



**USAID**  
FROM THE AMERICAN PEOPLE

# Climate Change, Project Planning and Environmental Compliance

Name

Title

Organization



# OUTLINE

- Definitions
- Science of climate change
- Climate change & development in [country/region]
  - Background
  - Changes to expect
  - Impacts
- USAID's approach & strategy
- Incorporating USAID's strategies into [country/region]'s programs
- Tools and resources
- Small group exercise



# DEFINITIONS

- **Weather**

Describes the condition of the atmosphere, usually expressed in terms of air temperature, rainfall, or wind speed, over the timescale of days to weeks.

- **Climate**

“The ‘average weather’, or...the mean and variability of [temperature, precipitation, and wind] over a period of time ranging from months to thousands or millions of years. The classical period of time is 30 years, as defined by the WMO”

- **Mitigation**

“Intervention to reduce the anthropogenic forcing of the climate system; it includes strategies to reduce greenhouse gas sources and emissions and enhance greenhouse gas sinks.”

- **Adaptation**

“Adjustment...in response to actual or expected climatic...effects, which moderates harm”

- **Resilience**

“The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning...and the capacity to adapt to stress and change”

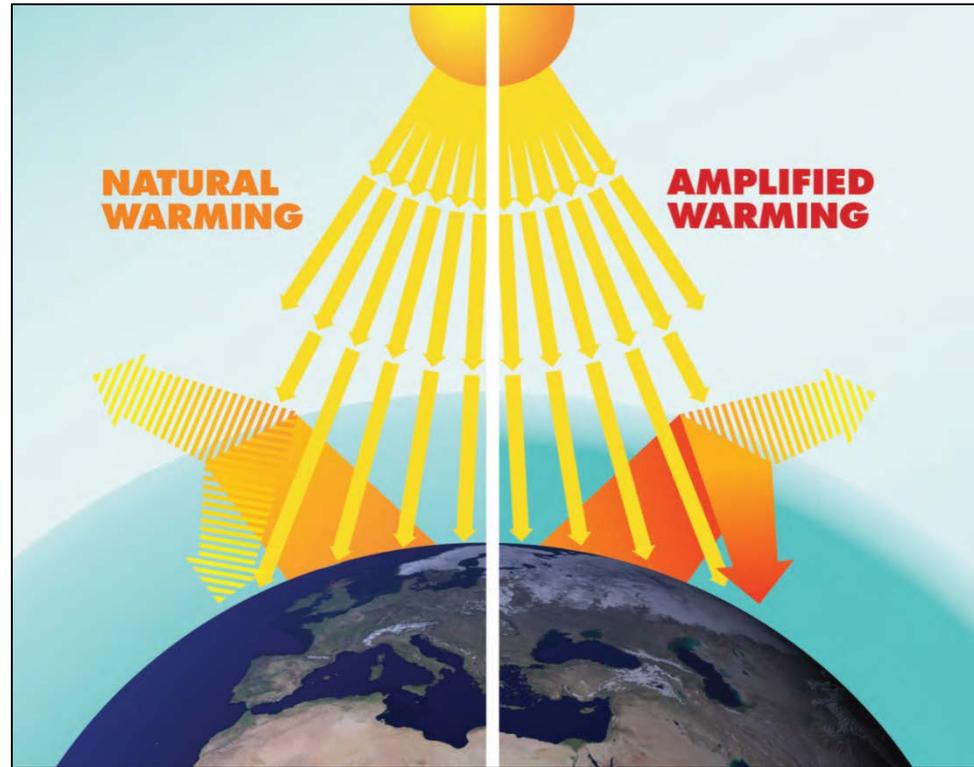
Definitions from IPCC Fourth Assessment Report: Climate Change 2007



# SCIENCE OF CLIMATE CHANGE

## The Greenhouse Effect

- Sunlight naturally heats Earth's land, oceans, and atmosphere, keeping Earth at a habitable 15 degrees Celsius
- Burning fossil fuels and land use changes puts additional GHGs in the atmosphere, trapping heat and intensifying warming of the Earth
- Global warming vs. global climate change

