

USDA Rural Development
Climate Change Adaptation Plan 2014

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Climate Change Adaptation Planning Document
February 2014**

This plan originally prepared in accordance with Executive Order (E.O.) 13514, required all federal agencies to have a climate change adaptation plan submitted to the Council of Environmental Quality (CEQ) has been updated to comply with E.O. 13523, Preparing the United States for the Impacts of Climate Change, which was on November 1, 2013. USDA Departmental Regulation 1070-001 calls for the Climate Change Program Office (CCPO) to develop the USDA Climate Change Adaptation Plan with the full support and participation of USDA agencies and offices. To accomplish this, the Rural Development agencies (RD) have prepared this adaptation strategy that addresses how it is integrating climate change into its programs, policies, and operations. RD's plan is submitted with the intent that it will be included in the Department's response to CEQ. Per D.R. 1070-001, this plan will support USDA's requirement to:

- (1) Analyze how climate change may affect the ability of agencies or offices to achieve their respective mission and its policy, program, and operational objectives by reviewing existing programs, operations, policies, and authorities to: identify potential impacts of climate change on the agency's or office's areas of responsibility; prioritize, implement, and mainstream response actions, contingent on the availability of resources; and continuously assess and improve the capacity to adapt to current and future changes in the climate.
- (2) Identify to the Office of Budget and Program Analysis, under the Office of the Chief Financial Officer, as part of the annual budget process areas where budget adjustments would be necessary in order to carry out the actions identified under this Departmental Regulation and include this information on the Global Change Cross-Cut that is compiled each year;
- (3) Identify, as appropriate, for USDA's Office of the General Counsel areas where legal analysis is needed to carry out actions identified under this Departmental Regulation; and
- (4) Coordinate actions across the Department through USDA's Global Change Task Force, as appropriate.

Policy Framework

RD's mission is to increase economic opportunity and improve the quality of life for all rural Americans. RD's vision is to maximize our program benefits to support a rural America that is a healthy, safe, and prosperous place to live and work.

To assist the country in addressing today's challenges, RD supports the Secretary's Strategic Goals primarily through Goal # 1 *Assisting rural communities to create prosperity so they are self-sustaining, re-populating, and economically thriving* and Goal # 2 *Ensuring our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.*

Particularly relevant are programs that focus on Climate Adaptation planning including:

- Rural Utilities Service
 - o Water and Environmental Programs providing clean and safe drinking water and sanitary water facilities.

Rural Development

- Technical Assistance
- Environmental Water & Waste Studies
- NEPA requirements on all projects
- o Electric Programs provide reliable and affordable electricity to rural areas and have
 - Improvements to and diversification of base-load power generation.
 - Renewable energy at the utility size & scope
 - Energy Efficiency programs
- Rural Business-Cooperative Service
 - o Alternative Energy: The Bio-refinery Assistance Loan Guarantee Program and the Advanced Biofuel Payment Program loan support America's development and use of alternative energies that benefit our country and are good for our environment.
 - o Energy programs, such as the Rural Energy for America Program, help to lower supply chain GHG emissions due to consumer demand and to help agriculture reduce energy costs to provide cash flow for other adaptation strategies needed on operation.
 - o Energy efficiency upgrades to rural business helping to reducing overall energy use to reduce strain of possible high unit energy cost.
 - o Agro Forestry - Wood to Energy project finance modeling which may help to lower the cost of forest restoration work due to increased fire, disease and pest damage
 - o Bio Fuels/Retail Infrastructure for lower GHG fuels to consumers
 - o Bioeconomy Based Products
- Rural Housing Service
 - o Multi-family Housing Energy Efficiency Initiative
 - o Multi-family Housing Portfolio Manager, Capital Needs Assessment/Utility Usage
 - o Energy Independence and Security Act compliance – Impacts Single Family Housing new construction
 - o Climate Action Plan installation of 100MW capacity onsite renewable energy Multi-Family Housing by 2020.
 - o Community Facilities Programs

