



MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Martin O'Malley
Governor

Shari T. Wilson
Secretary

Anthony G. Brown
Lt. Governor

Robert M. Summers Ph.D.
Deputy Secretary

DATE: September 21, 2009
TO: Maryland CO₂ Budget Trading Program Stakeholder Meeting
SUBJECT: 1:00 p.m. Aeris, Aqua and Terra Conference Rooms, 1st Floor MDE

DRAFT AGENDA

Welcome	MDE/MEA	5 min
Review of RGGI Auctions	MDE	20 min
RGGI Offsets and Early Reduction Actions	MDE	15 min
Review of RGGI Set-aside Activity	MDE	10 min
RGGI 2012 Review and MD 2010 Review	MDE	20 min
Strategic Energy Investment Fund	MEA	60 min
Floor Open for Stakeholder Discussion	All	45 min
Closing remarks	MDE/MEA	5 min





Department of the Environment

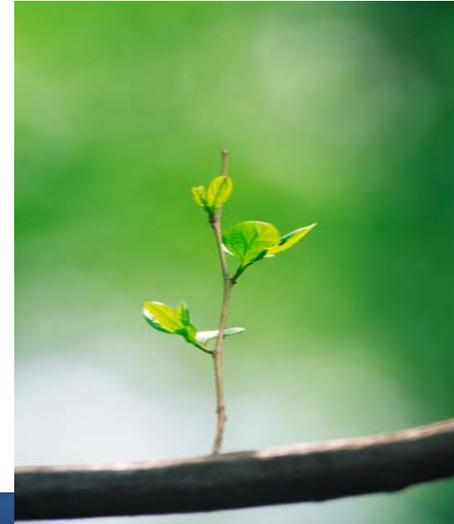
Auction Bidder Feedback

Diane Franks Program Manager
Air Quality Planning Program
RGGI Stakeholder Meeting
September 21, 2009



Discussion Topics

- Auction
- Forms
- Bidder Training
- COATS



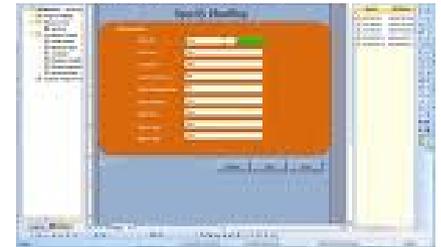
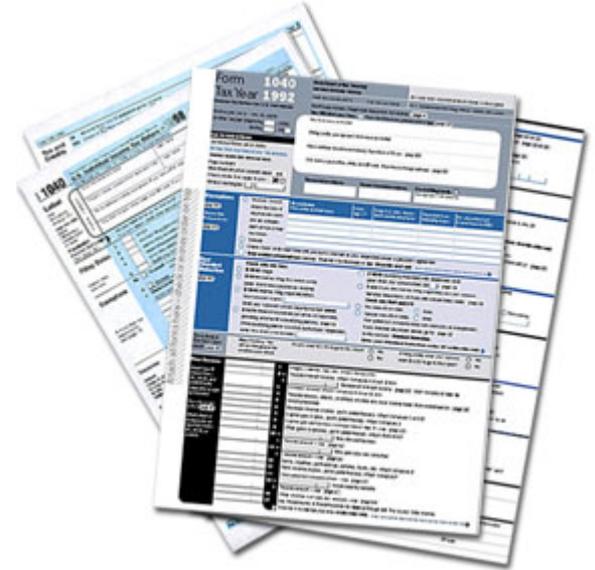
Discussion Topic 1 - Auction

- What can be done to improve the auction bidder process?
- Overall, how easy was it to become approved to bid in an RGGI auction?
- Do you feel that there is enough time to complete the bidder application process?



Discussion Topic 2 - Forms

- How do you feel about the current submittal process:
 - Electronic vs. paper-based forms?
 - Notarization requirements?
- Are the forms user-friendly?
Ex. LOC/Bond
- What are your comments on disclosing bidding and corporate associations?





