emphasize that sustainable development is indeed a common goal for all world nations, given the unprecedented scale of environmental degradation and its drastic consequences that we have been witnessing over the last few decades. With the realization that the impacts of climate change are borderless and that our fates are deeply inter-linked, we must explore an equally unprecedented degree of collaboration and cooperation.

Dear sisters and brothers,

The Vedic philosophy of India has always emphasized the undeniable connection that human beings share with nature. Our traditional practices reflect a sustainable lifestyle. Vedic philosophy considers the earth as the mother and all life forms as her children. The Mahabharata, Ramayana, Vedas, Upanishads, Bhagavad Gita and the Puranas contain some of the earliest messages on ecological balance. This deep respect and gratitude felt towards nature is reflected in India's relentless efforts to accelerate energy transitions, protect nature and achieve sustainability. It is indeed worrying to see studies that speak of troubling changes in global climate and precipitation patterns. There has been an increase in the number of climate related disasters such as droughts and floods in the recent years in addition to a general rise in global temperature. Climate change and global warming are real and imminent. They threaten the lives and livelihoods of billions of people and upset the delicate balance of nature. It is in recognition of this fact that India is trying its best to include the paradigm of sustainability and environmental conservation in each and every one of its development endeavours.

India, along with France, initiated the International Solar Alliance which already has one hundred and twenty one members. The alliance is perhaps the most decisive step taken by any world nation towards developing clean energy. India is committed to reducing 33 to 35 percent of emission intensity of its GDP during 2005 to 2030 in tune with its Nationally Determined Contributions (NDCs). India on the course to achieving 175 GW renewable energy target and 40% of India's electricity generation is set to be from non-fossil fuels, by 2022. India is amongst the few countries of the world where forests are growing in spite of exponentially rising population and livestock pressures. India's forests act as a net carbon sink. India has set a target of raising its existing 21.54% forest cover to 33% of the total geographical area through aggressive forestation drives.

Sustainable development is inclusive development. Let us not forget that the more immediate impacts of climate change are felt by developing countries, because of higher dependence on climatic variables, especially when it comes to agriculture, and their limited capacities to adapt.

The marginalized and vulnerable sections of the world population are highly susceptible to climate-induced tragedies. Therefore, in pursuance of the UN Sustainable Development Goals, granting these groups of people climate justice must be one of our primary goals.

Dear sisters and brothers, sustainable development includes sustainable agriculture. India is focusing on this aspect very sharply. Inconsiderate use of ground water for irrigation has led to drying up of aquifers. Reckless use of pesticides has degraded soil quality, polluted groundwater and has destroyed biodiversity, threatening our food security. There is a need to make use of the endless possibilities of biotechnology and nanotechnology to develop a range of green products including nano-fertilisers.

We should move towards more efficient systems of irrigation with 'more crop per drop' as our mantra. Greater thrust has to be placed on organic farming and on the use of natural means of pest control. Sustainable development means sustainable mobility solutions. India's burgeoning urban spaces have transport requirements that are rising

exponentially with each passing day. India needs sustainable, inclusive, low carbon mobility solutions. We have to focus upon expanding our Mass Rapid Transit Systems like the metro rail network and promote the ease of use of green vehicles.

Sustainable development means sustainable urbanization. The United Nations Department of Economic and Social Affairs estimates that by the end of 2050, India is expected to be the most populous country with roughly 1.7 billion inhabitants. More than 60% of this population is expected to reside in India's urban centres by 2050. Hence there is a need to build efficient, productive, equitable, smarter, more responsive and resilient cities and green habitats in keeping with SDG 11 which calls upon Governments to make cities and settlements inclusive, safe, resilient and sustainable.

We need to check distress migration from rural areas and substantially improve the quality of lives of the urban poor. One of the key enablers in this process would be to empower cities through policy mandates, institutional and financial support and legal provisions. Enhancing private sector participation and capacity building can go a long way in charting a sustainable urbanization pathway for India.

Sustainable development means energy security and clean energy. As the world's fastest growing major economy, our energy needs are immense. More than 80% of India's fuel needs are met by imports. This volatility and tendency for fluctuation in international crude oil prices threatens India's energy security.

We are already the fifth largest producer of solar energy in the world. We have to continually improve our home grown, renewable energy capacity through constant research, innovation and technology up gradation. Sustainable development means sustainable waste management. We must find sustainable ways of disposing our waste, especially the growing pile of urban, non biodegradable waste which pollutes waterways and oceans.

We must fully explore our 'waste to wealth' potential and emphasize upon the principles of reduce, reuse and recycle. Sustainable development means determined efforts at wildlife conservation. India has gained global recognition for being home to eleven Biosphere reserves under UNESCO's Man and Biosphere programme. As habitat loss and pollution affect many species of around the globe, pushing them to extinction, we must renew our efforts to conserve our wildlife. Sustainable development means green innovations. From solar panels to LED bulbs to windmills to sanitation that does not pollute our waterways, there is no dearth of opportunities to explore greener development. But any green innovation must enable stakeholders to quickly overcome the higher first costs. It is important to explore options to bring down this high initial cost in the short term.

India has already achieved a number of milestones in sustainability. By October this year, the Swachh Bharat Mission of cleanliness and sanitation will have saved the lives of over 3 lakh children across the country. The Unnat Jyoti by Affordable LEDs for All (UJALA), the world's largest domestic lighting scheme has successfully mitigated over Rs. 16,000 Crore in energy costs, while avoiding emissions of 3.4 Crore tons of CO2. Environmental conservation need not always happen through projects of large scale and scope.

Every single one of us can contribute to sustainable development, whether it be by turning the ignition off at long traffic stops or by recycling and composting or by cycling to work in congested cities. Let our Diwalis be free of smoke and our Holis, of toxic, polluting colours. It is the accumulation of such small actions of ours that will lend the much needed momentum to India's quest for sustainability.

Dear Sisters and brothers, to be truly 'sustainable', the investments we make in our infrastructure and resources must be designed to be durable and resilient.

We want technologies, processes, and practices that, once implemented, continue to reap environmental dividends in the long run. For this, we need technology and financing. While India does intend to reach each of our sustainable development objectives on our own, collaborations with the developed world can help us achieve them faster. The more judiciously we consume resources, the more we save for our future generations. We are not inheritors but merely trustees of this earth and everything in it. It is our prime responsibility to pass it on to posterity in its pristine glory. I also call upon international organizations and the civil society to incorporate the aspect of sustainability in every single one of their discussions, deliberations and action plans for the future.

As I said, the earth is our mother and humanity should collectively rise above our trivial differences of race, religion, and power, and act in unison to save her. As the ancient Indian adage goes "Dharmo Rakshati Rakshitah". If you promote righteousness, it will protect you." If you protect nature, it will protect you and nourish. If we don't, we run the risk of perishing. I hope the world community will have the wisdom, commitment and 'will to act' to protect nature and humanity's future.

I wish the World Sustainable Development Summit and all its participants all the very best. I look forward to witnessing how your deliberations and strategies can contribute to enhance India's agenda of sustainability. Jai Hind!"

