

Climate Change Adaptation Guide for Private Sector -Preparing for Climate Risk and Surviving-

(Ministry of the Environment 2019)

The Ministry of the Environment, Government of Japan (MOE) has prepared this Guide to deepen the understanding of the relationship between climate change and business activities and to promote independent efforts among those who are engaged in the management and operation of private sector seeking to tackle climate change adaptation. It introduces the impact of climate change on business activities, the basic approach to adaptation, and the advantages of private sector addressing adaptation.

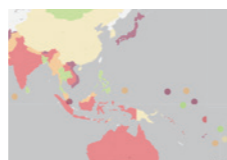
This Guide can be downloaded from A-PLAT.

https://adaptation-platform.nies.go.jp/private_sector/guide

(It can also be downloaded from this QR code.)



Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT)



<https://ap-plat.nies.go.jp>

AP-PLAT is a web-based information platform for national and local policymakers, researchers, businesses, and individuals seeking practical, up-to-date information on climate change adaptation and relevant science. You can find extensive information such as the results of bilateral joint projects implemented by the Ministry of the Environment, Government of Japan and other information useful to promote adaptation initiatives in the Asia-Pacific region including climate change adaptation practices and financial mechanisms. You can also find the data for climate change and its projected impacts on maps. We support the establishment of original platforms that compile climate risk information for the countries in the region, working in collaboration with international initiatives that aim to share information on climate risk and related issues. We hope this platform will also be useful for overseas business development.

Center for Climate Change Adaptation at the National Institute for Environmental Studies

The Climate Change Adaptation Act (No. 50) enacted in June 2018, stipulates that the National Institute for Environmental Studies (NIES) is responsible for collecting, organizing, analyzing, and providing information on climate change, climate change impact, and climate change adaptation, as well as providing technical advice to local governments and Local Climate Change Adaptation Centers on their efforts for climate change adaptation. The Center for Climate Change Adaptation Center (CCCA) was established on December 1, 2018 in line with the date of enforcement of the Climate Change Adaptation Act, to comprehensively implement these new responsibilities and research on adaptation measures.

CCCA will play a central role in collecting, organizing, and analyzing information on climate change impacts and adaptation, as well as promoting research and sharing the results with the general public, thereby contributing to the formulation of climate change adaptation plans and promotion of adaptation measures by the prefectures and municipalities as well as efforts by various entities, including businesses and individuals, to adapt to climate change.



CCCA



<https://ccca.nies.go.jp>

Center for Climate Change Adaptation,
National Institute for Environmental Studies
Address 16-2 Onogawa, Tsukuba City, Ibaraki Prefecture, 305-8506, Japan
Phone +81-29-850-2475 E-mail a-plat@nies.go.jp



Business and Climate Change Adaptation

CLIMATE CHANGE ADAPTATION

Business Contribution to Climate Change Adaptation

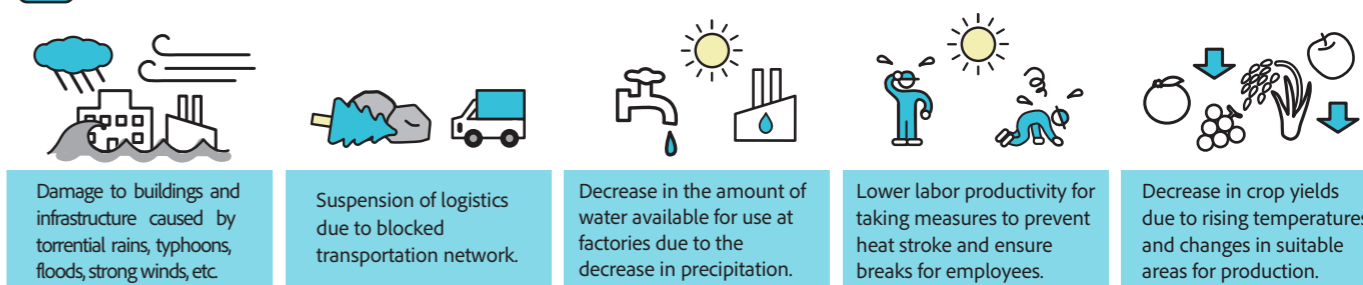
Climate change impacts are already evident in various business. There have been reports regarding impacts on crops due to rising temperatures, increased risk of natural disasters due to shorter and stronger rains and larger typhoons than observed in the past, and increased risk of heat stroke due to higher temperatures. Business contribution to adaptation refers to initiatives to improve business continuity and resilience by avoiding or mitigating risks in preparation for climate change impacts that are currently occurring or are expected to occur in the future.

