Climate Change 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

CLIMATE CHANGE & DEVELOPMENT

- 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?

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"

- **Adaptation:** "Adjustment …in response to actual or expected climatic…effects, which moderates harm"

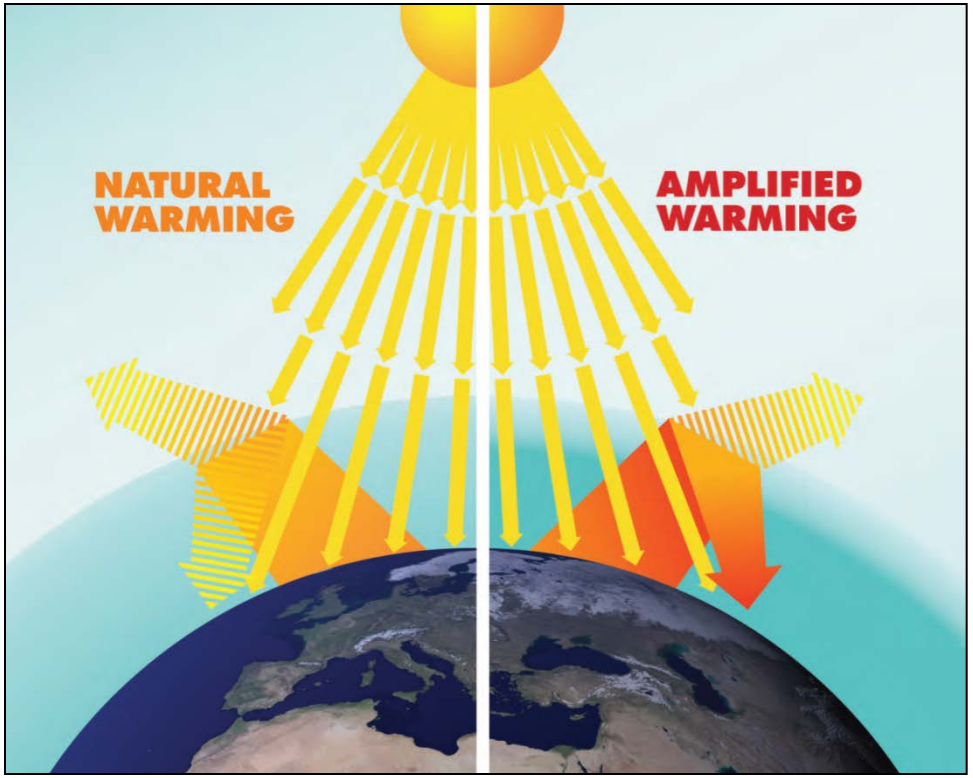
- **Mitigation:** "Intervention to reduce the anthropogenic forcing of the climate system; it includes strategies to reduce greenhouse gas sources and emissions and enhance greenhouse gas sinks."

SCIENCE OF CLIMATE CHANGE

SCIENCE OF CLIMATE CHANGE

The Greenhouse Effect

- Sunlight naturally heats Earth's land, oceans, and atmosphere, keeping Earth at a habitable 15 degrees Celsuis
- 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