# SUSTAINABLE DEVELOPMENT LEADERSHIP AWARD

Instituted by TERI in 2005, the Sustainable Development Leadership Award (SDLA) felicitates eminent global leaders for their noteworthy contributions in the field of sustainable development. This year, the SDLA was awarded to the Hon'ble Prime Minister of Fiji, Rear-Admiral (Retired) Josaia V. Bainimarama in acknowledgment of Fiji's commitment to the 2030 global sustainable development agenda and its efforts to magnify the voice of climate change vulnerable countries - exemplified by Fiji's presidency at the 23rd edition of Conference of the Parties to the United Nations Framework Convention on Climate Change (COP23) in 2017.



» Rear-Admiral (Retired) Josaia V. Bainimarama, Hon'ble Prime Minister of Republic of Fiji, accepting the Sustainable Development Leadership Award, 2019, via a video message at the Inaugural Ceremony of WSDS 2019

## Acceptance Message by the Hon'ble Prime Minister

"BulaVinaka, from here in Fiji. I am sorry that I couldn't be there in New Delhi with you all today, to accept this Award in person, but our Parliament is sitting this week and I have a commitment to the people of Fiji, to update them on the status of our fight against climate change - the very fight that caught the attention of The Energy and Resource Institute. I am deeply honoured and humbled to receive the 2019 Sustainable Development Leadership Award. This is more than a win for me, or a win for Fiji - it is a win for small and developing states around the globe. It shows that when it comes to impacting the world, it is not the size of your country that matters, but the size of your voice. After Fiji's COP23 Presidency, it is clear that the once ignored voice of the climate vulnerable populations is being projected louder than ever. For a country like ours, with a population of less than 1 million, to be recognized in this way by TERI -based in a nation of over 1.3 billion, is proof that this voice is being heard.

I commend the organizers of the WSDS for providing a platform for this voice to continue to be heard. I would also like to thank the institute, and its Director (General) Dr Ajay Mathur, for this great honour. I thank the Government of India for their longstanding support of Fiji. They have stood with us from the beginning, as financial backers of COP23 Presidency, and their assistance in other areas of Fiji's development have helped bring our country to a position of strength and prosperity, that we stand today. I'd like to thank our entire team of climate champions in Fiji - the network that has worked tirelessly to ensure that our Presidency was a success and are continuing to create a legacy of Sustainable Development for the Fijian economy. And I would like to pay special recognition to the grand Coalition of NGOs, governments, civil society groups and the private sector - the collective efforts of which are going to be the real driver of progress as we move forward together. Because my friends, when it comes to climate change, we all share a common future. As we say in Fiji, "We're all in the same canoe."

Vinakavakalevu! Thank You."

# THEMATIC TRACKS

Thematic Tracks held as part of the Summit are designed as parallel break away sessions which allow for discussions of considerable depth on niche topics. The tracks are held simultaneously on themes in sync with the overall Summit theme and sub-themes. The thematic tracks serve as curtain raiser to the Summit, setting the tone for the succeeding days of the Summit. The thematic tracks are populated by experts and key practitioners from respective fields.

This year WSDS hosted 25 distinct thematic tracks, deliberating on an array of sustainable development issues and solutions

## PARTNERS

GROUP-A	
Promoting Cleaner Technologies in SMEs	 IGES Institute for Global Environmental Strategies
Making Change Happen	 TATA STEEL WeAlsoMakeTomorrow
India's Transition to a High Share of Renewables: Next Steps for Policy and Research	 Bloomberg Philanthropies  CHILDREN'S INVESTMENT FUND FOUNDATION  CLIMATE POLICY INITIATIVE  ENERGY TRANSITION COMMISSION  WILLIAM & FLORA HEWLETT FOUNDATION  OAK FOUNDATION  SHAKTI SUSTAINABLE ENERGY FOUNDATION
Solar PV Module Recycling: Now and Future	 Norwegian Embassy  UNIVERSITY OF AGDER
Sustainable Buildings in India: Energy Efficiency, Resource Efficiency, Green Cooling and Green Design	   pwc
Land as Integrator and Accelerator of SDGs	
Land as Integrator and Accelerator of SDGs	 IEA International Energy Agency
Moving Beyond Pledges: Effective Implementation of NDCs	 WORLD BANK GROUP
The World Bank Inaugural Session	 WORLD BANK GROUP

## GROUP-B

Fostering Strategic Partnerships for Cities: Integrating SDG 11 & 17	  UN HABITAT FOR A BETTER URBAN FUTURE
Mobilising Finance for Adaptation in South Asia	 UK Government
De-risking International Investments in the Indian Solar Energy Sector: Role of, and Barriers faced by, Financial Institutions in Solar Financing	 CANSA  STEP  GERMANWATCH  VASUDHA FOUNDATION Give what you can, take what you need
Existing Building Energy Performance: Challenges and Way forward: UTC-TERI CoE for Energy Efficient Buildings in India	 Carrier
Disruptions & Transformation: 'Innovations in the cooling sector'	 Honeywell  NRDC  SHAKTI SUSTAINABLE ENERGY FOUNDATION
Data to Policy: Data-driven and Smart Transport Safety Policies	 NITI Aayog
Financing NDCs for a Climate Smart Future	 THE WORLD BANK IBRD • IDA   WORLD BANK GROUP
Empowering with Energy Efficiency and Renewables	 BSES BSES Rajdhani Power Limited

**Moving Towards Cleaner Oceans**



**Leveraging the 'Co-Benefits' of Renewable Energy in India: Report Launch**



**The GRIHA Trophy at NASA**



**Complementing Grid with Decentralized Solar Energy: How to Support Solar Entrepreneurship**



**Climate Services in India - Moving the Needle**



**Cleaning the Air: Multi-Level Action for Change**



**Financing Resilient Infrastructure in an Urbanizing World**



**Moving Towards Shared Mobility: Prospects and Barriers**



**Role of Battery Energy Storage System (BESS) in Electricity Distribution**



# TRACING THE SUMMIT DAYS

## DAY-1

Day 1 saw the delegates, speakers and mediapersons brave a wintry Delhi morning to make it to Vigyan Bhavan for the Inaugural Session, presided over by the Hon'ble Vice President of India, Shri M Venkaiah Naidu. The Inaugural Session was followed by 25 thematic tracks laid out in three slots, with 8-9 simultaneous discussions each.

The discussions revolved around five mega-themes we had identified for 2019 – Climate, Environment, Energy, Habitat & Resource Efficiency.

Mr Nitin Desai, Chairman, TERI, welcomed the delegates, followed by Dr Ajay Mathur, Director General, TERI announcing the presentation of the 2019 Sustainable Development Leadership Award to the Hon'ble Prime Minister of Fiji, Rear-Admiral (Retired) Josaia V. Bainimarama – who joined us through a video message. Dr Mathur commended Fiji for having brought the perspective of small island nations centre-stage in the international climate change community.

Prime Minister Bainimarama, for his part, said that he was deeply honoured to receive the Award on behalf of his country as TERI had provided a platform for Fiji's voice to be heard at a global level.

Addressing the inaugural gathering, Dr Harsh Vardhan, Hon'ble Minister of Environment, Forest and Climate Change; Science & Technology; and Earth Sciences, Government of India, appreciated TERI's efforts to share knowledge, insights and models to spearhead India's efforts

in sustainability, and sought TERI's continued association and support. Vice-President Naidu in his inaugural address was happy to note that for the past eighteen years, WSDS has become an important platform for sharing lessons learnt, best practices and syntheses of new ideas.