In addition to the widely recognized term, "mitigation measures," such as initiatives to reduce greenhouse gas emissions, it will be important going forward to implement "adaptation measures" to address the impacts of climate change that are already underway.

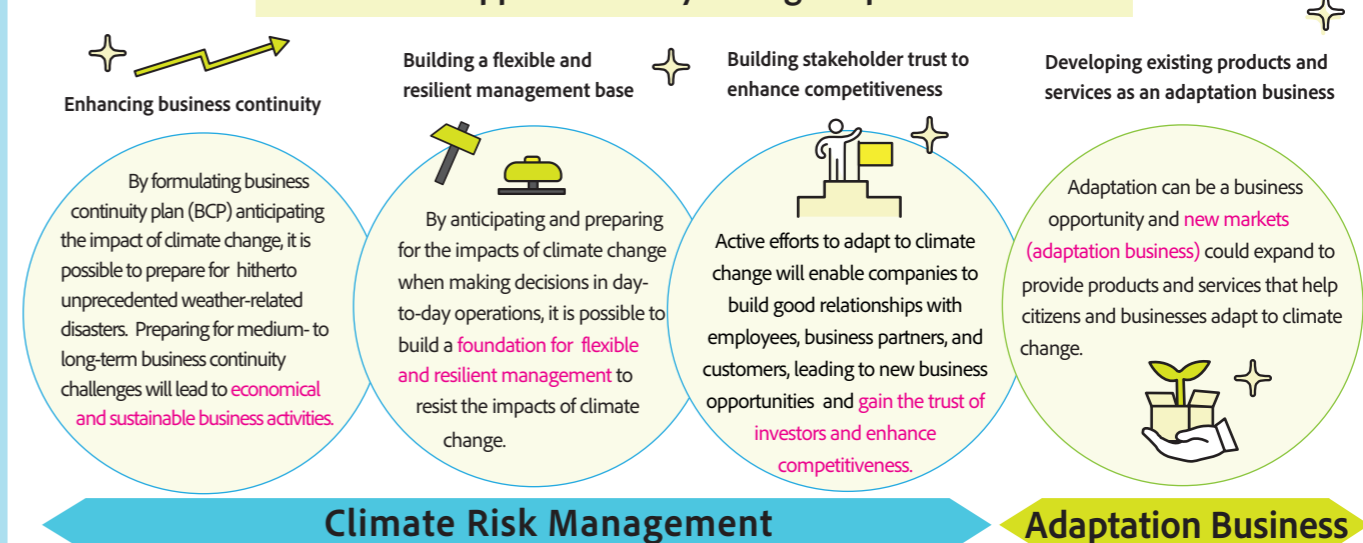
Climate Change Impacts

Climate change impacts include not only "sudden impacts" such as extreme weather events, which are infrequent but can cause significant losses once they occur, but also "long-term impacts" that progress gradually, including increased risk of heat stroke due to higher average temperatures, impacts on water resources due to changes in precipitation patterns, and increased risk of storm surge due to rising sea levels.

! Typical Impacts on Business Activities



Benefits and Opportunities by Taking Adaptation Initiatives



Climate Risk Management

Adaptation Business

Source: created by the National Institute for Environmental Studies based on "Climate Change Adaptation Guide for Private Sector -Preparing for Climate Risk and Surviving" issued by the Ministry of the Environment, Government of Japan (2019).

Climate Change Adaptation Information Platform (A-PLAT)

A-PLAT is an information platform that provides useful information to promote climatechange adaptation measures. The Center for Climate Change Adaptation and the National Institute for Environmental Studies (NIES) are working with relevant government and organizations to enhance and strengthen A-PLAT to disseminate information on adaptation measures, so the users can take initiatives based on their own circumstances.

