Climate Change

Japan's assistance to climate actions in developing countries

Climate Change Division, MOFA-Japan 20 January 2022

Negotiation process toward the Paris Agreement 1

1990	2000	2010	2015	2020	
 Parties Object Princip 	 : 197 countries and o ives : Stabilization of g les : differentiated treation 	reenhouse gas concentratio	ons in the atmosphere (Art. 2 eveloping countries, i.e. CBDI		
	 > Parties: 1 > Reduction ✓ The ✓ The 	92 countries and organizat n Commitments first commitment period (20 second commitment period	COP3 (Kyoto). Entered into ions 008-2012): JPN-6%, U.S79 (2013-2020): EU-20%, JPN tify in 2001 (Canada withdre	%, EU-8% did not join	
		Cancun Agreementdecided in 2010 (COP16)Set registration of 2020 reductiontargets for both developed anddeveloping countries and reportingrule for reduction action			
		in 2011 Reached a establishr framewo all countri	at COP17 Adopte at COP an accord on ment of new The first ev ork in which through ies take part countries	greement ed in 2015 221 (Paris) ver framework n which all participate in fforts in GHG	

Т

emission reductions

CO2 emissions in each country



Source : Created by Minister of the Environment based on IEA CO2 EMISSIONS FROM FUEL COMBUSTION 2020 EDITION

The Paris Agreement

Entry into force of the Agreement

- December 2015 <u>Adoption of the Paris Agreement</u> at the 21st Conference of the Parties to the UNFCCC(COP21)
- > April 2016 Signing Ceremony at the UNHQ v signed by 175 countries / regions including Japan
- November 2016 Entry into force of the Agreement
- As of February 22th 2021: Parties: 190 countries / regions (covers approx. 80% of the total emission at the global level) *Japan ratified on November 8th 2016. The US withdrawal took effect on 4th November 2020. The US became a Party again on 19th February 2021.

Characteristics of the Paris Agreement

- ✓ New international framework in place of the Kyoto Protocol for GHG emission reductions from 2020.
- ✓ A fair and effective framework that requires both developed and developing countries (no distinction) to submit emission reduction targets (NDCs) and to implement measures to achieve them.
- Setting a long-term common global goal for holding the increase in the global average temperature to well below 2 degrees above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5 degrees above pre-industrial levels. [Art.2]

Key elements of the Agreement

- 1. Obligations of the Parties:
- Nationally Determined Contribution (NDC): All the Parties need to prepare, communicate and maintain their emission reduction targets every five years[Art.4]
- ✓ All the Parties are to report on the progress toward the reduction targets every two years. The report will be reviewed in order to ensure the transparency of the measures taken [Art.13]
- Providing financial resources by developed country Parties to assist developing country Parties, and providing support voluntarily by other Parties [Art.9]
- 2. Others
- ✓ Taking stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals (global stocktake) every five years[Art.14]