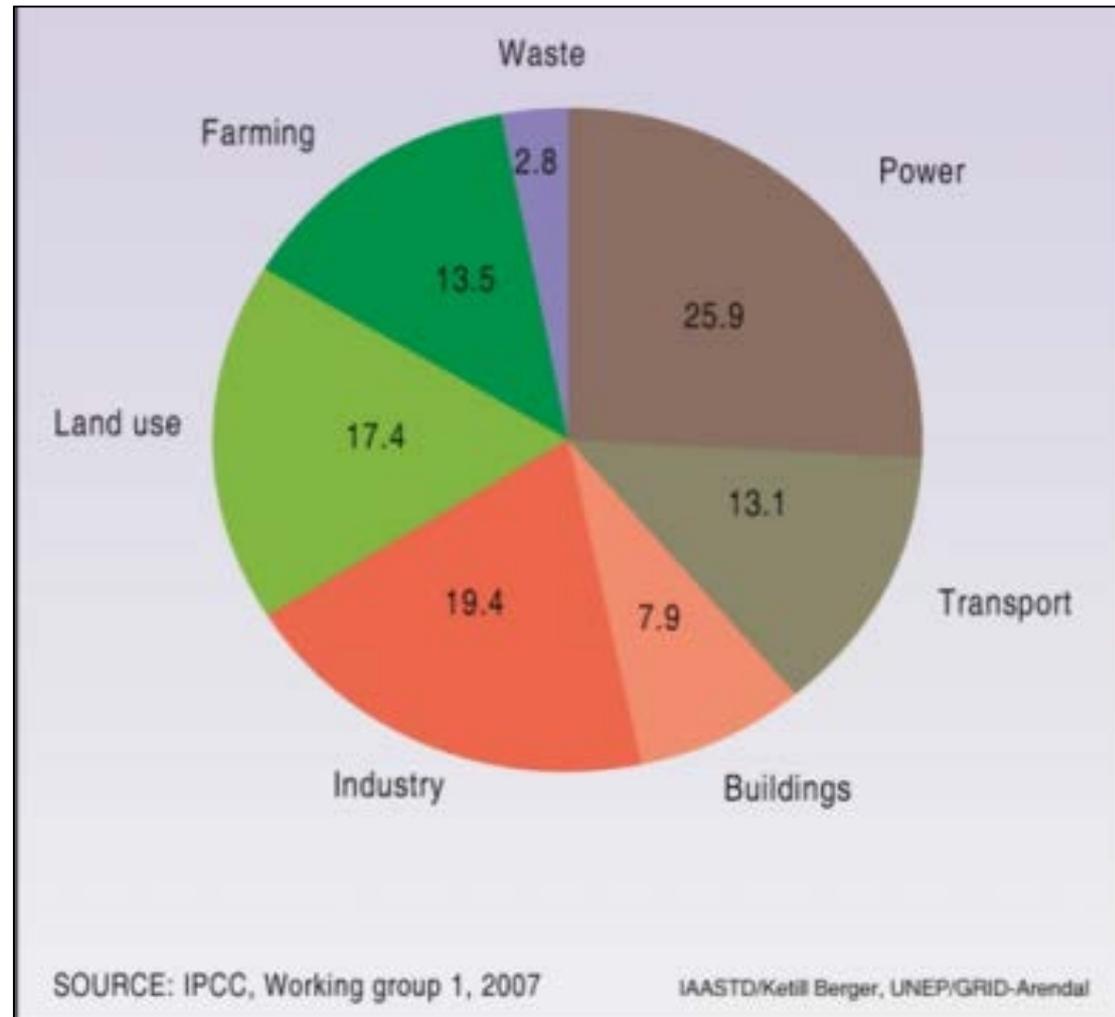


Source: Modified from National Academy of Sciences (2004) *Global Warming: Facts & Our Future*