Adaptation for Private Sector

This page on A-PLAT provides information to assist initiatives for private sector.

1 Information & Materials

In this section, you can find various materials and overseas reports on climate change adaptation by governments, agencies, research institutes, and private sector, including the "Climate Change Adaptation Guide for Private Sector -Preparing for Climate Risk and Surviving-" issued by the Ministry of the Environment. In the Impact Assessment Information section, you can check various impact assessment tools related to climate change risk used within and outside of Japan.

2 Case Studies

This section provides actual examples of Adaptation for Private Sector and references useful when considering adaptation initiatives.

Examples of Climate Risk Management

Initiatives to prevent or mitigate climate change impacts on business activities.

Examples of Adaptation Business

Initiatives to develop products and services that promote the adaptation of others, considering adaptation as a business opportunity.

Examples of TCFD Initiatives

Useful information and reference to promote responses to the TCFD*.

*TCFD: Task Force on Climate-related Financial Disclosures. TCFD recommends companies to disclose climate change-related risks and opportunities.

3 Event Information

In this section, you will find information on the events regarding adaptation for private sector. You can also view the records of the past events organized by the National Institute for Environmental Studies.

Top Page of Adaptation for Private Sector

Adaptation for Private Sector



"Adaptation for Private Sector" provides information on climate change adaptation for businesses, including data, materials, case studies and events. Please use such information to promote adaptation in your business activities.

Information & Materials Case Studies Upcoming Events

1 Information & Materials

In this section, you can find information and materials on climate change adaptation measures by various organizations and sectors. This section would be useful to deepen your understanding of climate change impacts and adaptation, and when considering your own initiatives. (Private Sector and Climate Change Adaptation brochure)

Climate Change Adaptation Guide for Private Sector
 A guide for private sector issued by the Ministry of the Environment, Government of Japan.

Reference material on the adaptation for Private Sector
 Reference materials on climate change adaptation in Japan and overseas (provisional translation).

Impact Assessment
 Information on impact assessment and risk assessment tools.

Infographics for Private Sector

Clear and easy adaptation measures with illustrations.

2 Case Studies

Actual examples of adaptation efforts by Private Sector is introduced. They are categorized into "Climate Risk Management", "Adaptation Business" and "TCFD Initiatives".

Examples of Climate Risk Management
 気候リスク管理
 Climate Risk Management
 "Climate Risk Management" is an effort to reduce the impact of climate change on the company's business activities.

Examples of Adaptation Business
 適応ビジネス
 Adaptation Business
 "Adaptation Business" refers to an effort to develop products and services that promote adaptation by others, considering adaptation as a business opportunity.

Examples of Adaptation Business

TCFDに関する取組
 This section introduces information for businesses that can be used to help them respond to TCFD (Task Force on Climate-related Financial Disclosures).

3 Upcoming Events

Information on events regarding adaption for Private Sector, organized by the National Institute for Environmental Studies. Information on upcoming events and the records of past events are available.

Upcoming Events

Adaptation for Private Sector page on the A-PLAT website (as of January 2022)

Contents on A-PLAT

A-PLAT provides extensive information besides Adaptation for Private Sector, including the status of initiatives by governments and ministries, agencies, and research institutes, data on future projections of climate change and its impacts, database of adaptation case studies, interviews with experts on adaptation in various regions, and scientific knowledge and publications. We aim to contribute to the initiatives of various entities by providing information and tools for raising awareness and further enriching the content of the website.

Top Page of A-PLAT Website

Go to the top page of Adaptation for Private Sector

What is climate change adaptation?
Easiest explanation of climate change adaptation with examples.

Adaptation Initiatives by the National Government
Government-wide efforts to adapt to climate change.

Local Climate Change Adaptation
It is important to take the characteristics of each region into account when considering adaption to climate change impacts. A-PLAT aims to promote regional adaptation based on scientific knowledge by providing relevant information including the latest trends in the Local Climate Change Adaptation Centers and local climate change adaptation plans.