2030 Target and 2050 Net Zero by G20 Countries 4

Country/region	2030 Emission Reduction Target	Status (date)	2050 net zero
Japan	-46% in FY2030 (from FY2013) (Continue strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50%)	Statement at the Leaders Summit on Climate (22 April 2021)	Expressed
Argentina	Not exceeding a net emission of 359 million t-tCO2eq	NDC (Submitted on 30 December 2020)	Expressed
Australia	-26% to -28% (from 2005) (Expected to achieve -35%)	NDC (Submitted on 31 December 2020)	Expressed
Brazil	-43% (from 2005)	NDC (Submitted on 9 December 2020)	Expressed
Canada	-40% to -45% (from 2005)	NDC (Submitted on 12 July 2021)	Expressed
China	 (1) Strive to reach the peak of CO2 emissions by 2030 (2) Lower CO2 emissions per unit of GDP by over 65% (from 2005) 	 (1) Statement at the UN General Assembly (22 September 2020) (2) Statement at the Climate Ambition Summit (20 December 2020) 	Expressed net zero CO2 by 2060
EU, France, Germany, Italy	At least -55% (from 1990)	NDC (Submitted on 18 December 2020)	Expressed
India	Reduce the emissions intensity of its GDP by 33 to 35% (from2005)	INDC (Submitted on 1 October 2015)	Expressed net zero by 2070
Indonesia	-29% (from BAU) (unconditional) -41% (from BAU) (conditional)	INDC (Submitted on 22 July 2021)	Expressed net zero by 2060
Republic of Korea	-40% (from 2018)	NDC (Submitted on 18 October 2021)	Expressed
Mexico	-22% (from BAU) (unconditional) -36% (from BAU) (conditional)	NDC (Submitted on 30 December 2020)	Expressed
Russia	70% relative to the 1990 level	NDC (Submitted on 25 November 2020)	Expressed net zero by 2060
Saudi Arabia	Reduce the emissions of 278 million ton by 2030 (from 2019)	NDC (Submitted on 23 October 2021)	Expressed net zero by 2060
South Africa	The emissions per year in a range between 350 and 420 million ton (from 2026 to 2030)	INDC (Submitted on 27 September 2021)	Expressed
Turkey	Up to -21% (from BAU)	INDC (Submitted on 11 October 2021)	-
UK	At least -68% (from 1990)	NDC (Submitted on 12 December 2020)	Expressed
USA	-50% to -52% (from 2005)	NDC (Submitted on 22 April 2021)	Expressed

Lookback on	Maior	Climate	Events ir	2021

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October31- COP26 (UK) November 13

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Lookback on	Maior (Climate	Events i	n 2021

February 19 L	U.S. rejoining to the Paris Agreement
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Outcome of the Prime Minister Suga's visit to the U.S. (Climate Change)

7

Launch of Japan-U.S. Climate Partnership at the Summit Meeting

- On April 16 2021, Japan's Prime Minister Suga Yoshihide and U.S. President Joe Biden announced the launch of the "Japan-U.S. Climate Partnership on Ambition, Decarbonization and Clean Energy" following the Japan-U.S. Summit Meeting.
- This is the first cooperation framework on climate change announced by the leaders of Japan and the U.S.
- The two leaders will lead on climate action in the international community, towards the April 22-23 Leaders' Summit on Climate, COP26, and beyond.

Cooperation under the Partnership

• Japan and the U.S. will promote efforts through the following three pillars.

1 Cooperation and Dialogue on climate ambition and implementation of the Paris Agreement

Japan and the U.S. will hold a dialogue on the planning and policies to achieve the 2030 targets and 2050 net zero goals. The two countries will also work together towards implementation of the Paris Agreement.

2 Climate and clean energy technology and innovation

Japan and the U.S. will work together towards realization of green growth by enhancing cooperation on innovation including such areas as hydrogen, CCUS/Carbon Recycling, and advanced nuclear power.

3 Cooperation on accelerating the transition to a decarbonized society in third countries, particularly in the Indo-Pacific

Japan and the U.S. will work together on the cooperation to support developing countries, and extend efforts in such areas as climate friendly and adaptive infrastructure development, subnational government action and public and private finance.

Lookhack on	Major Climate	Events in 2021
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The Leaders Summit on Climate (Overview)

1 Agenda

- April 22-23, 2021 (virtual format)
- The summit was hosted by the U.S. with the aim of adding the momentum of international community by calling on participating countries to take further action on climate change. Issues such as efforts by 2030, support for developing countries transition to a clean energy economy, innovation, and efforts by local governments were discussed.

2 Participating countries and organizations

- Leaders and Ministers from about 40 countries and region, civil society and business community participated.
- **PM Suga attended Session 1 (Summit-level, theme: reduction targets)** and Minister of Defense Kishi attended Session 3 (Ministerial-level breakout session, theme: climate security) .