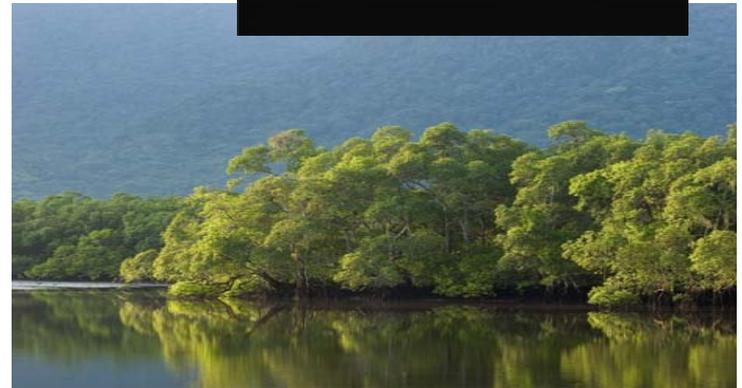
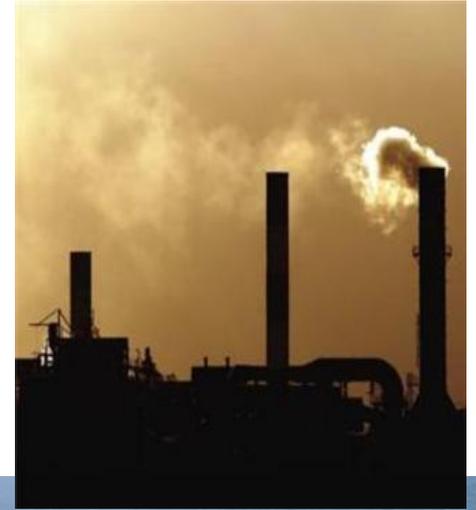
Discussion Topic 3 - Bidder Training

- Do the Bidder Training Webinars meet your needs?
- Are there suggestions for improvements?



Discussion Topic 4 - COATS

- What are your overall impressions of COATS?
- Do you find COATS easy to use:
 - Web guidance docs?
 - PQA?
- Are there any other issues with COATS?



Questions?





Department of the Environment

Maryland CO₂ Budget Trading Program

Offsets and Early Reduction Allowances



Air Quality Planning Program

September 21, 2009



- Offset options
- Verification
- RGGI offset status
- Maryland offset status
- Federal Impacts
- Early Reduction Allowances (ERA)



