Maryland Commission on Climate Change

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Update to Governor and General Assembly

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Maryland Department of the Environment on behalf of the Maryland Commission on Climate Change

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Introduction

In April of 2007, Governor Martin O'Malley established the Maryland Commission on Climate Change ("Commission") through Executive Order 01.01.2007.07. The order charged the Commission with the task of developing a Climate Action Plan to discuss the drivers and consequences of climate change, necessary preparations for its ensuing impacts on the State, and establish firm benchmarks and timetables for policy implementation. Secretary Shari Wilson of the Maryland Department of the Environment (MDE) chairs the Commission. The Climate Action Plan ("Plan") was completed and submitted to the Governor and General Assembly in August of 2008.

The Plan includes an integrated climate impact assessment prepared by the Commission's Scientific and Technical Working Group (STWG). The STWG's assessment recognizes how human activities such as coastal development, burning fossil fuels, and increasing greenhouse gas (GHG) emissions are contributing to the causes and consequences of climate change. It stresses the precarious position in which Maryland is poised regarding the impacts of climate change; with its extensive amount of coastline, Maryland is particularly vulnerable to sea level rise caused by climate change, and related issues such as shore erosion, coastal flooding, storm surge, and inundation. At the Plan's core is a suite of 61 policy options developed by the Greenhouse Gas and Carbon Mitigation Working Group (MWG) and the Adaptation and Response Working Group (ARWG). Of the policies that were selected for the final Plan, 42 come from the MWG, which focused on ways to mitigate GHG emissions. These mitigation measures covered the wide range of fields where greenhouse gas emissions can be reduced and/or carbon can be sequestered, such as energy supply, transportation, and agriculture, forestry and waste. The other 19 policies were developed by the ARWG and deal with responding and adapting to the impacts of climate change, such as sea level rise.

One of the Commission's policy recommendations from the MWG was to set a GHG reduction goal of 25% by 2020 from a 2006 baseline. This exact goal was then codified into law during the 2009 Legislative Session when the Maryland General Assembly passed the Greenhouse Gas Emissions Reduction Act of 2009 (GGRA). It

states that by 2011 Maryland Department of the Environment (MDE) must develop a statewide greenhouse gas (GHG) inventory, a "business as usual" emissions projection for 2020, and a proposed GHG emission reduction plan for public comment. By 2012, Maryland must adopt a final GHG emission reduction plan that includes regulations and a timeline to implement necessary programs. This plan must also ensure no loss of manufacturing jobs, opportunities for new "green" jobs, and no adverse impact on the reliability and affordability of electricity. In 2015 the Commission/MDE must then submit a report assessing progress towards the 25 percent reduction goal, benefits to the State's economy, public health, and the environment, any need for further reductions, and the status, and the status of any federal GHG reduction program. Finally, in 2016, the Legislature will determine whether to continue, adjust, or eliminate the requirement to achieve a 25 percent reduction by 2020.

In order to meet the reduction goal mandated by the GGRA, the State will implement a number of measures from the suite policy options in the Climate Action Plan. Responsibility for the implementation has been divided among the appropriate State agencies: the Department of Natural Resources (DNR), Maryland Department of Transportation (MDOT), Maryland Energy Administration (MEA), the Department of Housing and Community Development (DHCD), Maryland Insurance Administration (MIA), Maryland Department of Agriculture (MDA), the Department of Business and Economic Development (DBED), the Public Service Commission (PSC), and Maryland Department of the Environment (MDE) leading on certain policies as well as continuing to oversee the process. Agencies meet on a monthly basis at "Interagency Climate Change-Sustainability Meetings" to report on progress being made on their respective climate change policies and discuss relevant issues.

During the summer of 2009, agencies worked on refining policy language which was then brought before the Commission at its September 2009 meeting. Agencies have also taken steps independently to ensure that GHG reduction policies are thoroughly developed. MDE, MIA, MDA, and DNR have held stakeholder processes to gather public input and answer questions on the implications of the Commission-recommended policies. MDOT, which was designated as lead agency for six policy options, worked with a contractor to produce a report that provides the latest information on land use

patterns, public transportation, Pay-As-You-Drive Insurance, transportation technologies, and emission predictions in the transportation sector. DNR moved closer to its implementation goals during the 2009 Legislative Session, when the State passed the Sustainable Forestry Act and the No Net-Loss- Forest Conservation Act. Both of these bills are closely related to many of the Commission's agriculture and forestry-related policies. Below are tables that summarize such progress and agency actions for the both the MWG and the ARWG policies during 2009.