3 Main remarks by participants

- In Session 1 (Reduction Targets), several Leaders made remarks about the need of further raising the emission reduction target (NDC) by 2030, net-zero emissions by 2050, and phase out of coal-fired power generation.
- PM Suga declared <u>that Japan aims to reduce its greenhouse gas emissions by 46% in fiscal year</u> 2030 from its fiscal year 2013 levels, setting an ambitious target which is aligned with the long-term goal of net-zero by 2050. Furthermore, he stressed that <u>Japan will continue strenuous</u> efforts in its challenge to meet the lofty goal of cutting its emission by 50%.
- Also, PM Suga stated that, in order to create a virtuous cycle of the economy and the environment and to realize robust growth toward our ambitious goal for 2030, the Government of Japan will work to maximum utilization of decarbonized power sources, such as renewable energy, and take incentive measures sufficient for inducing investment by companies.
- At the closing session, President Biden welcomed PM Suga's statement. (Japan's commitment was also welcomed by UN Secretary-General Guterres (statement), COP26 President Alok Sharma (tweet), and U.S. Special Presidential Envoy on Climate Change John Kerry.).

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General

- Announced in the 27th Japan-European Union (EU) Summit on May 27 2021.
- Japan and EU reaffirmed their strong determination to create climate neutral, biodiversity friendly, circular and resource efficient economies to achieve green growth and their shared ambition of reaching net-zero GHG emissions by 2050.
- Japan and EU will cooperate to ensure a successful outcome to UNFCCC COP26 and CBD COP15.

Priority Areas for Cooperation

- **1. Energy transition** : Technological cooperation on renewable energy, batteries, hydrogen, CCUS/carbon recycling, nuclear safety, etc.
- 2. Environmental protection : Improvement of resource efficiency and biodiversity conservation
- **3. Regulatory and business cooperation** : Promotion of policies that contribute to corporate initiatives for climate change and environmental
- **4. Research and development** : Research and development on low carbon technologies and market deployment
- 5. Sustainable finance : Cooperation to promote sustainable finance
- **6. Facilitating transition with 3rd countries** : Promoting cooperation for transition toward climate neutral and resilient societies in developing countries
- 7. Ensuring global integrity and stability of climate action : Develop international rules in which Japan and the EU efforts are to be duly acknowledged, and jointly encourage major emerging economies to elaborate ambitious detailed climate actions

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Climate Change at G7

 Climate and Environment Ministers' mee 1. Date, Format, Participants May 20-21, 2021 (virtual format) Participants : G7 Leaders + Guest (Australia, India, ROK, RSA) From Japan, ministers including Minister Kajiyama and Minister Koizumi participated. 	 2. Agenda Session 1 Climate · Environment Session 2 Climate · Energy Session 3 Environment Session 4 Climate · Environment G7 Climate and Environment Minister's Communiqué was agreed during the meeting.
 Summit 2021 in Cornwall 1. Agenda June 11-13, 2021 (Cornwall, U.K.) Plenary Session 6: Climate and Nature was took place on June 13th. 	 2. Participants G7 Leaders and Guests, plus United Nations Secretary General and International Organizations (IMF, World Bank, OECD) Session 6 Presenter: Sir David Attenborough
 3. Carbis Bay G7 Summit Communiqué Summ The G7 leaders confirmed their commitments and increased 2030 targets in line with 2050 g They concurred on achieving an overwhelming 	to achieve a net zero goal by 2050 at the latest goal.

- They concurred on achieving an overwhelmingly decarbonised domestic power system in the 2030s and phasing out new direct government support for international carbon-intensive fossil fuel energy as soon as possible, with limited exceptions.
- Domestically, consistent with their NDCs and net zero commitment, the G7 leaders concurred on rapidly scaling-up technologies and policies that further accelerate the transition away from unabated coal capacity. the G7 leaders committed to an end to new direct government support for unabated international thermal coal power generation by the end of this year
 M Suga announced that Japan will provide climate finance, both public and private, totaling JPY 6.5 trillion over the next 5 years, from 2021 to 2025, and that it will further enhance its assistance for adaptation.