The track discussions raised the curtain on the Summit proper, affording an opportunity to subject matter experts and key practitioners to delve deep into the megathemes.

The sessions under 'Climate' were geared towards meeting the challenges of footing the bill in the fight against climate change – how countries can achieve their Nationally Determined Contributions (NDCs) under the Paris Agreement, how to scale-up and expedite climate finance and make the push towards renewable energy – as this has to be the year we rally all resources at our disposal



» Hon'ble Vice President of India, Sh. M Venkaiah Naidu greets the distinguished delegates at the Inaugural Ceremony of WSDS 2019



» Mr. Jairam Ramesh being felicitated with an #Act4Earth Kit by Dr. Ajay Mathur

Mr. Jairam Ramesh, Member of Parliament in the Indian Upper House – Rajya Sabha, closed the proceedings with his Keynote Address tackling the theme of the Summit – ‘Attaining the 2030 Agenda: Delivering on Our Promise’, sharing insights from his days in the Environment Ministry and holding forth on India’s progress and potential concerning the NDCs as stipulated under the Paris Agreement.

around the 2030 target, preparing for the upcoming decade we have left to achieve it. The ‘Environment’ theme covered in its sweep the holy trinity of land, air and water and the crying need to restore these essential elements of our environment to health. The discussions ranged from sustainable farming to cleaning urban air as well as marine pollution.

The sessions on ‘Energy’ had a very thorough, comprehensive look at how everything from our batteries to our buildings (particularly existing ones) to our daily energy needs like refrigeration and cooling can be made more resource efficient. In looking at ways to wean us off traditional, coal based power, a major thrust was on Solar Energy. India’s pioneering role in the multinational International Solar Alliance (ISA) makes her singularly well-placed to steer these discussions.

The ‘Habitat’ theme was pivoted towards making our

urban environs, which is increasingly becoming the default habitat for the vast majority of mankind, climate adaptive and eco-friendly in all ways – from making our infrastructure more robust and climate resilient to making the essential activity of moving people around smarter, safer and more energy efficient. ‘Resource Efficiency’ explored how to de-carbonise industry and buildings, as well as how to end our traditional reliance on petrochemicals, which are just about the most ubiquitous chemical product one can think of.

The day flew by at a frenetic pace, until the evening arrived and it was time for the VIP tour of the Greenovation Exhibition – held to equip the sustainable development industry & stakeholders with the necessary partnerships and solutions to strengthen and expand its endeavours – a decisive push for sustainable technologies is an integral part of climate action.



» Dr. Harsh Vardhan, Hon'ble Minister of Environment, Forest and Climate Change; Science & Technology; and Earth Sciences, Government of India

“All of us are aware that Climate Change and Environmental problems are among the biggest challenges today. It goes without saying that these issues have to be addressed collectively by all of us before it is too late. India has proactively participated in the International Deliberations pertaining to Climate Change, including the UN Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement. The fact that our per capita GHG emissions are only 1.5 times of the carbon dioxide equivalent, which is only about one third of the world average, shows that India is fully committed to a sustainable path to prosperity, while simultaneously addressing other developmental issues, including poverty eradication.”



» Glimpses from Day 2 of the Summit

# DAY-2

The second day set the ball rolling for the ‘Plenary’ discussions. These discussions revolved around the aforementioned megathemes of the Summit - with a more topical, broad-based and accessible content. There were polls at the end of each session to facilitate audience engagement and gauge how closely they had been following the subjects under deliberation - making for crucial feedback to each speaker in positions of influence.



» Ms. Rhea Suh, President, NRDC, in conversation with Mr. Suman Bery, Former Chief Economist, Strategy, Shell International Limited and Non-Resident Fellow, Bruegel

## Special Session: ‘In-Conversation’

A gripping tete-a-tete with Ms. Rhea Suh, where Mr. Suman Bery, International Steering Committee (ISC) member of WSDS asked her about the important work her organization is doing in India, the role of green finance in countries achieving their Sustainability Goals, the debate on climate and energy policy in the United States, and more. She identified areas of particular importance being addressed by NRDC in India - Clean Energy, Cooling Technologies, and Clean Air. When asked about how to strike a balance between climate mitigation and adaptation, especially in countries like India, she replied that it was inappropriate to look upon the matter as an ‘either-or’ phenomenon. Being the first generation to see the impacts of climate change around the world, she felt we need to learn ways to couple adaptation and mitigation efforts effectively.



"Our subject, which is a vision for a secure and sustainable world for all hinges on two major factors—respect for nature, respect and concern for people."

HE Ms Chandrika Kumaratunga, Former President, Sri Lanka (1994-2005); Member, World Leadership Alliance-Club de Madrid



"Meetings such as the present Summit are vital opportunities to explore effective solutions, to raise awareness and build cooperation and solidarity among those working for a better planet and all living beings and species that inhabit it."

HE Mr Cassam Uteem, Former President, Mauritius (1992-2002); Member, World Leadership Alliance-Club de Madrid

### Leadership Panel: A Vision for a Secure and Sustainable World for All

HE Chandrika Kumaratunga of Sri Lanka and HE Cassam Uteem of Mauritius, both being erstwhile leaders of small countries which also happen to be islands – Mauritius as a small island nation being particularly vulnerable to climate change – cautioned the developed world and called on it to pitch in with greater and commensurate contribution.



» Ms Marianne Hagen, State Secretary (Deputy Minister), Ministry of Foreign Affairs, Norway with Dr Ajay Mathur

### Lunch Hosted by the Royal Norwegian Embassy

On February 12, 2019, India and Norway launched a joint initiative called the India-Norway Marine Pollution Initiative to combat marine pollution, with TERI being a key implementing partner. State Secretary (Deputy Minister), Ministry of Foreign Affairs, Norway, Ms Marianne Hagen was there to promote the welfare of our oceans and presented strategies to combat marine litter – with a special focus on the importance of waste management and how Indian and Norwegian partners can work together to create a better environment for all.

Ms Marianne Hagen and Dr Ajay Mathur spoke briefly about the budding and promising cooperation in the works between the two countries, before lunch which the Royal Norwegian Embassy co-sponsored with TERI got underway.



» Special Session : Cleaning the Air in India and its Cities

» Ms Ailun Yang, Director, Global Air Pollution, Environment Program of Bloomberg Philanthropies

### Special Session: Cleaning the Air in India and its Cities

The session started with a video message from Mr Michael R Bloomberg, Founder, Bloomberg LP & Bloomberg Philanthropies; 108th Mayor of New York City. He shared his experience as the mayor of New York, where the policies for improving air quality were successfully implemented. While doing so, they complemented air cleaning with job creation. He expressed his willingness to help India in cleaning its air. Ms Ailun Yang, Director,

Global Air Pollution, Environment Program of Bloomberg Philanthropies walked the audience through their operations around the globe. She emphasized the need of governmental and institutional initiatives to create public awareness, as it has a major role in mitigating air pollution.

Mr C K Mishra, Secretary, Ministry of Environment Forest and Climate Change (MoEF&CC), India highlighted the importance of people's participation and private funding, along with the government's role in the success of the National Clean Air Programme. He opined that financial support needs to be supplemented with social capital if clean urban air has to become a reality.