2009 Implementation Progress Report: Mitigation Work Group

Policy Number	Policy Name	Lead Agency	2009 Implementation Progress
CC-1	GHG Inventory & Forecasting	MDE	MDE has begun review of CCS inventory, as well other methodologies (EIA and EPA).
CC-2	GHG Report & Registry	MDE	MDE has been working on getting 2008 data certified by ISO/ANSI-certified verification body and accepted by The Climate Registry.
CC-3	Statewide GHG Reduction Goals & Targets	MDE	GGRA was signed into law establishing goals & targets; MDE has begun holding stakeholder and lead agency meetings.
CC-4	State & Local Government Lead-by-Example	MDE	Draft Executive Order on "Green Purchasing Policy" submitted to the Governor.
CC-5	Public Education & Outreach	MDE	MDE in co-operation with Education continues to provide outreach while limited by current budget constraints.
CC-7	Review Institutional Capacity	Commission	MDE has been coordinating the Governor's effort to track climate change efforts through the GDU process.
CC-8	Participate in Regional, Multi-State & National Efforts	MDE	MDE has been involved in RGGI and NACAA efforts to reduce greenhouse gas (GHG) emissions; as well as providing comments on pending federal legislation.
CC-9	Promote Economic Development Activities	DBED	DBED has created a new Green Job Creation and Retention group.
CC-10	"After Peak Oil"	MEA	MEA published the Maryland Energy Outlook.
CC-11	Public Health Risks	DHCD	DHCD continues to evaluate the risks associated with climate change.
RCI-1	Improved Building and Trade Codes and Beyond-Code Building Design and Construction	DHCD	Reviewed codes published by the International Code Council for adoption into the Maryland Building Performance Standards, initiated the Maryland regulation process, submitted proposed regulations to adopt the new codes in Maryland through Administrative Executive Legislative Review Committee; and conducted MBPS statewide training.

RCI-2	Demand-Side Management & Energy Efficiency	MEA	Received approval of 2010 fund budget plan, identified supplementary budget requirements, drafted a report on Maryland's Energy Supply and Demand Outlook, and hosted a public meeting to discuss viable options associated with enhancing Maryland's ability to achieve its stated energy goals.
RCI-3	Low-Cost Loans for Energy Efficiency	MEA	Coordinated with the Public Service Commission on implementation, monitoring, and tracking, identified supplementary budget requirements, identified potential loan recipients for fiscal year 2010, developed residential/commercial loan strategies, and integrated efforts into the Comprehensive Energy Plan.
RCI-4	Government Lead-by-Example	MDE	Implemented the Baltimore Green Building Law, held state agency meetings to discuss regulatory changes, issued an annual report to the Governor, provided recommendations on adopting 2009 International Energy Conservation Code, re-opened the Cherrydale Apartments which were renovated to meet Enterprise Green Communities Criteria for affordable housing, held green building network public meetings to discuss Maryland green building and development projects, supported the Truxtun Park Recreation Center, which was constructed with "green" building techniques and materials, with a Program Open Space Grant, and held information meetings on Baltimore's new processes for preserving open spaces managed by communities.
RCI-7	More Stringent Appliance/Equipment Efficiency Standards	MEA	Identified supplementary budget requirements, identified appliances without federal energy efficiency standards, reviewed appliance standards to make recommendations, and integrated efforts into the Comprehensive Energy Plan.
RCI-10	Energy Efficiency Resource Standard	MEA	Identified supplementary budget requirements, reviewed Energy Efficiency Resource Standard approaches and their relation to Empower Maryland, and integrated these efforts into the Comprehensive Energy Plan.
RCI-11	Promotion and Incentives for Energy-Efficient Lighting	MEA	Identified supplementary budget requirements, and received approval from the Public Service Commission for residential lighting programs, developed MEA marketing campaign(s) funded by the Strategic Energy Investment Fund, and integrated efforts into the Comprehensive Energy Plan.