ľ	Lookback	on Ma	ior Clima	ate Events	in 2021
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"It is unequivocal that human influence has warmed the atmosphere, ocean and land" (IPCC AR6 WG1 (August 2021))

Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years

Changes in global surface temperature relative to 1850-1900

a) Change in global surface temperature (decadal average) as reconstructed (1-2000) and **observed** (1850-2020)





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Glasgow COP26 (overview)



Adoption of COP26 Outcome Document (Source: UNFCCC)

Key outcomes:

Key agenda items such as the implementation guidelines for Article 6 of the Paris Agreement (market mechanisms) negotiated since COP24, the reporting formats in the enhanced transparency framework under Article 13, and common time frames reached conclusions, thereby completing "the Paris Rulebook."



Prime Minister KISHIDA delivering a speech at the World Leaders Summit (2 Nov. 2021) (source: Prime Minister's Office website)

PM Kishida's Speech - Main points

- Japan's updated nationally determined contribution (NDC) toward 2030,
- ② Provision of up to 10 billion USD additional assistance in the coming five years and doubling of adaptation finance,
- ③ Support for transition to zero-emission power generation in Asia
- Promotion of green innovation and participation in the Global Methane Pledge.

Glasgow COP26 (overview)

Excerpts from COP and CMA Cover Decisions

"Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5°C compared with 2°C and **resolves to pursue efforts to limit the temperature increase to 1.5°C**;" (1/CP26 OP16, 1/CMA3 OP21)

"Recognizes that limiting global warming to 1.5° C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including **reducing carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level** and to net zero around mid-century, as well as deep reductions in other greenhouse gases;" (1/CP26 OP17, 1/CMA3 OP22)

"Requests Parties to revisit and strengthen the 2030 targets in their Nationally Determined Contributions as necessary to align with the Paris Agreement temperature goal by the end of 2022, taking into accout different national circumstances."(1/CMA3 OP29)

Excerpts from COP and CMA Cover Decisions

"Calls upon Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, including accelerating efforts to **phase-down unabated coal power** and phase out inefficent fossil fuel subsidies, while providing targeted support to the poorest and the most vulnerable in line with national circumstances and recognizing the need for support towards a just transition"(1/CP26 OP20, 1/CMA3 OP36)

"Urges developed country Parties to at least double their collective provision of climate finance for adaptation to developing country Parties from 2019 levels by 2025, in the context of achieving a balance between mitigation and adaptation in the provision of scaled-up financial resources, recalling Article 9, paragraph 4, of the Paris Agreement."(1/CMA3 OP18)

Climate finance

- Climate finance is a core means of implementation (MOI) for each country, especially for developing countries, to take climate actions under the Paris agreement including the NDC.
- Developed countries committed to achieving a joint mobilization goal of USD 100 billion per year by 2020 and continue the goal until 2024. The actual figure is still well behind the goal.
- Prior to 2025, the Parties shall set a new collective quantified goal from a floor of USD 100 billion per year. The deliberation was initiated at CMA3 session (COP26). Ad Hoc Work Programme was established to discuss the goal up to 2024.



Japan's Renewed Commitment on Climate Finance 2021-25

- Japan provided public and private climate finance annually, amounting to approximately JPY 1.3 trillion from 2016 to 2020.
- Prime Minister SUGA announced in June 2021 at the G7 Cornwall Summit that Japan will provide climate finance, both public and private, totaling JPY 6.5 trillion over the next 5 years, from 2021 to 2025, and that it will further enhance its assistance for adaptation.
- In November 2021, Prime Minister Kishida announced that Japan will further provide up to 10bn USD over the next 5 years, and double its adaptation assistance to about 14.8 bn USD.

Japan's Bilateral and Multilateral Assistance

 Japan has provided climate finance assistance to developing countries in the amount of 12.6 billion USD annually (2019).