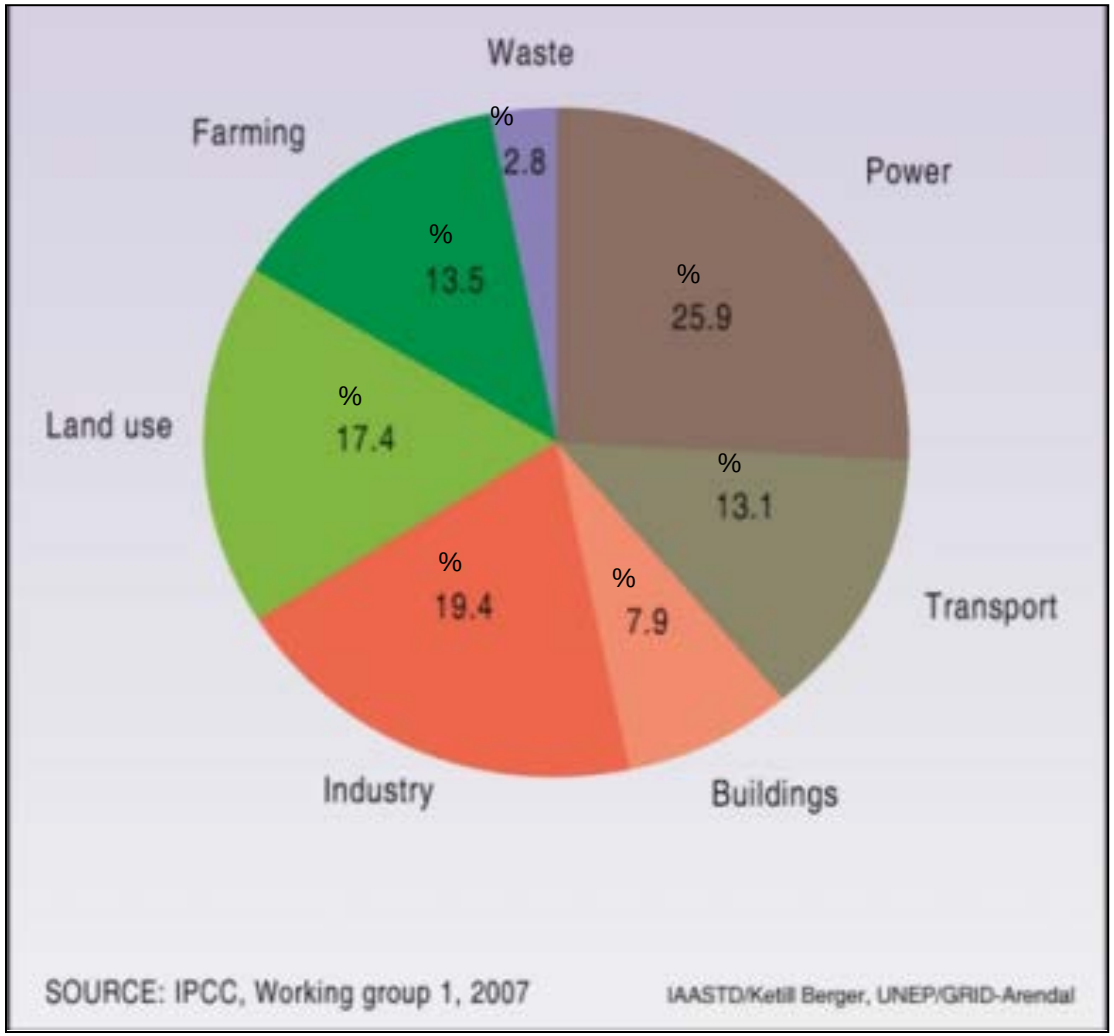
Source: Modified from National Academy of Sciences (2004) *Global Warming: Facts & Our Future*

SCIENCE OF CLIMATE CHANGE

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 CO2 emissions:
  - [Country]: XX%
  - China: 23%
  - US: 18%