Vulnerability to Climate Change

RD supports rural communities through loans, loan guarantees, and grants. For some of RD's programs, the agency holds liens or other security interests in facilities and related infrastructure in areas that could be affected by hydrological changes and sea-level rises resulting from impacts such as inundation and erosion. Additionally, many climate change models predict increased frequency and severity of weather events such as tornados and hurricanes, which can damage utility facilities and infrastructure. Climate change therefore represents a risk to these agency assets and the communities they serve. Damage that may occur to such infrastructure and facilities would create an increased demand on RD to respond to requests for financial assistance to repair, replace, relocate or otherwise improve these assets. There is a high confidence level that climate related impacts are now affecting rural communities, regions that are highly dependent on natural resources for their livelihoods and social structures, and that these impacts will progressively increase over time shifting locations of where rural economic activities will thrive. The potential for increased demands on financial resources could divert those resources from normal program operations, impacting RD's ability to achieve its mission and goals. An increase in financial assistance requests could burden all aspects of RD operations, including but not limited to underwriting, engineering, and environmental review activities.

Extreme weather events could also have devastating effects on rural communities as well as RD offices and their personnel stationed throughout the Nation. Events that could damage or destroy facilities and utility infrastructure needed to supply water, electricity, and telecommunications to communities and field

offices could create significant health and safety problems for the public and for RD employees. Additionally, emergency response can be affected by telecommunications failure, including failure of the Federal Communications Commission's Enhanced 911 (E911) system, which is supported by towers and infrastructure financed by RD programs. RD is highly confident that responding to additional challenges from climate change will require significant adaptation of rural transportation and infrastructure systems as well as health and emergency response capabilities.

RD provides support to low-income communities and businesses in rural areas. Rural communities face particular geographic and demographic obstacles in responding to and preparing for climate change risks because of physical isolation, limited economic diversity, higher poverty rates, and aging populations. Assuming current climate change trends continue communities in certain geographic regions that are served by RD will face increased average temperatures, more frequent temperature extremes, and changes in precipitation patterns. Scientists predict the severe heat experienced during summer 2003 in Western Europe, while exceptional for the past century, will be more typical of climate patterns expected in this century. Increased temperatures will likely increase the need for energy efficient homes in low-income communities and an increased demand on power generation capacity, which in turn will create a rise in the number of applications for assistance from residential applicants, electric cooperatives, and rural businesses. Climatic changes will disturb crop yields and modify growing locations, drought conditions may also lead to increased requirements for infrastructure to deliver water to areas that no longer have viable water sources as well as to power generation facilities, which may lead to a greater volume of applications for assistance from RD programs. This increased demand would divert resources from normal program operations, impacting RD's ability to achieve its mission and goals.

The Adaptation Planning and Evaluation Process

Through adaptive planning, RD can respond to potential impacts by conducting or utilizing risk assessments for new facilities and utility systems and determining what existing facilities and utility systems may be located in areas more vulnerable to the effects of climate change. Existing tools and available data can be used to consider the effects climate change may have on a proposed RD action, and can assist in contingency planning for existing assets and the communities they serve.

One example of a tool in development for this type of risk evaluation is the National Oceanic and Atmospheric Administration's (NOAA's) Sea Level Rise Viewer, available at <http://csc.noaa.gov/digitalcoast/tools/slrviewer/>. This is just one example of tools that RD can use to assess risk. As additional tools become more available, RD can use these tools in decision making to evaluate the feasibility of its proposed actions and prepare for potential threats to areas where RD has existing interests. Additionally, RD can expand tools that already exist within the agency. For example, a geographic information system (GIS) program developed by ESRI called "Community Analyst" is currently available through an online portal to a limited number of licenses to RD staff and has the capability for expanded usage and expanded unique RD data sets. Community Analyst can be used to identify a number of community variables in areas impacted by disaster to understand where RD's assets are threatened or impacted. This GIS assessment tool already has a wide range of environmental data layers and it could be expanded to include climate prediction models and to make this information available to RD program staff.

Sustained Adaptation Process

RD has identified five actions related to climate change adaptation that it will initiate in FY 2013, dependent on funding availability, RD leadership approval, and partner support:

Rural Development

Action 1: RD is in the process of rewriting its environmental regulations at 7 CFR 1970, which will include consideration of climate change in the environmental impact analyses it performs on each request for financial assistance. In addition, to ensure that RD programs have tools to consider how to adapt to climate change, RD will review programs and policies – with the assistance of Research, Education, and Economics (REE) mission area as necessary – to assess the extent to which there may be opportunities to improve RD decision making and prepare for and respond to potential impacts from climate change. Opportunities identified will be flagged according to whether they require a change in policy, a regulatory change, or an act of Congress. Changes in policy can be effected in the relatively short term. Regulatory changes will trigger longer term regulatory processes. Issues that require statutory changes can inform Farm Bill discussions.