1. Bilateral assistance

- ✓ Official Development Assistance (ODA)
- ✓ Other Official Financing (e.g. export credits and public bank loans).

2. Multilateral assistance

✓ Contributions to climate funds and international organizations, including the Green Climate Fund (GCF), the Global Environment Facility (GEF), the United Nations Development Programme (UNDP) and the World Bank and other Multilateral Development Banks (MDBs).

3. Partnership with Private Sector: Climate Solutions Technologies Initiative

- ✓ Japan has established a new program entitled the "Climate Solutions Technologies Initiative" to support Japanese companies' products that incorporate decarbonizing technologies in developing countries for addressing development agendas including through ODA mechanisms such as Grant Aid for Japanese NGO Projects.
- ✓ Under the initiative, an External Review Committee invites Japanese companies to submit their products for review, which the Committee evaluates from the standpoint of climate change measures and price rationality.
- ✓Once selected by the Committee, the products are included in the list of approved products that Japanese NGOs can utilize in their project proposals where appropriate.

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Examples of assistance

Hydro-Electric Power Station in India

In India, Japan contributed to industrial development and the improvement in living standards in Meghalaya through optimal utilization of water resources by renovating the Umiam-Umtru Stage 3 Hydroelectric Power Station.



Japan supported the formulation and implementation of flood control plans in the river basins that run through the Manila Metropolitan Area in light of the recent intensification of typhoons due to climate change.





Japan's Enhanced Assistance for Adaptation

- Nowadays, the aggravation of climate change causes serious effects to various fields such as infrastructure, agriculture and fishery, biodiversity and water resources and waste management and the call for enhanced adaptation finance is emphasized.
 Developed countries including the G7 countries intensify their support for adaptation.
- Japan is also committed to enhance its support for adaptation. At the COP 27, Japan made a commitment to double its adaptation finance to the amount of 14.8 billion USD in 2015.

Rationale Area Construction and rehabilitation of infrastructure such as ports and roads Infrastructure secure resilience to the adverse effects of climate change. Agriculture and fishery are deeply affected by climate change. Food Agriculture & Fishery assistance is considered as adaptation assistance as it supplements (incl. forestry) decreased agricultural production. Biodiversity is heavily threatened by climate change, and conservation of **Biodiversity** biodiversity brings co-benefit in climate change. Frequent natural disasters such as wildfires and windstorms are attributed to climate changes. Thus provision of premises and equipment addressing the Disaster Prevention/ natural disasters including emergency assistance and fire equipment can be **Disaster Assistance** considered as adaptation assistance. Water resources and sanitation are also affected by climate change. Waste Water & Sanitation/ management is cross-cutting in both mitigation and adaptation, as it leads to Waste Management mitigation of CO2 in waste treatment and enhancement of local resilience.

<Some Emerging Areas for Adaptation >

Green Climate Fund (GCF)

Overview

- The GCF is a climate fund established under the COP16 decision to support efforts in developing countries to reduce greenhouse gas emissions (mitigation) and address the adverse effects of climate change (adaptation).
- Its headquarters is located in Inchon, Republic of Korea, headed by the Executive Director Mr. Yannick Glemarec (French). The Secretariat has 250 staff member.
- Japan contributed USD 1.5 billion to the GCF in 2015-2018, followed by another commitment of up to USD 1.5 billion in 2020-2023 for the first replenishment of the GCF. In total, Japan is the second largest donor of the fund next to the UK, with total contributions of up to USD 3.0 billion.
- The Government of Japan places a seat of 24 member of the Board and actively engages in the management of the GCF.