## GHG Emissions

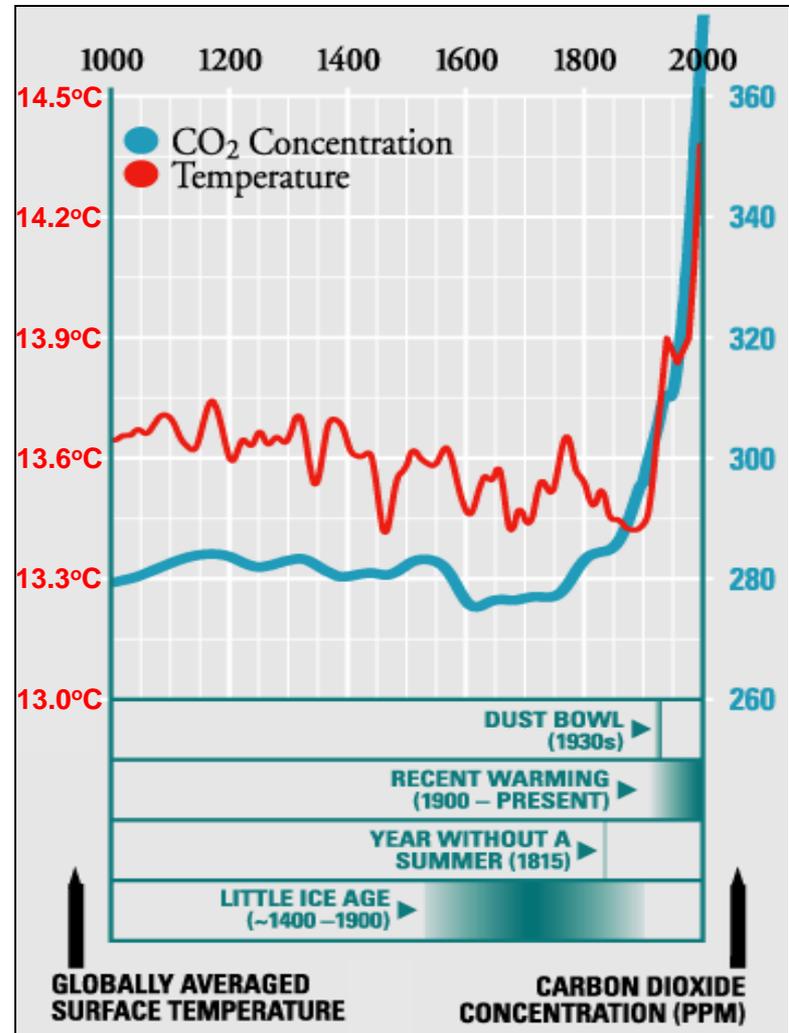
- Principal GHGs: carbon dioxide, methane, nitrous oxide, fluorinated gases
- GHG emissions have been increasing due to:
  - Burning of fossil fuels
  - Land use activities
- Percent of global CO<sub>2</sub> emissions:
  - [Country]: XX%
  - China: 23%
  - US: 18%

GHG emissions by source as a percentage of total GHG emissions (2004)



## Historic Climate Change

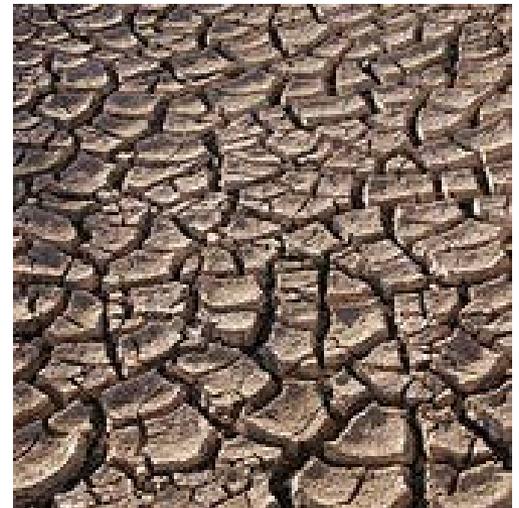
- Atmospheric GHG concentrations closely correlate with average global temperatures