### Moving Towards Clean Oceans

The Indian Ocean is the most vulnerable of all Oceans to the negative effects of global warming. 80% of pollution of marine waters is due to land-based activities. As Mr Vidar Helgesen, Norway's Special Envoy for the Ocean, Ministry of Foreign Affairs, Norway, remarked – there is no single message on how to fight plastic pollution; it is a collaborative effort. Mitigation strategies were discussed and as mentioned above, India and Norway are joining hands in a big way to clean up our oceans.

Dr M Rajeevan, Secretary, Ministry of Earth Sciences (MoES) chaired the session, which built on the discussions held as part of the Chennai Regional Dialogue at the National Center for Coastal Research (NCCR) Campus in December last year. The theme for the Regional Dialogue had been 'Clean Oceans' and it was organized by TERI in collaboration with the Ministry of Earth Sciences (MoES).



» Moving Towards Clean Oceans

## Commemorating the UN Decade of Family Farming (2019–2028): Striving for Local Sustainability at The Global Level

This plenary was dedicated to small farm holders who, with fewer hectares of land, produce the bulk of our food. Family farming feeds almost 70% of the world’s population.



**Mr Kazuhiko Takeuchi**, President, Institute for Global Environmental Studies (IGES), Japan, talked about a study conducted by IGES in India, which revealed that family farms that use non-chemical inputs have better ecosystems and showed far less vulnerability to climatic stress than conventional farms.



» Panel discussion on 'Global Mobility Paradigm'

### Sustainable Mobility for Future

Two panel discussions were held under this theme – one on 'Global Mobility Paradigm' and one on 'Mobility in Developing Countries'. The first discussion focused on how sustainable mobility will evolve in developed and developing countries, looking primarily into the experiences of already motorized countries like the US and the UK, and yet to be completely motorized countries like India, China, and Brazil.

**Mr Edward Millard**, Director, Landscapes & Communities, Rainforest Alliance underscored how the Rainforest Alliance puts a lot of its emphasis on the private sector’s role as a domain with immense potential for progress. “Our basic premise is to make sustainability good business sense. Whether you’re an MNC or a small scale farmer with 1 hectare of landholding – it has got to add up economically.”



The second discussion was on identifying the various sustainable mobility pathways that would be required for developed and developing countries to support growing transport demand without increasing negative externalities like congestion, pollution, GHGs emissions. Dr V Sumantran, Chairman, Celeris Technologies said that both policy and technological initiatives would be needed to accelerate sustainable mobility in India.

According to Ms Nandini Maheshwari, Head, Business Development, Uber India, impetus should be provided to shared mobility, as a study conducted by IIT Chennai shows that citizens of Delhi alone lose about 60,000 crores to congestion through loss of time. She added that emphasis should be provided to utilizing parking spaces, which may constitute up to 30% of the total land space in a few urban centres in the country.



» Panel Discussion on 'Mobility in Developing Countries'



**Mr Ashwani K Muthoo**, Director, Global Engagement and Multilateral Relations Division, International Fund for Agriculture Development (IFAD), talked about the fundamental importance of partnerships, singling out the private sector. He said that further efforts were required to mobilize private partnerships in the remote areas, where family farmers actually live. “When we speak about promoting family farming to meet the SDGs, we need to contextualize it within the broader framework of ensuring sustainable and inclusive rural transformation and development – not just in the farming sector but an entirety of development and economic transformation in the rural space.”



“Acknowledging sustainable mobility as being the broader challenge, I want to focus in on the particular issues around Electric Vehicles (EVs). We see EVs as the vital tool in the clean energy transition – which is ultimately our goal as an organization. There are two components of that – our work with governments, in particular sub-national governments, and our work with businesses. We see a shifting paradigm – over 5 million electric vehicles are now on the road worldwide, with 2 million added last year.” **Mr Tim Ash Vie**, Director, Under2 Coalition Secretariat, The Climate Group

# DAY-3

The concluding day dwelt on some vital issues at the intersection of growth and sustainability - clean rivers; energy that is clean, renewable & accessible; the inclusive growth we can look forward to in the coming decades, and India's role and challenges in that regard.



» Ministerial Session: 'Energy for Tomorrow' saw world leaders collaborate in a fruitful conversation

## Ministerial Session: Energy for Tomorrow

The session brought together leaders from the developed and developing nations on a common stage. Mr Ajai Malhotra, Distinguished Fellow & Sr. Advisor (Climate Change), Project Management Unit at TERI and former Indian Ambassador to Russia, emphasized the relevance of a low-carbon economy and inclusive prosperity by stressing the energy needs of the bottom 1 billion people. Mr Suresh Prabhu, Hon'ble Minister, Ministry of Commerce & Industry & Civil Aviation, India, stressed the need to transcend conventional energy sources by bringing the full weight of technological innovation and R&D to bear on the endeavour.



» Mr Arjun Ram Meghwal speaking at the India-EU Water Forum Inaugural

## India-EU Water Forum Inaugural

The proceedings began on a high note, with India-EU Water Partnership (IEWP) renewing their commitment to jointly innovate for improving the health of Indian water resources. Six Expressions of Intent and Memoranda of Understanding were signed between IEWP and several EU Member States, international organisations and IIT Kanpur at the 4th India-EU Water Forum.

The 4th edition of the Forum, inaugurated by Mr Arjun Ram Meghwal, Hon'ble Minister of State, Ministry of Water Resources, River Development & Ganga Rejuvenation, India, served as a platform to afford opportunities for EU businesses to work closely with their Indian counterparts and deepen involvement in the Indian water sector – by bringing together 50 EU and Indian businesses.

"We can only be successful in cleaning and managing our water resources if we cooperate with our neighbouring States towards joint aims and if we accept that this needs time. Rivers cannot become clean from one day to another, it needs years." – **Wolfram Klein**, Head of South Asia Division, German Federal Ministry for Economic Cooperation and Development



## Keynote Address: Rapid Urbanisation – Planning & Preparing for the Future

The Chair for the session, Mr Manjeev Puri, Ambassador of India to Nepal and Member of Advisory Board, TERI characterised India's approach to urbanisation as fundamentally one of reluctance. When compared to similarly placed countries like Brazil, Mexico and China, India did not apportion attention between its urban and rural areas equitably, seeing as we are still primarily agrarian. Mr HS Puri, Hon'ble Minister of State (IC), Ministry of Housing and Urban Affairs (MoH&UA), India, opined that India's postcolonial reconstruction story will not be complete till we have successfully mitigated poverty. Urbanisation, he felt, is the answer to make a substantial dent in poverty over the next few years. He further claimed, optimistically, that the SDGs will succeed because India's early implementation will ensure the success of the overall SDG packet.



» Mr HS Puri, Hon'ble Minister of State (IC), Ministry of Housing and Urban Affairs, India delivers the Keynote Address

## India's Renewable Revolution: Towards a Cleaner, Cheaper Electricity System

This session explored the possibility of achieving the ambitious Renewable Energy (RE) targets set by the government of India. Lord Adair Turner, Chairman, Energy Transitions Commission (ETC), talked about the recent global study 'Mission Possible' undertaken by the ETC, which explores the possibility of energy transition in sectors which are hard to abate.