Activity Overview

Approved Funding Proposals(FPs): 190 FPs (Total committed amount: USD 10 billion) Estimated Impact: Total 20.0 billion CO2 eq. avoided; Beneficiaries 612 million population

- > Mitigation: Renewable Energy, Energy Efficiency in Transport and Building, REDD+ and LULUCF
- Adaptation: Early Warning Systems, Resilience in Infrastructure, Climate-Resilient Livelihood

Projects involved with Japanese Entities

FP046 : Renewable Energy Program #1 – Solar, MONGOLIA (Project Period 10 years) [MITIGATION] 💥 PSF Project

- GCF Funding: USD 8.7 million (Grant and Loan) (Total Project Value: USD 17.6 million)
- Accredited Entity: Xac Bank (Private Bank in Mongolia)
- The project will enable the development, construction, commissioning and operation of a 10MW solar power plant, which will be the second large-scale solar PV in the South Mongolia. Estimated CO2 reduction 307,000 t Under Implementation. Japanese Company (Sankou-Seiki) procured solar PV panels.

FP165 : Building Climate Resilient Safer Islands in the Maldives (Project period 25 years) [ADAPTATION]

- GCF Funding: USD 25.1 million (Grant) (Total Project Value: USD 66 million)
- Accredited Entity : JICA
- This project will address these challenges by enhancing coastal management, including the protective functions of natural sandy beaches and coral reefs. It will do this through integrated coastal zone management, early warning and early action, and knowledge sharing. This project marks the first time such an adaptive beach protection solution will be implemented on public land in the Maldives islands. Beneficiaries: 381,100 people

FP115:Espejo de Tarapaca, CHILE (Project period: 35 years)[CROSS-CUTTING]

- SCF Funding: USD 60 million (Equity) (Total Project Value: USD 1.1 billion, with large scale private finance) ***PSF Project**
- Accredited Entity : MUFG
- This mitigation project in the Northern Chile comprises two commercially-integrated power plants: (1) a 300 MW pumped storage hydroelectric plant using the Pacific Ocean as its lower reservoir; and (2) and a 561 MW photovoltaic solar plant. It will also contribute to climate change adaptation by providing stable water supply from its own desalination plant to vulnerable local communities. Est. CO2 reductions 35 million t Beneficiaries: 17.6 million people. Under Implementation.





Joint Crediting Mechanism (JCM)

Japan is implementing the JCM with 17 partner countries since 2013



(Tokyo)

(Manila)

(Santiago)

(Nay Pyi Taw)

JCM Projects

- > The JCM facilitates diffusion of leading decarbonizing technologies etc. through contributions from Japan and evaluating realized GHG emissions reduction or removal in a guantitative manner to use them for achieving Japan's Nationally Determined Contribution.
- > More than 200 emission reduction projects have been invested in partner countries with the support of the Government of Japan.



Waste heat recovery in Cement Industry, JFE engineering, Indonesia



Eco-driving with Digital Tachographs, NITTSU, Viet Nam



Energy saving at convenience stores, Panasonic, Indonesia



High-efficiency air-conditioning High-efficiency Heat only and process cooling, Ebara refrigeration equipment & systems, Indonesia





Upgrading air-saving loom at textile factory, TORAY etc., Indonesia, Thailand, and Bangladesh



Installing solar PV system, PCKK, Palau and Maldives



Amorphous transformers in power distribution, Hitachi Materials, Viet Nam



Co-generation system at factory, Toyota, Nippon Steel Engineering, Indonesia, and Thailand



Regenerative Burners in industries, Toyotsu Machinery, Indonesia







High-efficiency airconditioning system, Hitachi, Daikin, Viet Nam



LED street lighting system with wireless network control, Minebea Mitsumi, Cambodia



Solar power, Farmdo Co., Ltd., Mongolia



Waste to Energy Plant, JFE engineering, Myanmar



High-efficiency refrigerator, Mayekawa MFG, Indonesia

Innovation potential (wind power/ CCS project) 28



Magnus Vertical Axis Wind Turbine

> The world's first Typhoon-Resistant hybrid spar-type floating offshore wind turbine



Large Scale CCS Demonstration Project in Tomakomai City, Hokkaido, Japan



(Source: COP 25 Japan Pavilion Website)