A summary of information gathered throughout the year and associated recommendations will be provided to RD leadership annually. Questions RD will consider during this review include the following:

- Water, electric, and telecommunications programs: Do policies and regulations for these programs encourage adaptation to address potential effects of climate change? Are there opportunities to improve climate change adaptation considerations in the policies and regulations that define the management of these programs?
- Rural Business and Rural Housing Programs: Is the state of the art science sufficient to identify areas of the Nation where climate change prediction models suggest higher potential impacts from rising temperatures in the near future? If so, do the available data warrant a consideration of proposals for seeking appropriations to expand or supplement these programs in high risk areas to respond to expected increases in applications for energy efficiency and alternative energy improvements as well as retreat/relocation efforts?
- Disaster Response: How quickly can assistance be provided if losses are widespread? How could RD assist the traditional disaster response agencies in responding to widespread disasters? What type of programmatic partnership instruments could RD execute with other agencies and NGOs prior to catastrophic events to be poised to assist partner resources in the event of disaster response requirements?

Action 2: RD will partner with the REE mission area and non –governmental organizations (NGOs) to evaluate decision-support tools that are based on sound state of the art science and their applicability to RD programs. When tools are found to meet these criteria, RD will disseminate data to field offices to facilitate their outreach to program applicants. These data and tools will provide practical resources for both agency decision making and to support applicant due diligence in their application assessment processes.

Action 3: RD periodically, as new information becomes available, will prepare briefings or information packets to educate agency staff on the risks of climate change effects as they apply to specific program areas within RD. RD will continue to conduct “continuity of operations” assessments to better understand the administrative implications of climate change impacts to prepare headquarters, state, and field office staff to respond to events such as failures of borrower systems.

Action 4: RD will review mechanisms for improving climate change adaption, for example: evaluating the potential for integrating alternative energy sources in appropriate RD programs; or seeking ways to develop partnerships among regional water supplies to address drought.

Action 5: Evaluate whether through legislation USDA could pool funds allocated for a specific disaster, which are not expended during response to that disaster, and create a contingency fund for future disasters

or disaster preparedness. If possible, RD will evaluate budgetary methods by which such funds could be used to address climate change related disasters.

Attachment:

Table 1: USDA Rural Development (Rural Housing Service, Rural Business Service, Rural Utilities Service)

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Action Description	Action Goal	Agency Lead	Rick/Opportunity Description	Scale	Timeframe	Implementation Methods	Performance Metrics	Inter-Governmental Coordination	Resource Implications	Challenge/Further Implications	Highlights of Accomplishments to Date
1- Reissue Environment Policy Rule 7 CFR 1970 and evaluate other areas		RD	Highlight Policy Changes to Administration and Congress	National	Early FY 2105						7 CFR 1970 was published in the FR as Proposed Rule on February 4, 2014. Comment deadline April 7, 2014.
2-Partner with REE and NGOs to evaluate decision tools that incorporate sound climate in agency planning		RD	Leverage partnerships to improve climate change adaptation consideration in RD decision making	National	Ongoing						Rural Utility Service adopts Program Energy tool for energy efficiency programs
3-Prepare briefings or information packets to educate staff as new information on climate change becomes available		RD	Educate staff to encourage agency-wide participation in climate change adaptation efforts	Agency-wide	Periodically		Need to be developed	FEMA, USGS, NOAA, USACE			Environmental Briefing and Training for National Office Staff conducted December 2013
4-Review mechanisms for improving climate change adaptation		RD	Seek ways to creative approaches to addressing climate change impacts and improve sustainability	Agency-wide	Ongoing						
		RHS				Program Rule					Implemented USDA Rural Development Multi-Family Housing Energy ¹