Source: <http://www.koshland-science-museum.org/exhibitgcc/historical03.jsp>

# SCIENCE OF CLIMATE CHANGE

- Increasing average temperatures
- More extreme weather events, including stronger storms
- Changing precipitation patterns (droughts, floods more common)
- Rising sea levels
- Changes in vector-borne disease patterns (e.g., malaria, dengue fever)
- Ocean acidification
- Glaciers melting



# **CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]**



## Context

- [list of environment & livelihood facts of this country/region, see speaker's notes]

## Why Climate Change Matters for Development

- It is important to address climate stresses in addition to other types of stresses in development
- The poorest populations are most vulnerable to the effects of climate change.
  - Examples: disrupted food production, impacts to infrastructure
- Many sectors of development are sensitive to climate – agriculture, construction, water availability, natural resources
- Many developing countries rely on ecosystem services that could be impacted by climate change for clean water, food, and flood control
- Projections show that climate change will make wet areas wetter and dry areas drier, exacerbating development challenges
- Addressing climate stressors in addition to non-climate stressors is necessary to achieve development objectives.



*In what ways is [country/region] climate sensitive? How are communities in [country/region] impacted by weather trends and extremes?*

# CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

## What Climate Changes Are Predicted for [Country/Region]

- [See speaker's notes and resources to complete this slide]



# CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

## How Climate Change Affects USAID's Work in [Country/Region]

- [Presenter should choose sectors of USAID work that may be impacted by climate in the region and discuss with participants. See speaker's notes for suggestions]





# CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

## What Does This Mean for Our Work?

- What changes in climate are you already observing?
- Who is affected by these changes?
- How do these changes impact our ability to achieve development goals?

# USAID'S APPROACH & STRATEGY

# USAID CLIMATE CHANGE AND DEVELOPMENT

## USAID's Climate Change and Development Strategy (2012-2016)

*“Strengthen development outcomes through direct climate change program investments and by integrating climate change throughout USAID programming”*

## Executive Order 13653: Preparing the United States for the Impacts of Climate Change (2013)

*“agencies should promote: (1) engaged and strong partnerships and information sharing at all levels of government; (2) risk-informed decision making and the tools to facilitate it; (3) adaptive learning, in which experiences serve as opportunities to inform and adjust future actions; and (4) preparedness planning”*

## Executive Order 13677: Climate-Resilient International Development (2014)

*“This order requires the integration of climate-resilience considerations into all United States international development work to the extent permitted by law.”*

## CDCS development, from the ADS 201 (Planning)

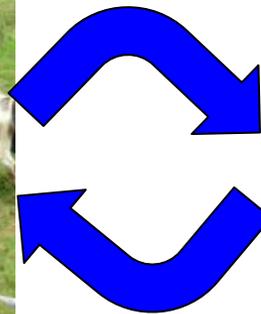
*“All Missions are required to fully consider climate change during the country-level strategic planning process. Therefore this applies to all Missions, regardless of whether they are projected to receive funds or not.”*

# CLIMATE CHANGE & REGULATION 216

## Environmental Regulation 216 (22 CFR 216)

***“Identify impacts resulting from USAID’s actions upon the environment”***

***“Define environmental limiting factors that constrain development and identify and carry out activities that assist in restoring the renewable resource base on which sustained development depends”***



# **INCORPORATING USAID'S STRATEGIES INTO [COUNTRY/REGION]'S PROGRAMS**

## How is Climate Change Predicted to Change the Baseline in Your Region?

- **Temperature:** Do climate models predict temperature changes, such as warming in this region? Has it increased recently? What is the climate history? Are seasonal temperatures changes predicted?
- **Rainfall:** Predicted to increase, decrease, storms more frequent? Delay in onset of the rainy season? Increased variability? Inter-seasonal variations?
- **Water Availability:** Changing water availability impacts agricultural production, as well as water for sanitation, industry, energy, and the environment, undermining economic growth and human security.
- **What is the level of confidence that these changes will occur?**
- **What is the relevant time scale?**