Adaptation for Private Sector
This section provides climate change adaptation information for companies and organizations including various information and materials, case studies, and event information which would help to promote adaptation measures in your business activities.

Adaptation for Individuals and Communities
Many of us are experiencing the impacts of climate change with the increasing number of hot summer days and extremely hot days, or the increasing number of flooding damage caused by short-term heavy rainfall in the recent years. Now is the time to think and act together on "adaptation" to create a safe and comfortable society for everyone.

PickUp

Observations and Projections of Climate Change
Maps and graphs on climate change and its impacts, and policy information on adaptation are available.

Data and Materials
Data and materials related to climate change impacts and adaptation are available.

Climate Change-Related Videos
Our original contents related to climate change and adaptation.

E-Learning and Training Videos
Recommended to watch when starting or working on climate change adaptation.

Infographics
Adaptation measures for representative items in seven areas are systematically organized. Please use this information to understand the adaptation measures and consider them in your region.

Interviews
This section introduces local adaptation plans and measures. Local Climate Change Adaptation Centers and other topics based on interviews.

Adaptation Database
A collection of climate change adaptation measures are available including examples of adaptation initiatives by national and local governments and public sectors.

Global News on Adaptation
The latest trends in overseas climate change adaptation, including news from international organizations, foreign governments, and research institutes.

Top page of the A-PLAT website (as of January 2022)

Top Page of A-PLAT Website

A-PLAT

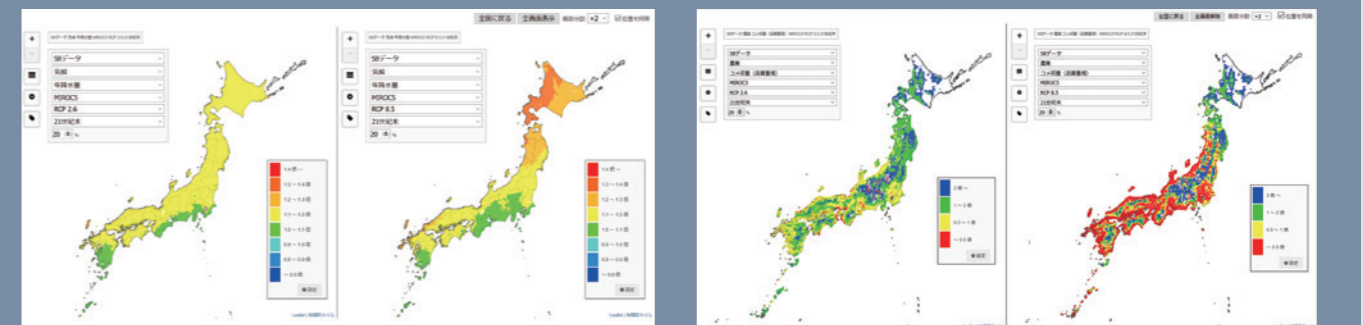
You can also follow A-PLAT on Twitter and Facebook!

Data on Observations and Projections of Climate Change

Observation Data provides data observed by the Japan Meteorological Agency (① average temperature, ② precipitation, ③ hot summer days (daily maximum temperature $\geq 30^{\circ}\text{C}$), and ④ extremely hot days (daily maximum temperature $\geq 35^{\circ}\text{C}$) from the past to the present for the entire country and for each prefecture.

WebGIS, a system used for future projections, provides a color-coded map of future climates and the impacts that are expected to occur in each area/prefecture. It shows climate predictions such as average annual temperature, hot summer days, and the number of occurrences of precipitation greater than 50mm per hour, along with impacts on agriculture (rice yield, etc.), water environment (chlorophyll-a concentration), natural ecosystem (potential area for beech growth, etc.), natural disaster (sandy-beach loss, etc.) and health (number of patient transported with heat stroke, etc.). These observed and projected data can be used for scenario analysis of climate-related risks and opportunities in the TCFD.

Data on Observations and Projections of Climate Change



Annual precipitation -comparison between the end of the 21st century, RCP2.6 and RCP8.5 (S-8 data) || Rice Yield (Quality Focus) -comparison between the end of the 21st century, RCP2.6 and RCP8.5 (S-8 data)