ES-1	Promotion of Renewable Energy Resources	MEA	MEA has reviewed the barriers/incentives of renewable generation and has integrated potential actions into the Comprehensive Energy Plan.
ES-2	Technology-focused Initiatives for Electricity Supply	MEA	MEA has reviewed approaches and legislative/policy issues with technology-focused initiatives for electricity supply.
ES-3	Cap and Trade	MDE	MDE continues to participate in RGGI through the sixth auction and has completed and made publically available offset project applications and guidance documents.
ES-5	Clean Distributed Generation	MEA	MEA has reviewed approaches and legislative/policy issues with clean distributed generation and has integrated potential actions into the Comprehensive Energy Plan.
ES-6	Integrated Resource Planning	PSC	PSC has investigated the implementation of a statewide Climate Protection Program and continues to partner with utilities to participate in regional projects to help inform common protocols and methodologies for evaluating the energy savings and demand reductions of demand-side management programs and determine appropriate cost-recovery for the utility's 2009-2011 EmPOWER Maryland programs.
ES-7	Renewable Portfolio Standard (RPS)	PSC	PSC has developed a more streamlined certification process for Renewable Energy Certificates (REC) and continues to both monitor and enforce Load Service Entity (LSE) compliance with the Maryland RPS and certify large numbers of solar facilities to participate in the RPS market.
ES-8	Efficiency Improvements and Repowering Existing Plants	MEA	MEA has reviewed the barriers/incentives of renewable generation, integrated potential actions into the Comprehensive Energy Plan, and continues to work towards the 2014 goal of the policy.
ES-10	Generation Portfolio Standard	MDE	As per the Commission's preference, MDE has deferred state action pending the adoption of a national GPS.

AFW-1	Forest Management for Enhanced Carbon Sequestration	DNR	Established Forestry Subcommittee of NRCS State Technical Committee to advise on forestry policy related to NRCS programming, worked with the Center for AgroEcology to hold several listening sessions regarding the future of forestry in Maryland, surveyed Emerald Ash Borer populations which revealed no expansion of known EAB populations and no new infestations, completed gypsy moth eradication efforts, drafted legislation to amend the NRA 5-304 Woodland Incentive Fund to allow use with federal cost-share programs, and drafted Forest Products Operators (FPO) legislation.
AFW-2	Managing Urban Trees and Forests	DNR	Implemented the Sustainable Forestry Act of 2009 and the No-Net-Loss of Forest legislation, received urban tree canopy assessments, and reported results of "Marylanders Plant Trees."
AFW-3	Afforestation, Reforestation and Restoration of Forests and Wetlands	DNR	Submitted United States Forest Service (USFS) grant to continue development of BayBank and associated LandServer, held meetings with local governments to refine local policies towards establishment, expansion and protection of riparian zones and wetlands, and reported afforestation and buffer planting accomplishments.
AFW-4	Protection and Conservation of Agricultural Land, Coastal Wetlands and Forested Land	MDA	DNR launched the GreenPrint website as an interactive tool to map ecological land conservation priorities and track accomplishment of State funded land conservation programs, updated the Statewide Green Infrastructure Assessment to produce forest and wetland prioritization, drafted Blue Infrastructure maps that identify and prioritize important coastal and aquatic habitats to resource managers.
AFW-5	Buy-Local Program	MDA	Launched www.marylandsbest.net site to list Maryland farms that produce non-commodity products and sources of Maryland agricultural products, executed promotional and educational campaigns to increase consumption of locally-grown fruits and vegetables to combat childhood obesity, updated regular newsletter and website with expanded resources for farmers, food service staff, teachers, parents, students and the public, held the first annual Maryland Farm to School Workshop, and assisted in the Maryland Home Grown Lunch Week in which schools throughout Maryland feature food items from more than 30 different Maryland farms.

AFW-6	Expanded Use of Forest and Farm Feedstocks and By-Products for Energy Production	DNR	Assisted several entities with wood energy: University of MD; Baltimore Zoo; forest industry on Lower Shore, continued partnership with MES for contracted technical expertise in advising MES clients on developing wood energy facilities, pursued use of MEA funds to incent wood energy projects for public facilities, continued discussions with major corporations for underwriting Fuels for Schools pilot in western Maryland, and explored opportunities with MDSE for pilot Fuels for Schools demonstration project, likely in Baltimore or Howard Counties.
AFW-7	In-State Liquid Biofuels Production	MEA	Identified supplementary budget requirement, reviewed current biofuel capacities, needs, and issues, identified potential new and expanded production facilities designed to match local distribution with demand, completed data-gathering on demand, production, and local consumption, and integrated efforts into the Comprehensive Energy Plan.
AFW-8	Nutrient Trading with Carbon Benefits	MDA	Encouraged the addition of carbon credits to the Upper Chesapeake Bay nutrient trading program through the development of Maryland's Nutrient Trading Calculation Tool.
AFW-9	Waste Management through Source Reduction and Advanced Recycling	MDE	Implemented SB 473/ GB 1290 Recycling – Public School Plans and 1263 Mercury Switch Removal From Vehicles, held conference calls and meetings on the proper disposal of pharmaceuticals, held conference calls and meetings with the Association of State and Territorial Solid Waste Management Officials Product Stewardship Task Force to increase awareness Product Stewardship and discuss the policy document.
TLU-2	Land Use & Location Efficiency	MDOT	MDOT has completed a draft report (2006 baseline and 2020 forecast) and it is under review.
TLU-3	Transit	MDOT	MDOT has completed a draft implementation plan which under review, funding being the critical question.
TLU-5	Intercity Travel	MDOT	MDOT has completed a draft implementation plan which under review, funding being the critical question.
TLU-6	Pay-As-You-Drive Insurance	MIA	MIA continues to work at adding additional companies to provide PAYD insurance.