# INCORPORATING USAID'S STRATEGIES INTO [COUNTRY/REGION]'S PROGRAMS

- Educate project planners about need to consider climate impacts
- Provide tools, guidance, and access to climate information for non-experts in simple terms and language
- Design projects so that they are resilient to climate change and other stresses and minimize GHG emissions
- Engage stakeholders in planning and prioritization



## Adaptation Measures Improve Resilience of Project and People to CC

- **Water:** repair wells/dig new ones, harvesting/retention, increasing efficiency, ensure minimum flow levels used in design take into account predicted changes in water availability
- **Agriculture:** crop diversification, drought-resistant seeds, tree plantings, reduce erosion, improve soil fertility, irrigation, weather information
- **Governance:** planning for adaptation, early warning systems, resource management
- **Health:** disease warning and epidemic management, early flood warnings

## Mitigation Measures for Reducing Project Contribution to Climate Change

<b>Project Activity</b>	<b>Some Potential Mitigation Actions</b>
Land management	Protect and plant trees
Agriculture	Restore impacted agricultural lands, use conservation agriculture to increase soil nutrients
Deforestation	Minimize clearing/re-plant, compensatory reforestation in a nearby location.
Biogas digesters to manage waste	Investigate potential use of digesters
Fossil fuel-based electricity production and use	Investigate renewable energy alternatives to diesel generators. Purchase efficient AC units.
International travel by project staff and consultants	Reduce non-essential travel; use local consultants; purchase carbon offsets
Infrastructure	Source materials locally when possible, minimize clearing and re-plant.



## APPLYING CLIMATE CHANGE TO ENV COMPLIANCE

- Baseline Data
  - What aspects might be exacerbated?
  - What aspects might be minimized?
  - What new issues might arise?
- Potential Impacts
  - GHG emissions
  - New or exacerbated impacts
  - Vulnerability of your project
- Adaptation and Mitigation Measures
  - Alternative siting or sources
  - Choose different crops
  - Reduce emissions





# INCORPORATING CLIMATE CHANGE CONSIDERATIONS INTO IEES

Initial Environmental Examinations (IEEs) should incorporate the following aspects relevant to climate change in the following sections of the IEE:

Section of IEE	How to Incorporate Climate Change
Locations affected	<i>The section must describe potential changes in baseline conditions due to climate changes</i>
Potential impacts and recommended determinations, including conditions	<i>Impacts to be addressed <u>include</u> potential adverse impacts of the proposed activities on local resilience/vulnerability to climate change, impacts of activities that may contribute to climate change, and any potential adverse impacts of changing baseline conditions on project outcomes or sustainability</i>  <i>Conditions must address those impacts through mitigation and adaptation measures.</i>

# DESIGNING FOR CLIMATE CHANGE IS ESDM BEST PRACTICE

- While USAID projects are rarely significant contributors to GCC, **climate change is driven by the sum of many small actions. Additionally, projects may be impacted by climate change.** Even small-scale projects should seek to:
  - Reduce direct or indirect GHG emissions
  - Increase sequestration
  - Reduce climate vulnerability locally while also achieving development objectives
- It is USAID policy (part of Reg. 216) to:

*“Identify impacts resulting from USAID’s actions upon the environment and...define environmental limiting factors that constrain development and identify and carry out activities that assist in restoring the renewable resource base on which sustained development depends”*

*USAID has the opportunity to lead by example and ensure development is sound by showing that this can be done, even at a small scale*

# INCORPORATING USAID'S STRATEGIES INTO [COUNTRY/REGION]'S PROGRAMS

Help is available!