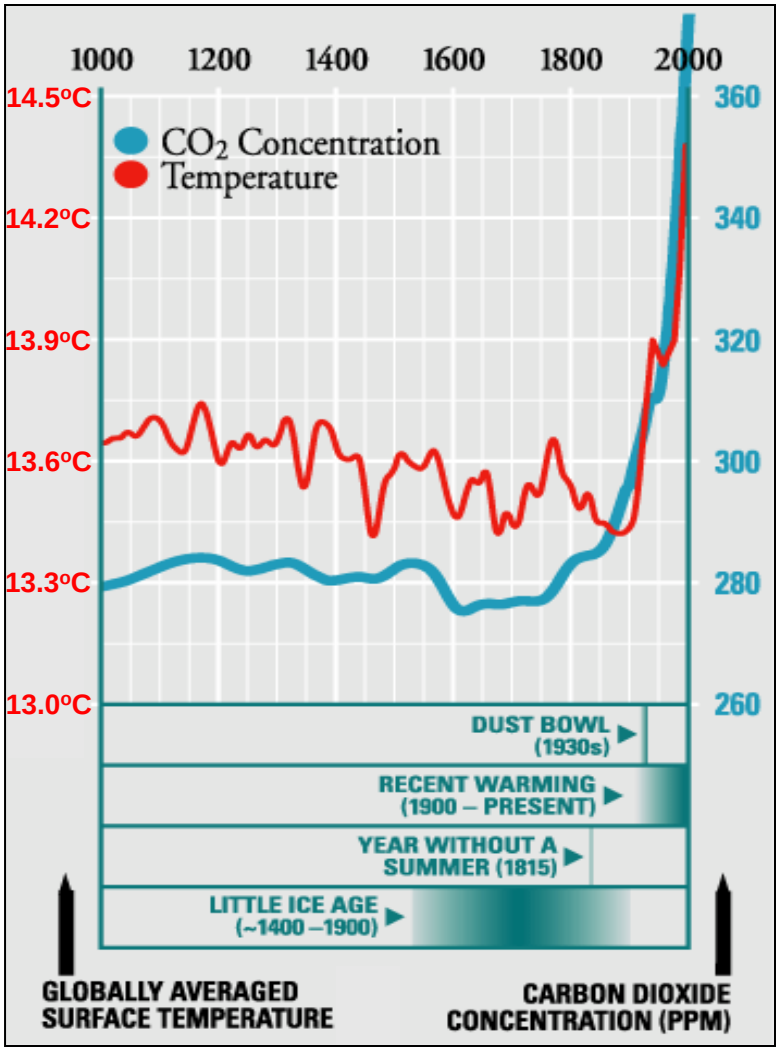
GHG emissions by source as a percentage of total GHG emissions (2004)



SCIENCE OF CLIMATE CHANGE

Historic Climate Change

- Atmospheric GHG concentrations closely correlate with average global temperatures

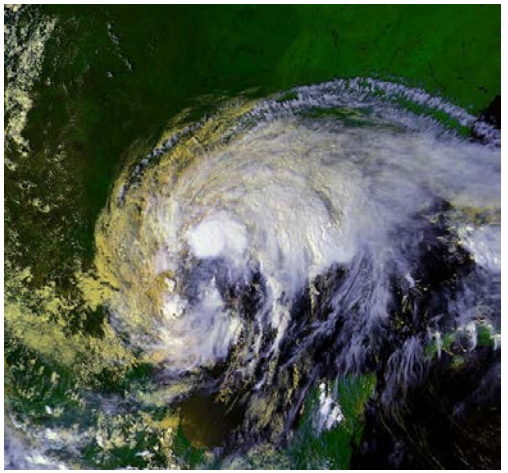


Source: http://www.koshland-science-museum.org/exhibitgcc/historical03.jsp

SCIENCE OF CLIMATE CHANGE

Impacts

- Increasing average temperatures
- More extreme weather events, including stronger storms
- Changing precipitation patterns (droughts, floods more common)
- Rising sea levels
- Ocean acidification
- Glaciers melting



CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

Context

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

CLIMATE CHANGE & DEVELOPMENT IN [COUNTRY/REGION]

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,

- 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]

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

GCC Presidential Initiative

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"

Administrator Shah letter to mission directors, May 2010

"*Even if your mission will not receive dedicated … climate funds, I ask that you consider how climate will impact your work in such areas as food security, water, and health, and where co-benefits may exist."*

CDCS development, from the ADS 201 (Planning)