TLU-8	Bike & Pedestrian Infrastructure	MDOT	MDOT has completed a draft implementation plan which under review, funding being the critical question (see Appendice C for more information).
TLU-9	Incentive, Pricing & Resource Measures	MDOT	MDOT has completed a draft implementation plan which under review, funding being the critical question (see Appendice C for more information).
TLU-10	Transportation Technology	MDOT	MDOT/MDE continues to review emerging technologies and opportunities for reduced ghg emissions due to technology improvements (see Appendice C for more information).
TLU-11	Evaluate GHG from Major Projects	MDOT	MDOT has completed a draft implementation plan which under review, funding being the critical question (see Appendice C for more information).

2009 Implementation Progress Report: Adaptation and Response Work Group

Policy Number	Policy Name	Lead Agency	2009 Implementation Progress
ARWG-1	Public Awareness, Outreach, Training & Capacity Building	DNR	Hosted workshops on "Living Shorelines" and "Communicating the Climate Change Message to Various Audiences", launched Smart Green & Growing website, and kicked off *Coast-Smart* Communities Initiative at the "Building *Coast-Smart* Communities" Interactive Summit.
ARWG-2	Local Government Planning Guidance	DNR	Completed level rise guidance documents for Worcester, Somerset and Dorchester Counties, kicked off *Coast-Smart* Communities Initiative at the "Building *Coast-Smart* Communities" Interactive Summit, and issued and received responses to an RFP for the Coastal Communities Initiative competitive grant program .
ARWG-3	Future Adaptation Strategy Development	U of MD	*Global Climate Change Impacts in the United States* and *Climate Change and the Chesapeake Bay* reports were released (Commission's Scientific and Technical Working Group participated in both), draft Report on Chesapeake Bay Watershed Climate Change Impacts was released, and Maryland signed on to the Mid-Atlantic Regional Council on the Ocean (MARCO to prepare regional coastal communities for climate change impacts. The University of Maryland Center for Environmental Science and DNR formed six sector-based adaptation work groups (water resources, agriculture, bay & aquatic ecosystems, forest & terrestrial ecosystems, human health, and growth & infrastructure) in December 2009. The work groups are charged with developing sector-based adaptation strategies by June 2010.
FBEI-1A	Integrated Planning - State	DNR	Formed workgroup to identify "lead by example" opportunities in planning and design of coastal infrastructure on State properties, held interagency meetings to discuss sea level rise planning integration, participated in meetings of State's Smart Growth subgroups and MDP to promote inclusion of sea level rise and coastal hazard planning objectives in Smart Growth activities.

FBEI-1B	Integrated Planning - Local	DNR	Launched *Coast-Smart* Communities Initiative at the Building *Coast-Smart* Communities" Interactive Summit to assist coastal communities with adaptation planning by providing dedicated technical and financial resources and awarded *Coast-Smart* Communities grants to City of Annapolis, Anne Arundel County, Caroline County and the Town of Queenstown.
FBEI-2	Adaptation-Stat	DNR	Undertook the development and implementation of a system of performance measures to track Maryland's success at reducing its vulnerability to climate change and sea level rise through identification by lead agencies of seven Adaptation Policy Options for measurement and tracking by the Governor's Delivery Unit and through the development of work plans for each Option.
FBEI-5	Climate Change Insurance Advisory Committee	MIA	The Climate Change Insurance Advisory Committee, established by the Maryland Insurance Commissioner to advise the State of the risks that climate change poses to the availability and affordability of insurance, drafted an outline of its final report.
FBEI-6	GIS Mapping, Modeling and Monitoring	DNR	Developed and released MD iMap to State and local governments, completed pilot project mapping of updated critical area boundaries for Baltimore and Talbot Counties, completed sea level rise vulnerability mapping based on land elevation for all but three areas: Harford County, Baltimore City, and Prince George's County, and signed Scope of Work contract with MES to develop Shorelines Online mapper on the MD iMap.
FBEI-8	Economic Development Initiative	DBED	Continued to consider implementation measures for this policy recommendation to promote market opportunities related to climate change adaptation and response, which is being implemented in coordination with the Commission's Mitigation Working Group (MWG) policy option CC-9, aimed at promoting economic development opportunities associated with reducing greenhouse gas emissions in Maryland.