Mr Anand Kumar, Secretary, Ministry of New & Renewable Energy (MNRE), India, outlined the actions taken by the government to achieve the renewable energy target. He said that 'energy transition is the biggest thing happening in the century' and moving towards renewable energy is a matter of faith and commitment.

Mr Vineet Mittal, Chairman, AVAADA Group, representing the private sector in renewable energy generation, underlined the importance of climate change action through responsible intervention of policymakers, investors, and other





» Mr David Nelson, Executive Director, Energy Finance, Climate Policy Initiative

agencies. Since the Solar Sector is leading the Energy Transitions, the need to strengthen the India led International Solar Alliance (ISA) was stressed.

Mr David Nelson, Executive Director, Energy Finance, Climate Policy Initiative highlighted the potential of thermal power plants in providing system flexibility, and the need of incentives to harness it.



### Unlocking the Inclusive Growth Story of the 21st Century: Strategy and Finance

During this Keynote Address, Prof. Lord Nicholas Stern, IG Patel Professor of Economics and Government, Co-Director of the India Observatory & Chair - Grantham Research Institute, LSE gave the essential teleological perspective on the question of climate finance – how finance has to have a purpose – for the financiers especially, in terms of good and viable projects. 'Inclusive' being the operative word in the session theme, Ms Naina Lal Kidwai, Chairman, Advent International Private Equity, India Advisory Board, highlighted the importance of the full participation of women in the global economy, as it promises to unleash tremendous economic potential.

### Innovations in Climate Finance to Achieve Scale, Speed and Impact

The session highlighted the need to create more space to get high quality finance through innovation in order to have an impact. The theme was fed into by the three track discussions on the first day, co-hosted by the the World Bank Group (WBG). The first speaker was John Roome, Senior Director for Climate Change, the WBG - an organisation which appreciates that climate action can serve as a major avenue to secure sustainable global development and

"In India there has been tremendous progress made on many fronts in recent years. We can celebrate the extraordinary progress in electrification, the rebalancing of energy supply away from coal into renewables, how India is thinking through the stabilisation of the grid that is necessary for all of that. We can be excited about the domestic and foreign investment into a clean energy system, about the fact that India is one of the few countries that is dealing with the 'cooling challenge'. I hope that in this Summit, you will be able to focus on those areas where, if we marshal finance and deploy the technology in different ways, we can achieve progress faster and for more people."  
**Ms Rachel Kyte**, CEO of Sustainable Energy for All (SEforAll) & Special Representative of the UN Secretary-General for SEforAll



» Discussions underway for the plenary session: Innovations in Climate Finance to Achieve Scale, Speed & Impact

### Special Session: Rural Electricity Access in India: Taking a Leap from Grid Availability to Customer Service

Mr Jaideep Mukherji, CEO, Smart Power India, gave the opening remarks. Ms Mohua Mukherjee, Program Ambassador, International Solar Alliance (ISA); Mr RP Gupta, Additional Secretary (Energy), Niti Aayog; and Mr K K Mishra, Director (RE) Ministry of Power, India – all deliberated on the unique opportunities and challenges before making power access a reality in all homes. It is difficult to render electricity services to rural customers as demand is little and they don't pay. But said customers are dissatisfied with Distribution Companies (Discoms) - complaining that access is unaffordable and power backup expensive. The panel, moderated by Mr Sreenivasan Jain, Managing Editor, NDTV, looked at the feasibility of solar power in bridging the gap, technology solutions that can expedite electrification, and ways to measure performance of DISCOMS while simultaneously introducing incentive-penalty



» Mr Sreenivasan Jain, Managing Editor, NDTV chairs the session

boost economic growth - manifest from the fact that they doubled their climate finance outlay last year, compared to the pre-Paris numbers. Key discussion takeaways were –working on a new political economy; transparency and honesty to mitigate investor risk; developing metrics to gauge not financial but human, social, and natural capital; and judicious allocation of finance.

"From the WBG's perspective, we're really committed to this - last year we put USD 20 billion financing for climate financing, double of what we did the year before 'Paris'. We met our Paris Objectives two years ahead of schedule. On the one hand, we're very proud of it, but the most important thing is how we actually use that money and how we engage." **Mr John Roome**, Senior Director, Climate Change, the World Bank Group



## India and the Climate Crisis

The importance of decarbonising a global economy was stressed. India, with its ambitious targets & implementation of RE capacity building, was hailed as a world leader. But given the rapid boom in energy demand that will follow with growth, this process needs to be enhanced further.

**Prof. Jeffrey Sachs**, Director, SDSN & Director, Centre for Sustainable Development, Columbia University, USA joined the Summit via video. He presented the 'Bright Line Rules' as he dubbed them, a set of ambitious policy recommendations to achieve decarbonization - stopping new coal plants, oil and gas exploration, fracking, pipelines, deforestation; shifting to battery EVs by 2030; divesting from GHG projects; suing oil companies, pre-carbon governments; connecting renewables.



## A PLATFORM FOR COLLABORATION— PARTNERSHIPS BUILT AT WSDS 2019



» Dr Leena Srivastava, Vice Chancellor of TERI SAS; Mr Nitin Desai, Chairman, TERI; and Dr Ajay Mathur, Director General, TERI at the Valedictory Session, WSDS 2019



» Mr Suresh Prabhu, Hon'ble Minister, Ministry of Commerce & Industry and Civil Aviation, India, in an informal chat with distinguished members of the Norwegian delegation - Mr Nils Ragnar Kamsvåg, Ambassador, Royal Norwegian Embassy and Ms Marianne Hagen, State Secretary (Deputy Minister), Ministry of Foreign Affairs, Norway



» The MoU between TERI and GCNI, signed by Dr Vibha Dhawan, Distinguished Fellow, TERI and Mr Kamal Singh, Executive Director, UNGC Network India, intends to synergize the efforts for attaining the Agenda 2030 for Sustainable Development.



» The Organising Committee of WSDS 2019

### Valedictory Session

The Vice Chancellor of TERI SAS, Dr Leena Srivastava; Chairman, TERI, Mr Nitin Desai; and Director General, TERI, Dr Ajay Mathur, brought the curtain down on the three days of fruitful climate discussions. Every last person, institution and organisation involved in making the Summit a roaring success was duly acknowledged. Such an encouraging number of delegates from 44 different countries stands testimony to the readiness of the world to collaborate on taking climate change by its horns, as well as India's able stewardship of the cause.

This year's World Sustainable Development Summit (WSDS) constituted the 18th edition in the Summit series. The 2018 theme of 'Partnerships for a Resilient Planet', allowed us to look at ways of enhancing strategic cooperation across geopolitical lines, with a spotlight on promoting innovative implementation strategies which have a 'glocal' reach. The SDGs, adopted by the UN General Assembly in 2015, came into effect in January of 2016. 2020 will mark the five year checkpoint since the inception of the Goals, providing us an occasion to give ourselves pause for thought – making such big-tent, deliberative exercises as the WSDS 2019 absolutely critical.