Offset Options

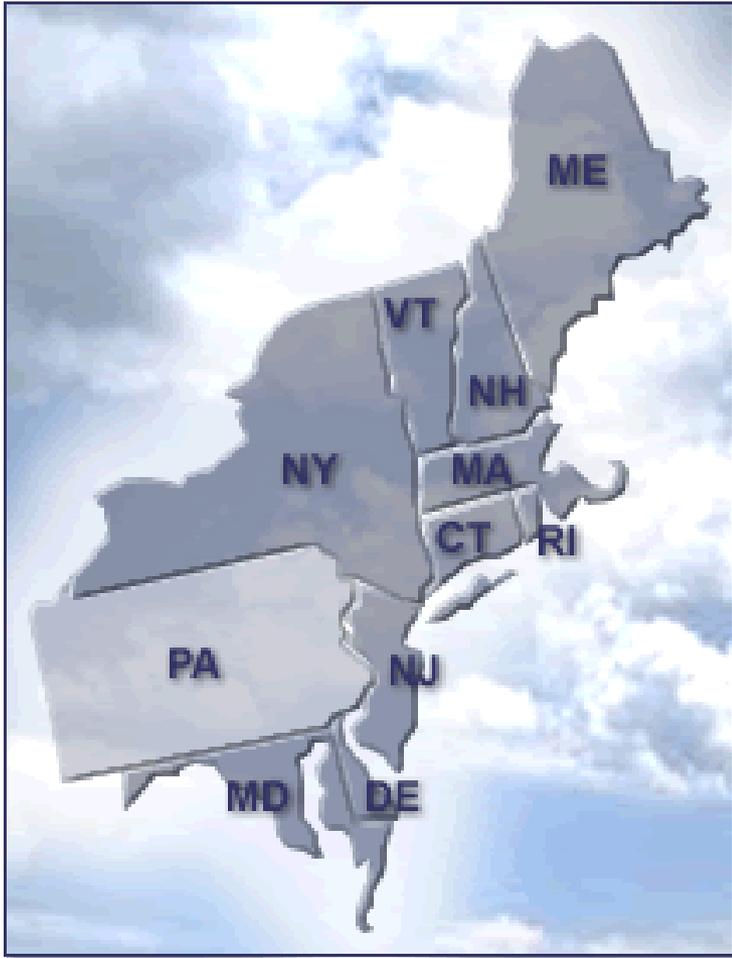


- Landfill Methane Capture and Destruction
- Reduction in Emissions of Sulfur Hexafluoride (SF₆)
- Sequestration of Carbon due to Afforestation
- Reduction or Avoidance of CO₂ Emissions from Natural Gas, Oil, or Propane End-Use Combustion due to End-Use Energy Efficiency
- Avoided Methane Emissions from Agricultural Manure Management Operations

Verification

- Third-party verification required
- Independent verification reciprocity
- Independent experts verify that claimed CO₂ emissions offsets conform to RGGI requirements

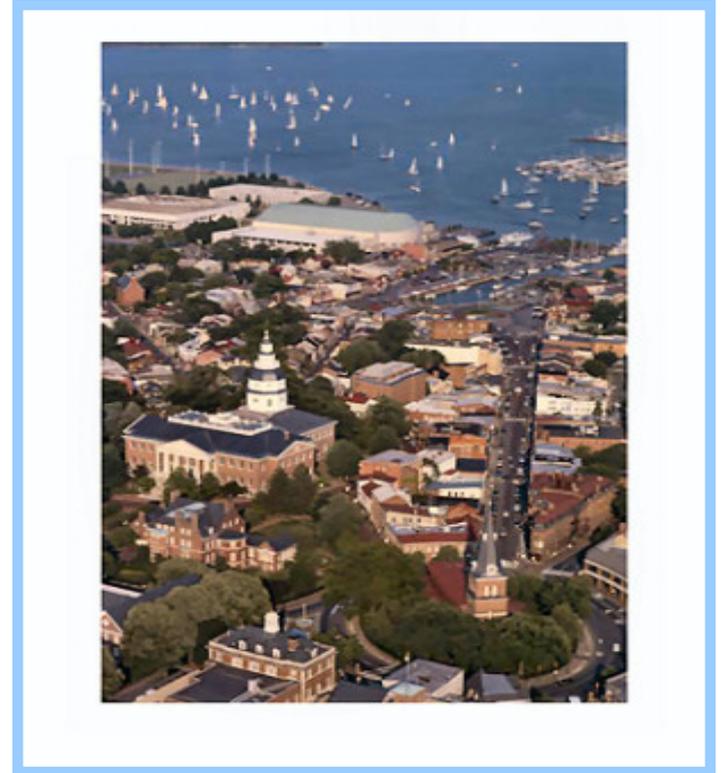




- ICF International developed technical guidance for each offset option
 - Cooperative review of all documents
- Two applications received to date
 - Massachusetts
 - New York

Maryland

- Maryland-specific applications and technical guidance developed
- Cooperation with appropriate regulatory agencies
 - DNR-Forestry – Afforestation
 - MDA – Agricultural Methane
 - MEA – Building Energy
 - MDE Land Program & Air and Radiation Permits – Landfill Methane
- No applications received yet in Maryland



Federal Impacts

- Waxman-Markey Bill
- Federal program will preempt any Maryland or RGGI offset
- To receive an offset credit a project will have to go through a process established by the EPA
- USDA will establish which projects are eligible for generating domestic offsets



Early Reduction Allowances (ERA)

- COMAR 26.09.02.05(C)
- Regulations are virtually identical throughout RGGI states.
 - Includes specific methodology
- CO₂ budget source must account for all CO₂ budget units at the same facility.
- Compare total heat input between baseline period (2003-05) and early reduction period (2006-08).
- If total heat input increases or is equal, ERA would be based on the reduced amount of CO₂.
- If total heat input decreases, the ERA is calculated based on a defined formula.