- Updated Sector Environmental Guidelines include advice on how to address climate change
- Regional bureau climate change advisors and the Global Climate Change Office in E3 can provide more help.
  - Email: [climatechange@usaid.gov](mailto:climatechange@usaid.gov)
- Tools, resources, information on upcoming trainings:
  - <http://blogs.usaid.gov/climate/>





# TOOLS AND RESOURCES



# TOOLS AND RESOURCES

## Sector-based

- Global Climate Change sections of the 2013 USAID Sector Environmental Guidelines. [www.usaidgems.org/sectorGuidelines.htm](http://www.usaidgems.org/sectorGuidelines.htm)
- Climate Change and Infrastructure Briefs. <https://decsearch.usaid.gov/viewer/index.jsp?start=0&proxy=%2F&sessionId=a00c09f4-34b7-4d9a-a858-46ffa9566635>

## Climate Change Science

- World Meteorological Organization
- U.S. Environmental Protection Agency (EPA). Climate Change Science. <http://www.epa.gov/climatechange/science/>
- IPCC. <http://www.ipcc.ch/>

## USAID Policy

- USAID Climate Change and Development Strategy. <http://www.usaid.gov/climate/strategy>



# TOOLS AND RESOURCES

## Climate Change Impacts

- EPA. Climate Change Impacts and Adapting to Change. <http://www.epa.gov/climatechange/impacts-adaptation/index.html>
- The World Bank's Climate Change Knowledge Portal is intended to provide quick and readily accessible climate and climate-related data to policy makers and development practitioners. The site also includes a mapping visualization tool (webGIS) that displays key climate variables and climate-related data. <http://sdwebx.worldbank.org/climateportal/>
- USAID Country Vulnerability Profiles include short profiles of several Missions. They lay out the basic expectations for climate change for each country/region, as well as vulnerabilities of the key sectors. [http://inside.usaid.gov/E3/offices/enviro\\_sci/climate/resources/](http://inside.usaid.gov/E3/offices/enviro_sci/climate/resources/)

## Mitigation

- USAID's *Clean Energy Emission Reduction (CLEER)* Tool has been developed to estimate emissions benefits of clean energy projects. <http://blogs.usaid.gov/climate/ghg-accounting-tools/>
- AFOLU Carbon Calculator allows USAID and its partners to systematically estimate the CO<sub>2</sub> benefits and consequent climate impacts of its agriculture, forestry and other land use (AFOLU) programs worldwide. <http://www.afolucarbon.org/>



# TOOLS AND RESOURCES

## USG Directives

- Executive Order 13514, signed October 5, 2009, set sustainability goals for Federal agencies and focuses on making improvements in their environmental, energy and economic performance. It requires agencies to submit a 2020 greenhouse gas pollution reduction target, and to increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage Federal purchasing power to promote environmentally-responsible products and technologies.

<http://www.whitehouse.gov/administration/eop/ceq/sustainability>

- Executive Order 13653, **Preparing the United States for the Impacts of Climate Change**, signed November 1, 2013. <http://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>

- **Guidance for U.S. Positions on Multilateral Development Banks Engaging with Developing Countries on Coal-fired Power Generation.** In December 2009, the U.S. Department of the Treasury developed guidance regarding coal-fired power generation in the multilateral development banks (MDBs). Revised in October 2013, this guidance further curtails U.S. support for MDB funding for overseas coal projects, except in narrowly defined circumstances. <http://www.treasury.gov/resource-center/international/development-banks/Pages/guidance.aspx>

- **President Obama's Climate Action Plan**, released June 25, 2013. The plan: 1) Cuts Carbon Pollution in America, 2) Prepares the United States for the Impacts of Climate Change and 3) Lead International Efforts to Address Global Climate Change. <http://www.whitehouse.gov/the-press-office/2013/06/25/fact-sheet-president-obama-s-climate-action-plan>

# Thank You



# **SMALL GROUP EXERCISE**

# SMALL GROUP EXERCISE

- Read one-page project scenario
- Identify needs and opportunities for GCC adaptation and GHG mitigation
  - Refer to presentation; in-group expertise; adaptation & mitigation measures table
- Propose changes that support GCC adaptation and GHG mitigation
  - Revise proposed activities
  - Suggest new activities
- Document in EMMP-type table  
(issue → action/response → monitoring for effectiveness)