In line with the above, our aim for WSDS 2019 was to take forward the culture of collaboration we stressed in 2018 by fostering new alliances to boost the accomplishment of attaining the Sustainable Development Goals (SDGs) world over. The future of the sustainability

movement in countries is transcending the narrow bounds of mere 'national interest' and bringing policy levers, technological innovation, intergovernmental cooperation and corporate contributions in synchrony as a global community.

Accordingly, WSDS 2019 saw a range of sub-national and trans-national collaborative efforts being launched – from the European Union (EU) joining hands with India to help clean up our rivers, India & Norway pledging coordination to work for the health of our oceans, to Bloomberg Philanthropies collaborating with the Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India to help clean the air in our cities – and a host of other understandings reached between stakeholders of all stripes. An assortment of reports was launched and Memoranda of Understanding (MoUs) signed to this effect.



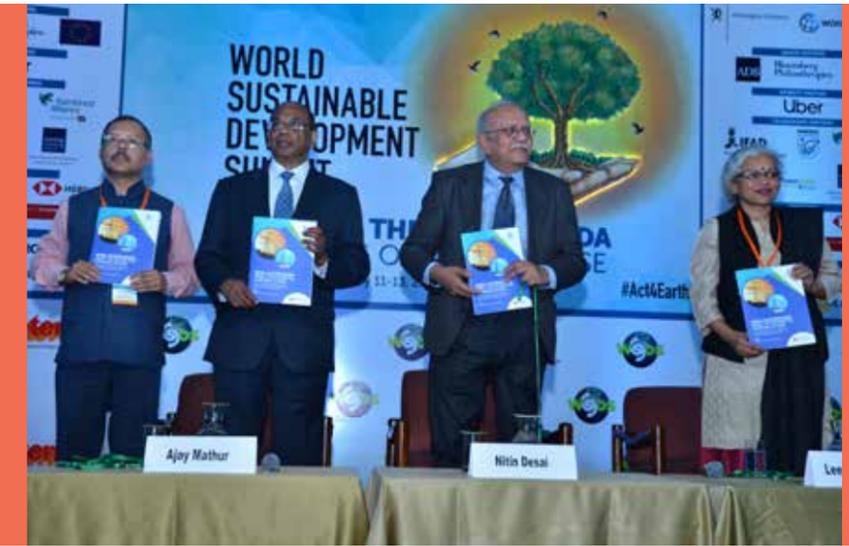
### Bloomberg MoU for Clean Air

MoU signing by Mr. Ritesh Kumar Singh from the Ministry of Environment, Forest and Climate Change (MoEF&CC), India, and Ms. Ailun Yang from Bloomberg Philanthropies.

“We are glad to support India’s National Clean Air Programme – which swaps dirty cooking fuels for cleaner alternatives, reduces vehicle emissions, transitions away from fossil fuels, and taps into the power of its cities.” - **Mr. Michael Bloomberg, Founder, Bloomberg LP & Bloomberg Philanthropies; 108th Mayor of New York City (via Video)**

### Report Launch: Rural Electrification in India: Customer Behaviour and Demand

A collaborative effort between Smart Power India (SPI) and the Initiative for Sustainable Energy Policy (ISEP) to provide a comprehensive picture of rural electricity customers, their preferences, and attitudes.



### India-EU Water Partnership (IEWP)

Joint Expression of Interests (EoI) and 3 Memoranda of Understanding (MoU) of EU Member States and organizations were signed to express interest to cooperate within the India-EU Water Partnership.



### ETC Launches

**Book Launch : ‘Green, Reliable and Viable: Perspectives on India’s Shift Towards Low-carbon Energy’:** In which experts and practitioners from the power, mobility, agriculture and energy efficiency sectors have shared their outlook on how to accelerate the ongoing shifts to green energy systems.

**Report: Analysing and Projecting Indian Electricity Demand to 2030:** The paper analyses and projects electricity demand to 2030 using a combination of three methodologies.

**Report: Exploring Electricity Supply Mix Scenarios to 2030:** The paper develops and studies three supply mix scenarios for the Indian power system to 2030.

**Report Launch: Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times:** The report finds that bold action on climate could deliver US\$26 trillion in economic benefits to 2030 (cumulative) compared with business-as-usual, as per conservative estimates.



# AS THEY SAID IT



**Mr Anthony Eggert,**  
Director, Climate Works  
Foundation

“We at Climate Works Foundation look at the opportunities to improve the efficiency of everything that moves – to move those things towards cleaner forms of energy as well as promoting sustainable cities that give people mobility choice – including transit, biking and walking – all of which we think are important to ensure a future system that is safe for the climate.

We are starting to see the potential for a new paradigm and new technologies that can upend that 100 year monopoly – this has been coupled with a growing global call to action that we have been able to support with our philanthropy.”



**Ms Preeti M Bhandari,**  
Director, Climate Change and Disaster  
Risk Management Division,  
Asian Development Bank

“If we look at financing that is currently flowing, the bulk of it is domestic, and private resources. The role of the private sector is quintessential, but in order to mobilise the private sector, you need the enabling environment to be provided by governments across the world. We at ADB are seeing the importance of concessional financing – both from our own windows such as the Asian Development Fund, and also from the multilateral funds such as the Green Climate Fund and Climate Investment Funds being managed by the World Bank. Much of our investment portfolio has been encouraged by the climate finance we were able to deploy in our countries and that provided a sweetener for greater climate action to take place through our investments.”

“We need to trust that everyone is really going in the same direction. There is a strong willingness to replenish the Green Climate Fund, the Adaptation Fund, the Least Developed Countries Fund – we see good news on these fronts.

These are positive developments, but if we have to move the trillions worldwide from the fossil fuel economies to the low carbon economies, not one actor but the whole chain of finance has to be modified. The Paris Goals are tough, calling not for incremental but deep transformation. If we have to go there, then we have to prime the financial system for it. We know that it can shift rapidly if good incentives are in place.”



**Ms Laurence Tubiana,**  
CEO, European Climate Foundation

“We need to have a much better understanding of the barriers that stand in the way of the success of projects geared towards climate action. I would roughly put them into three categories – barriers that relate to risk, and the perceived risk associated with things that we’re trying to do. The second barrier is the rate of return, often when you are trying to do something new and innovative; the rate of return initially is not great as something that is maybe a little less green. The third problem relates to the size of market or scale of project. We need to address these three issues in order to lift more projects into feasibility and make them bankable.”



**Mr Yvo De Boer,**  
President, Gold Standard  
Foundation



**Mr Neeraj Prasad,**  
Practice Manager, Carbon Markets  
and Innovation, World Bank

“The World Sustainable Development Summit (WSDS) has established itself as one of the premier global platforms for advancing the dialog on climate action and sustainability. The 2019 edition promises to be particularly important as it would be among the first major multi-stakeholder consultation after COP24 where the elements of operationalizing the Paris Agreement are expected to be agreed upon. The World Bank is delighted to co-sponsor this event, and looks forward to engaging on country actions in the context of their NDCs.”



**Ms Nandini Maheshwari,**  
Head, Business Development,  
Uber India

“As we talk about multimodal transport – what’s important is the ability to pay and seamlessly book – essentially, make the whole experience so easy that people are compelled to ditch their cars. We know it is an amazing vision, but it has been extremely hard to do. That is why very few cities in the world have been able to do it. We at Uber are really committed and are working hard towards really living this vision. We are ready to invest a lot of time and effort into it. We are committed towards the vision of multimodal transport, making sure that we provide all modes and all forms of transport. We are available and reachable to as many people as possible.”