	RHS				Program Rule		EPA, HUD, USDA RHS Treasury, DOE			Multi-family Housing Portfolio Manager, Capital Needs Assessment/Utility Usage ²
	RHS				Program Rule		USDA HUD Treasury DOE			Energy Independence and Security Act compliance – increase baseline energy code to IECC 2009 . Affects USDA RHS Single Family Housing new construction ³
	RHS				Program Rule		USDA HUD Treasury			100 MW installed capacity of on-site renewable energy on the collective portfolio of federally-funded multifamily housing by 2020 – part of Climate Action Plan ⁴
	RBS				9000 Series Program Rules					In the last 2 years RBS has helped to assist >4,000 individual producers of renewable energy responsible for generating the equivalent of >20,000,000 Megawatt hours of energy

		RUS				Program Rule						The Energy Efficiency and Conservation Loan Program Final Rule published December 5, 2013 in the FR. Provides funding for energy efficiency upgrades for utilities and end user consumers
5-Use funding flexibilities to be poised to respond to future emergencies		RD	Establish agency emergency responses affecting agency assets and communities served	National	Ongoing							Targeted efforts being tailored to special needs

Notes:

¹The USDA Rural Development Multi-Family Housing Energy Efficiency Initiative

In order to help create a more energy independent rural America for the next century, the USDA Rural Development Multi-Family Housing Energy Efficiency Initiative is enabling Section 515 Rural Rental Housing Program for New Construction, Section 514 Farm Labor Housing Loans and Section 516 Farm Labor Housing Grants for Off-Farm Housing, Section 522 Housing Preservation Grants, and Sections 514, 515 and 516 Multi-Family Housing Revitalization Demonstration Program applicants to increase their eligibility for program funding by incorporating energy-efficient practices into project designs, construction, and operations. An incentive scoring point system rewards projects that commit to energy-efficient building practices, on-site energy generation, and green property management. The initiative began in 2010 and continues today. Projects have been constructed that approach net zero energy consumption, with upwards of 80% of their energy requirements being produced on site with renewable sources such as geothermal heat pumps, solar panels, wood pellet boilers and wind turbines. We expect that this initiative will promote development projects that require a reduced quantity of energy to operate, use energy sources that do not produce greenhouse gases and that have little or no net emissions of greenhouse gases, and are economically viable.

²The Capital Needs Assessment e-tool – White House Rental Policy Working group with USDA, HUD and Treasury

The White House Rental Policy Working group includes two working groups that impact climate adaption. USDA RHS has been actively involved with the working groups on Energy Efficiency and another on the development of a common Capital Needs Assessments online tool (CNA e-tool) for almost two years. The CNA e-tool will facilitate better decision making in design and development of construction and renovation by allowing cost benefit and life cycle cost analysis on utility-consuming equipment and appliances. Multifamily housing owners and developers will be able to see quickly how an upfront investment in a more energy-efficient building component today will be a better choice for tomorrow – both economically and environmentally.

³Energy Independence and Security Act Compliance

USDA RHS has been working with HUD directly on the publication of a notice in the federal register regarding the affordability of bringing the baseline energy code from a current regulatory 1992 code that is out of publication to the International Energy Conservation Code (IECC 2009), which is currently the baseline code in at least 35 states. The publication is imminent and should be in the federal register within the next few weeks. This will allow both agencies to make changes to their regulations and guidance to cite the newer code as baseline. USDA RHS will be continuing to work with the interagency group to produce similar studies of affordability for the adaption of subsequent codes, as the IECC adopts a new code every three years. There is currently an IECC 2012, but it is adopted only in a few states. When that number increases and it is affordable enough to adopt the newer code, it is the goal of the agency to continually stay up to date. This compliance is mandated through the Energy Independence and Security Act of 2007, and affects only Single Family Housing, new construction at USDA, while affecting both single family housing and Multifamily housing at HUD.

⁴Joint Agency Commitment of HUD, Treasury and USDA to 100 Mega Watts of On-Site Renewable Energy on Multifamily Properties by 2020 through the Climate Action Plan

USDA is working with HUD and Treasury to develop strategies to meet the goal of having an installed capacity of 100 Mega Watts on the collective portfolio of federally-funded housing by 2020. Because of USDA's existing efforts in the Multifamily housing program, USDA is already on their way to this goal. Part of the strategy will be to explore collaboration between RHS and RUS with the RUS Energy Efficiency and Conservation Loan Program.