

# National Strategy for Climate Change Adaptation

*By NDRC, China*



National  
Development and  
Reform Commission



**United Nations**  
Framework Convention on  
Climate Change

# Impacts of climate change on agriculture and livestock industry

- Observation: 2-to-4-day advancement of spring phenophase since 1980's
- Potential impacts:
  - increased instability in agricultural production, where the yields of three main crops, likely to decline;
  - changes in distribution and structure of agricultural production as well as in cropping systems and varieties of the crops;
  - changes in agricultural production conditions that may cause drastic increase in production cost and investment need;
  - increased potential in aggravation of desertification, shrinking grassland area and reduced productivity that result from increased frequency and duration of drought occurrence due to climate warming;
  - and potentially increased rate in disease breakout for domestic animals.

# Impacts of climate change on **Impact on forest and other natural ecosystems**

- Observation: the glacier area in the northwestern China shrunk by 21 percent and the thickness of frozen earth in Qinghai-Tibet Plateau reduced a maximum of 4-5 meters in recent 50 years.
- Potential impact:
  1. geographical distribution of major forest types will shift northward and the vertical spectrum of mountain forest belts will move upward. The distribution range of major tree species for afforestation or reforestation and some rare tree species is likely to shrink.
  2. forest productivity and output will increase to different extents
  3. the frequency and intensity of forest fires and insect and disease outbreaks are likely to increase.
  4. the drying of inland lakes and wetlands will accelerate. the area of glaciers and frozen earth is expected to decrease more rapidly. snow cover is subjected to reduce largely with significantly larger inter-annual variation.
  5. biodiversity will be threatened.

# Impacts of climate change on water resources

- Observation: Climate change has already caused the changes of water resources distribution over China. A decreasing trend in runoff was observed during the past 40 years in the six main rivers. There is evidence for an increase in frequency of hydrological extreme events. The arid continental river basins are particularly vulnerable to climate change.
- Potential impacts:
  - in the next 50-100 years, the mean annual runoff is likely to decrease evidently in some northern arid provinces, while it seems to increase remarkably in a few already water-abundant southern provinces, indicating an increase of flood and drought events due to climate change;
  - the situation of water scarcity tends to continue in the northern China.

# Impacts of climate change on coastal zone

- Observation: certain impacts on the coastal environment and ecosystems of China in some extent, mainly represented by the accelerating trend of sea level rise along the Chinese coast in the past 50 years, which resulted in coastal erosion and seawater intrusion, as well as mangrove and coral reef degradation.
- Potential impacts:
  1. the sea level along the Chinese coast will continue to rise
  2. the frequency of typhoon and storm surge will increase, aggravating the hazards induced by coastal erosion.
  3. some typical marine ecosystems, including coastal wetlands, mangroves and coral reefs, will be further damaged.

# Impacts of climate change on other sectors

- Observations:
  - increase the frequency and intensity of the heat waves, hence increase deaths and serious diseases induced by extreme high temperature events.
  - stimulate the emergence and spread of some diseases and to increase the magnitude and scope of diseases malaria, dengue fever, etc.
- Potential impacts:
  - impact China's medium to large sized projects, due to the increase of extreme weather and climate events and related hazards.
  - harm natural and human tourism resources, as well as tourism security in some areas.
  - exacerbate the increasing trend of electricity consumption for air conditioning and impose greater pressure to electric power supply.

# Policies and Actions - Adaptation

## ***National Strategy for Climate Change Adaptation***

(Nov. 2013, by NDRC,  
MOF and 6 other  
ministries and  
departments)



# Agriculture

- Continue to improve agricultural infrastructures
- Promote adjustment of agricultural structure and cropping systems
- Breed stress-resistant varieties
- Prevent aggravation of grassland desertification
- Strengthen research and development of new technologies



# Forests and other natural ecosystems

- Formulate and implement laws and regulations relevant to climate change adaptation
- Strengthen the effective protection of existing forest resources and other natural ecosystems
- Strengthen technology development and extension

# Water resources

- Enhance water resources management
- Strengthen infrastructure planning and construction
- Promote the development and extension of technologies for water allocation, water-saving, and sea water utilization

# Coastal zones and coastal regions

- Establish and improve relevant laws and regulations
- Promote technology development and extension
- Improve the capability in marine environmental monitoring and early-warning
- Strength adaptation strategies to address sea level rise

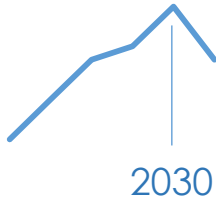
# ENHANCED ACTIONS IN CHINA'S INDC

2020

2030

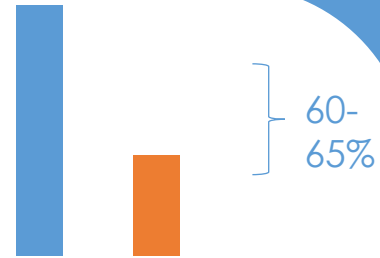
## Mitigation

### Carbon Dioxide Emission



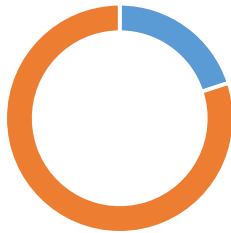
Peaks around 2030  
Try best to peak early

### Carbon Intensity



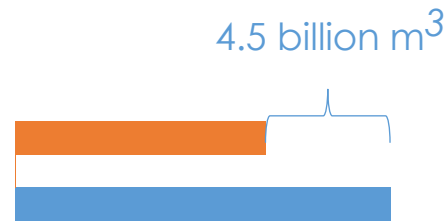
Lower by **60-65%**  
from 2005 level

### Share of Non-Fossil Fuels



Increase to around **20%**

### Forest Stock Volume



Increase by around **4.5** billion m<sup>3</sup> from 2005 level

## Adaptation

Continue to proactively adapt to climate change

Enhance mechanisms and capacity to effectively **defend** against climate change risks



Strengthen **early warning** and **emergency response** systems and **disaster prevention** and **reduction** mechanisms



# POLICIES & MEASURES in INDC



## Adaptation

- Enhance overall climate **resilience**
- Strengthen the **construction of infrastructure**
- Strengthen **water resource management**
- Enhance **resistance to marine disasters**
- Improve the national **monitoring system** for climate change
- Publish early **warning information**



## International Cooperation

- Push forward international cooperation
- Form an **equitable, reasonable, cooperative** and **multiple-win** global climate governance regime
- Establish the **Fund for South-South Cooperation on Climate Change** providing assistance and support to other developing countries



## Support

- Enhance **science** and **technology** support
- Increase **financial** and **policy** support



## Public

- Promote the **low-carbon way of life**
- Improve broad **participation**