EBEI-2	Integrated Observation Systems	DNR	Released draft report on *Chesapeake Bay Watershed Climate Change Impacts,* which included key recommendations related to integrated observations systems, and continued to meet with NOAA, EPA, U.S. Army Corps and U.S.G.S. partners to enhance coordination of federal, state, local, and regional observation systems to improve the detection of biological, physical, and chemical responses to climate change and sea level rise.
EBEI-3	Adaptation of Vulnerable Coastal Infrastructure	DNR	Completed mapping of sea level rise (SLR) vulnerability areas for 0-2 ft rise, 2-5 ft rise, and 5-10 ft rise, continued updating to iMap platform, and partnered with Worcester, Dorchester, and Somerset Counties to develop planning guidance for SLR, including identification of vulnerable public and private infrastructure and recommendations for adaptation measures (protect, retreat, abandon).
FBEI-8	Building Codes	DHCD	Completed review of the 2009 International Building Code (IBC), 2009 International Residential Code (IRC) and 2009 International Energy Conservation Code (IECC) and submitted proposed implementing regulations to AELR for adoption into the Maryland Building Performance Standards (MBPS), participated in the 2009 ICC Annual Conference and Codes Development Hearings, and conducted MBPS statewide training.
EBEI-10	Disclosure	DHCD	Worked with DNR to design and implement the policy recommendation for a disclosure statement to inform prospective coastal property purchasers of potential impacts of climate change and sea level rise on the property being transferred, recognizing that a thoughtful, measured approach that includes stakeholder input, legal consultation and possible new legislation is needed to avoid undue harm to economic interests in vulnerable coastal areas.
RRI-1	Natural Resource Protection Areas	DNR	Launched GreenPrint interactive website to map ecological land conservation priorities and track accomplishment of State funded land conservation programs, completed Phase I rollout of Blue Infrastructure identifying near-shore aquatic conservation targets, and began work on NOAA's Coastal Land Conservation in Maryland project.

RRI-2	Forest and Wetland Protection	DNR	Completed mapping of sea level rise vulnerability areas for 0-2 ft rise, 2-5 ft rise, and 5-10 ft rise, continued updating to iMap platform, and partnered with Worcester, Dorchester, and Somerset Counties to develop planning guidance for SLR, in furtherance of policy recommendation to retain and expand forests and wetlands in areas suitable for long-term survival.
RRI-3	Shoreline and Buffer Area Management	DNR	Jointly with MDE, developed and adopted final regulations to implement the Living Shoreline Protection Act of 2008, hosted a living shorelines workshop series for homeowners in Worcester, Somerset, Calvert, Charles, Kent, St. Mary's Counties and at Washington College, held the first session in a living shorelines training series for marine contracting professionals, and developed the Living Shoreline Suitability Tool for Calvert, Somerset, and Worcester Counties.
RRI-4	Resource-Based Economic Initiative	DBED	DNR worked to identify and secure appropriate funding or staff to develop and implement long-range plans to minimize the economic impacts of sea level rise to natural resource-based industries (fisheries, forestry, aquatic, and agriculture).
HHSW-1	Health Impact Assessments	DHMH	Continued to consider implementation measures for this policy recommendation to evaluate the public health consequences of climate change and sea level rise-related projects and/or policies, in coordination with MWG policy option CC-11, which recommends the evaluation of climate change policy options to determine projected public health risks, costs, and/or benefits.
HHSW-2	Inter-Agency Coordination	DHMH	Continued to consider implementation measures for this policy recommendation to strengthen coordination and management across agencies responsible for human health and safety.
HHSW-9	Vector-borne Surveillance and Control	DHMH	Continued to consider implementation measures for this policy recommendation to develop a coordinated plan to assure adequacy of vector-borne surveillance and control programs.