Early Reduction Allowances (ERA)



- RGGI received 18 applications
- 7 of 10 states received applications
- 2.3 million tons of ERAs requested regionally

Early Reduction Allowances (ERA)

- Two applicants in MD
 - Mirant Chalk Point
 - AES Warrior Run
- Both had decreases in total heat input.
- MD ERAs account for approximately 20% of regional total.



Questions?





Department of the Environment

The Regional Greenhouse Gas Initiative's 2012 Review



Renee Fizer
Air Quality Planning
September 21, 2009





Regional Greenhouse Gas Initiative

- Background of MOU requirements
- Program Success
- Program Impacts
- Additional Reductions
- Imports and Emissions Leakage
- Offsets



MOU Background



- The Regional Greenhouse Gas Initiative's (RGGI) Memorandum of Understanding
 - Requirement for a Comprehensive Review
 - Must be initiated in 2012
 - Includes all Signatory States
 - Include all components of the RGGI Program

MOU Background

- Review will include:
 - Program Success
 - Program Impacts
 - Additional Reductions
 - Imports and Emissions Leakage
 - Offsets
- Review can be expanded



Program Success

- “The Signatory States will review whether the Program has been successful in meeting its goals.”
- RGGI’s overall goal:
 - Legislative/regulatory approval of a CO₂ Budget Trading Program to stabilize and then reduce CO₂ emissions w/in the Signatory States
 - Implement a regional CO₂ emissions budget and allowance trading program
 - Regulate CO₂ emissions from fossil fuel-fired electricity generating units having a rated capacity at least 25 megawatts



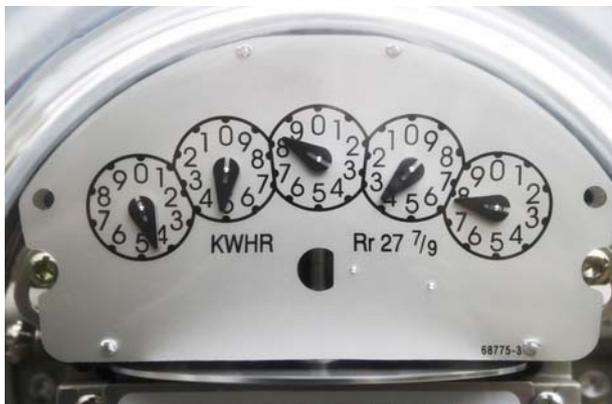
Program Success

- Review could include:
 - Economic review of auctions, including market monitoring
 - Reports by RGGI contractors
 - Outside analyses
 - Review of futures market, with CFTC input
 - Signatory State reports
 - Lessons learned
 - State programs
 - Review of COATS system



Program Impacts

- “The Signatory States will review the impacts of the Program as to price and system reliability.”
- Reliability requirement in MOU
 - Maintain a reliable regional electrical system
 - Monitor on an ongoing basis
 - No interruptions in electricity supply