# KEY TAKEAWAYS OF WSDS 2019 WAY FORWARD



By this time next year, in 2020, we would have exactly one decade left to make good on the 2030 promise. The World Sustainable Development Summit 2019 was essentially a loud and decisive clarion call – to governments, corporations, thinkers, influencers, policymakers across the globe, naturally – but also to cultures and individuals, economies and communities. The message was clear – it is time to pull ourselves up by the bootstraps, draw a long breath, and ready for a decade long sprint to the 2030 Agenda deadline. 5 Areas were identified to streamline global efforts along, which defined the megathemes of the Summit – Climate, Environment, Energy, Habitat and Resource Efficiency. Here are the key learning outcomes the delegates took home after three days of intense and instructive deliberations.

1	2	3	4	5	6	7	8
<p><b>Land, air and water</b> – the formative elements of a robust environment, have to be preserved and protected with the responsible care of the ancients, while employing the tools and strategies that the modern challenges demand. Many speakers, most notably the Hon’ble Vice President of India, appealed to us all to reacquaint ourselves with the Sustainability ethos which was the hallmark of all ancient civilisations, especially the Eastern Cultures.</p>	<p><b>Transitioning to cleaner fuels</b> is critical for us to climb down to the safe global warming threshold of 1.5 degree Celsius. Everything from decarbonisation efforts, to climate finance, to the technological innovations this necessitates – has this common end in sight. The Future is Solar Energy, and India leads the way. Clean Energy forms the core of sustainability efforts as it strikes at the heart of climate change – all other efforts serve as supplementary to this.</p>	<p><b>Climate Finance</b> has to be ramped up. The Nationally Determined Contributions (NDCs) form the lynchpin of the Paris Agreement. If countries, especially from the developing world, are to meet these contribution goals, we have to quickly find ways to place readily available financing at their disposal. Emission-intensity reduction, non-fossil electric capacity, increasing carbon sink – such contributions need policy frameworks and technical know-how, necessitating smooth financing.</p>	<p><b>Resilient Cities</b> – Smart Urbanisation is safe urbanization. At a time when Extreme Weather Events are on the rise with air &amp; water contamination besides land degradation preying on the health of denizens - cities can become dangerous places to live indeed. Cities with robust infrastructure that can facilitate efficient mobility are key to the future.</p>	<p><b>Climate Vulnerable Countries</b>, like small island nations, have to be taken along on this journey. “As they say in Fiji, we’re all in the same canoe”, said PM Frank Bainimarama of Fiji while accepting the Sustainable Leadership Award from TERI. These countries are the litmus paper for the world to gauge the advances of climate deterioration – securing their present amounts to securing the future of the planet at large.</p>	<p><b>Sustainable Development</b> equals Equity. Overdevelopment for some and underdevelopment for numberless others, are the twin banes of the world. We’re realizing that poverty mitigation is impossible without climate justice. Conversely, the co-benefits of climate justice and sustainable growth progressively encroach upon the space for poverty and get accrued to all sections of society.</p>	<p><b>Safe, just societies</b> only can fight climate change. Inclusivity, social cohesion and security cultivate an environment where the best of human possibilities blossom. Such conditions in a society are conducive to Sustainable Development as they can tap into the full power of human potential and cooperation.</p>	<p><b>Emerging Economies</b> will show the way. The developing world, particularly India and China, sees a golden opportunity in sustainable growth and development to leapfrog over the shoulders of the West – this impetus alone can reassure us that developing nations accord high priority to climate action. The SDGs will be accomplished as the world at large is pulled along in the slipstream of the rapidly developing economies’ tremendous sustainability efforts.</p>

# SUMMIT PRE-EVENTS

With the aim of widening the scope and reach of the discussions that takes place on the Summit platform, a series of pre-events in the form of International and Regional Dialogues are held prior to the Summit. The deliberations held during these Dialogues are brought forward to the main Summit stage where they are further matured and discussed in-depth by experts and practitioners from relevant fields. This ensures that both global and national efforts are given due regard.

The Summit pre-events that were held prior to WSDS 2019 included:



» Dignitaries on dais for the Kolkata Regional Dialogue on 'Preparing for the Future of Urban Mobility'

## Regional Dialogues

### Kolkata- 'Future of Urban Mobility'

The Bengal Chamber of Commerce and Industry (BCC&I) in association with TERI held the Kolkata Regional Dialogue on the theme of 'Preparing for the Future of Urban Mobility' on October 4, 2018. The Dialogue laid focus on the transition that is being led by innovations in the arena of urban mobility which are bound to play a crucial role in paving its future. A major emphasis of the event was also on the challenges that hinder the future transition and the recommended way forward for urban mobility in the current Indian landscape.



» International Dialogue on 'Energy Transitions', held as part of the Climate Week in New York City

## International Dialogue

### Energy transitions: 'Reconciling Competing Imperatives of Development and Environment Sustainability'

This dialogue was held in collaboration with NTPC and Energy Transitions Commission – India as part of the Climate Week 2018 in New York, USA on the side-lines of the United Nations General Assembly. The session discussed the transition that is taking place in India towards renewable energy for which to be accelerated, there has to be an infusion of capital. The dialogue was able to establish that there is an urgent need to make the right decisions about our energy systems, because developmental and environmental needs cannot be achieved at the expense of each other.

## Chennai- 'Clean Oceans'

TERI in collaboration with The Ministry of Earth Sciences (MoES) held the Chennai Regional Dialogue at the National Center for Coastal Research (NCCR) Campus on 7 December, 2018, on the theme, 'Clean Oceans'.

The thrust of the proceedings during the event was towards weighing regional and national level steps being taken to mitigate oceanic pollution at various levels – what has already been initiated, and the next steps that need to be incorporated into our strategy.



» The opening session underway during the Chennai Regional Dialogue on 'Clean Oceans'



# GLIMPSES FROM WSDS 2019



# THE SUMMIT OVER THE YEARS



The World Sustainable Development Summit (WSDS) is the annual flagship event of The Energy and Resources Institute (TERI). It has in its journey of seventeen years become a focal point for global leaders and practitioners to congregate at a single platform to discuss and deliberate over climatic issues of universal importance. It serves as a vital platform for nations of the world to discuss and debate strategies in the realm of sustainable development and explore avenues for synergy. The Summit allows representatives from different walks of life namely, polity, economy, academic, and civil society to contribute to the formulation of effective policies that would benefit both the people and the planet.



The Summit series has emerged as the premier international event on sustainability which focuses on the global future, but with an eye on the actions in the developing world which could bend our common future.

The WSDS has continued the legacy of the Delhi Sustainable Development Summit (DSDS) which was initiated in 2001 with the aim of making 'sustainable development' a globally shared goal. The Summit series has over the years brought together 49 heads of state and government, 13 Nobel laureates, ministers from 67 countries, 1700 business leaders, 2000+ speakers and over 12,500 delegates from across the world.

Possibly the sole Summit on global issues taking place in the developing world, the future editions of the WSDS will strive to provide long-term solutions for the benefit of the global community by assembling the world's most enlightened leaders and thinkers on its platform.