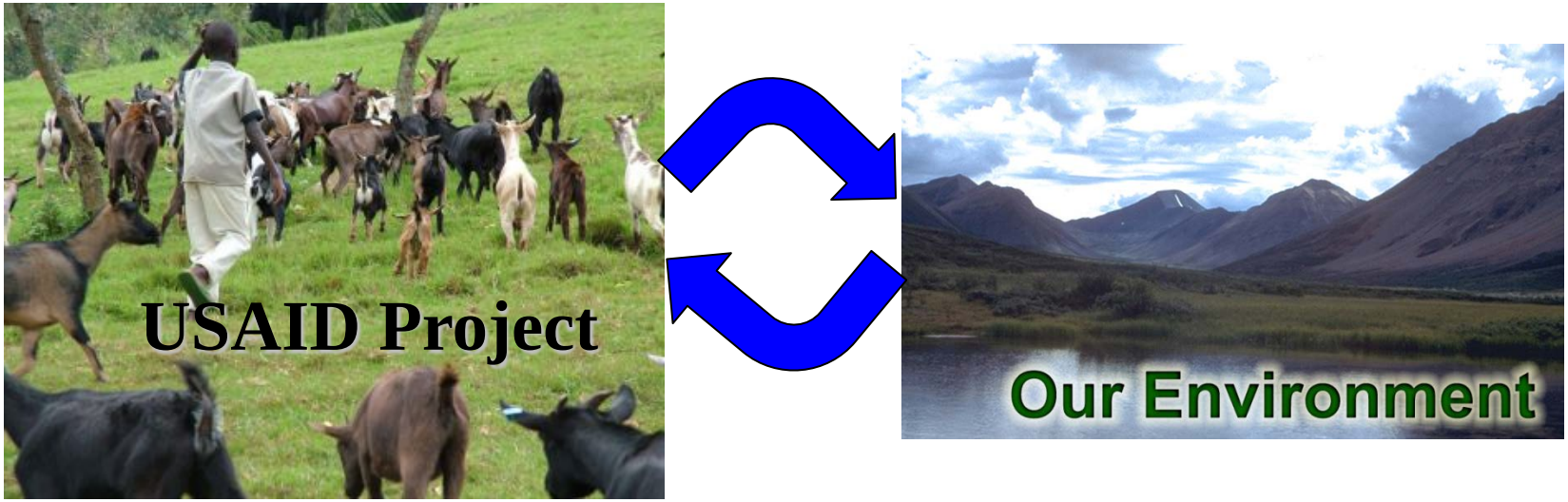
"*All Missions are required to fully consider climate change during the country-level strategic planning process. Therefore this applies to all Missions, regardless of whether they are projected to receive funds or not."*

CLIMATE CHANGE & REG 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"



Environmental Regulation 216 (22 CFR 216)

- Reg. 216 is an opportunity to ensure your project…
  - is not contributing to climate change through the emission of greenhouse gases (GHGs)
  - will not make people more vulnerable to climate change
  - will be sustainable and continue to deliver results in the face of climate impacts

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

LOOK AT CLIMATE INFORMATION

What Climate Changes Are Predicted 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

To integrate climate change into design and implementation of all USAID 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

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

Adaptation Measures

- **Water:** repair wells/dig new ones, harvesting/retention, increase increasing efficiency
- **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

APPLYING CLIMATE CHANGE TO ENV COMPLIANCE

- Baseline
- Potential Impacts
  - GHG emissions
  - New or exacerbated impacts
  - Vulnerability of your project
- Mitigation measures

Mitigation Measures

Project Activity	Some Potential Mitigation Actions
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 gensets for field offices. Purchase efficient AC units.
International travel by project staff and consultants	Reduce non-essential travel; use local consultants; purchase carbon offsets
Project motor pool operations	Use sedans, not 4X4s for in-town travel; consider fuel efficiency as a selection criteria.

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**. 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
- 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

• 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/

Impact Assessment and Climate Change

• International Association for Impact Assessment (IAIA). FasTips #3. February 2013. Climate Smart Decisions. http://www.iaia.org/publicdocuments/special-publications/fast-tips/Fastips_3%20Climate%20Smart%20Decisions.pdf

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/

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_2benefits 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)