# SUSTAINABLE DEVELOPMENT LEADERSHIP AWARD

# HEADS OF STATE & GOVERNMENT (2001-2019)

<p><b>Mr Frank Bainimarama,</b> Prime Minister of Fiji (on behalf of the Fijian Government) (2019)</p> 	<p><b>Mr Pawan Chamling,</b> Chief Minister, Sikkim (2016)</p> 	<p><b>Dr José Manuel Durão Barroso,</b> Former President of European Commission &amp; Former Prime Minister of Portugal (2015)</p> 
 <p><b>Mr Anand Mahindra</b> Chairman and Managing Director, Mahindra and Mahindra (2014)</p>	 <p><b>Mr James Alix Michel</b> President, Seychelles (2013)</p>	 <p><b>Dr Ms Tarja Halonen</b> President of Finland (2012)</p>
<p><b>Mr Felipe Calderón Hinojosa</b> President of Mexico (2012)</p> 	<p><b>Dr Manmohan Singh</b> Prime Minister of India (2011)</p> 	<p><b>Mr Yukio Hatoyama</b> Prime Minister of Japan (2010)</p> 
 <p><b>Mr Ban-ki-Moon</b> Secretary-General, United Nations (2009)</p>	 <p><b>Mr Maumoon Abdul Gayoom</b> President of Maldives (2008)</p>	<p><b>Mr Arnold Schwarzenegger</b> Former Governor, State of California, USA (2007)</p> 
<p><b>Prof Ernesto Zedillo</b> Former President of Mexico (2006)</p> 	<p><b>Dr Shoichiro Toyoda</b> Honorary Chairman /Board Member, Toyota Motor Corporation, Japan (2005)</p> 	

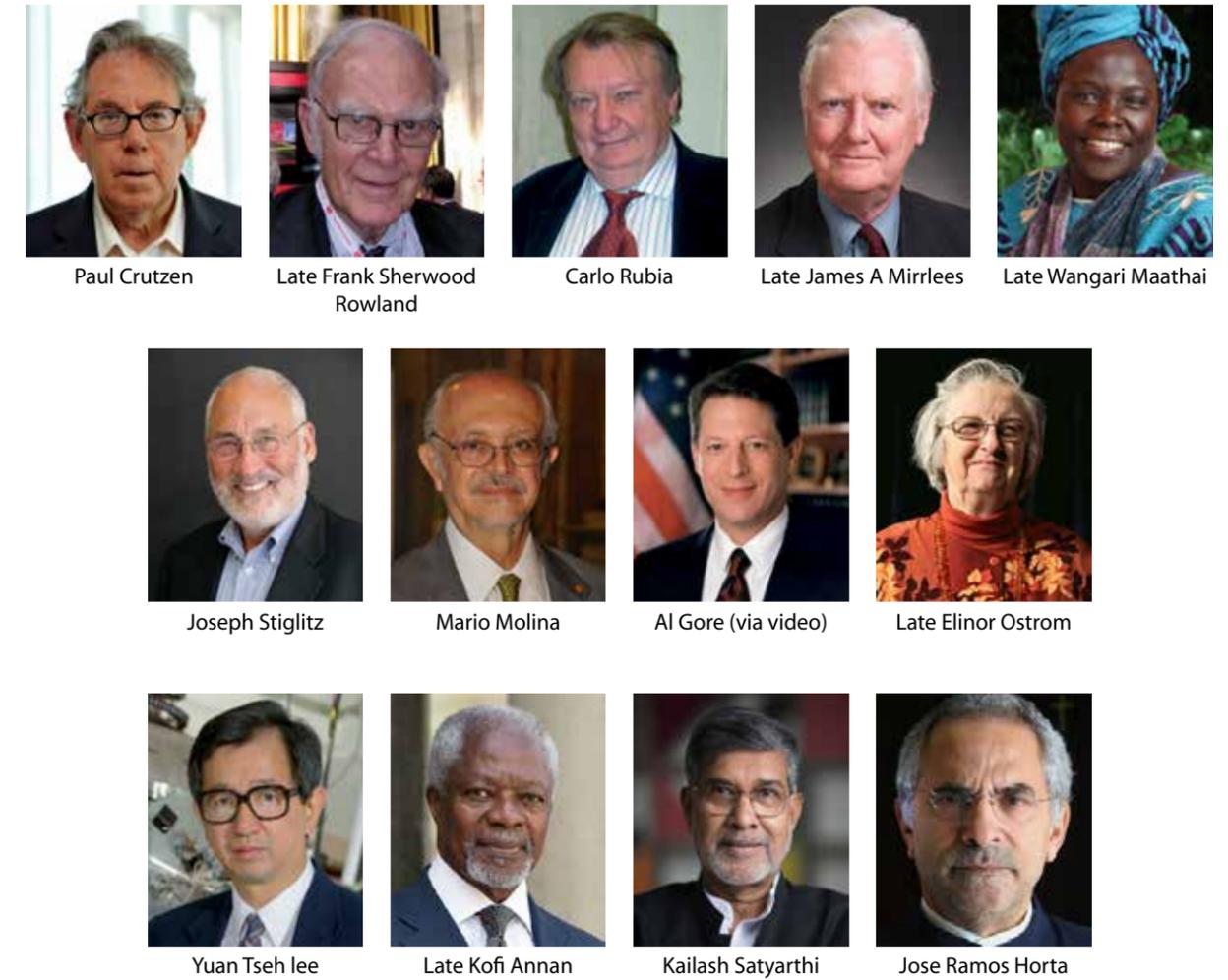


INDIA					
					
					
					
					

# HEADS OF STATE & GOVERNMENT (FORMER 2001-2019)



# NOBEL LAUREATES (2001-2019)



VIA VIDEO



# WSDS INTERNATIONAL STEERING COMMITTEE



**Ms Frances Beinecke,**  
Dorothy S. McCluskey  
Fellow in Conservation at  
Yale School of Forestry &  
Environmental Studies &  
Former President at Natural  
Resources Defense Council



**Mr Suman Bery,**  
Former Chief  
Economist Strategy,  
Shell International  
Limited and Non-  
Resident Fellow,  
Bruegel



**Ms Preety Bhandari,**  
Director, Sustainable  
Development & Climate  
Change Department,  
Asian Development  
Bank (ADB)



**Mr Fatih Birol,**  
Executive Director,  
International Energy  
Agency (IEA)



**Mr Yvo de Boer,**  
Former Director  
General, Global Green  
Growth Institute, Korea  
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Chief Executive Officer  
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Special Representative  
of the UN Secretary-  
General for Sustainable  
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**Mr Neeraj Prasad,**  
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**Dr Andrew Steer,**  
President and CEO,  
World Resources  
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**Mr Arne Walther,**  
Former Secretary  
General of International  
Energy Forum & former  
Chairman, International  
Energy Agency



**Mr Kazuhiko Takeuchi,**  
President, Institute for  
Global Environmental  
Studies (IGES), Japan

## SUMMIT SERIES: 2001-2019



**49**  
Heads of state  
and government

**67**  
Ministers

**13**  
Nobel Laureates

**2000+**  
Speakers

**1700**  
Business leaders

**13000**  
delegates

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