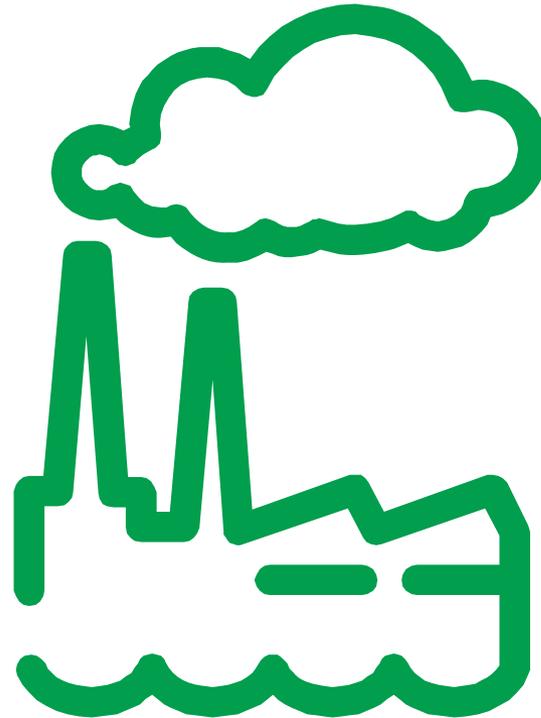
Program Impacts

- Review could include:
 - Signatory States energy agencies
 - Impact on in-state electricity production and reliability
 - Renewable energy
 - NE-ISO, NY-ISO, PJM
 - NERC/FERC
 - Ratepayer impacts



Additional Reductions

- “The Signatory States will consider whether additional reductions after 2018 should be implemented.”
- MOU includes:
 - Regional Cap
 - State apportionments
 - Reduction schedule
 - Status of federal program
 - Expansion of RGGI



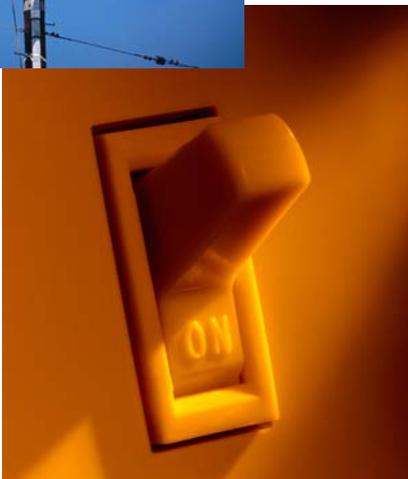
Additional Reductions

- Review could include:
 - Effect of Early Reduction Allowances
 - Impact of Federal Programs
 - Effect/expansion of fuel-switching
 - Evaluate R&D/alternative technologies
 - EE/DSM/DG in Signatory States
 - If no federal program, expanded C&T
 - Ratepayer costs
 - Reliability



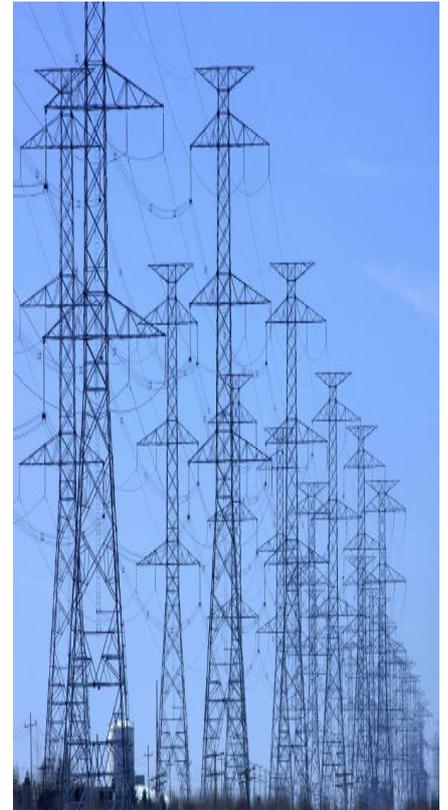
Imports and Emissions Leakage

- “The Signatory States will consider the effectiveness of any measures put in place to control emissions leakage.”
- MOU multi-state working group:
 - Conclusions December 2007
 - Implement actions by Jan 2009
 - Monitor imports starting Jan 2009 and report annually starting 2010.
 - After 2011, determine leakage increase



Imports and Emissions Leakage

- Review could include:
 - PJM GATS, NY-ISO, NE-ISO GIS evaluation
 - Outside review of leakage
 - Evaluate
 - Energy and CO₂ allowance prices
 - Reliability
 - Economic impact on ratepayers and the Signatory States
 - Review annual RGGI leakage reports

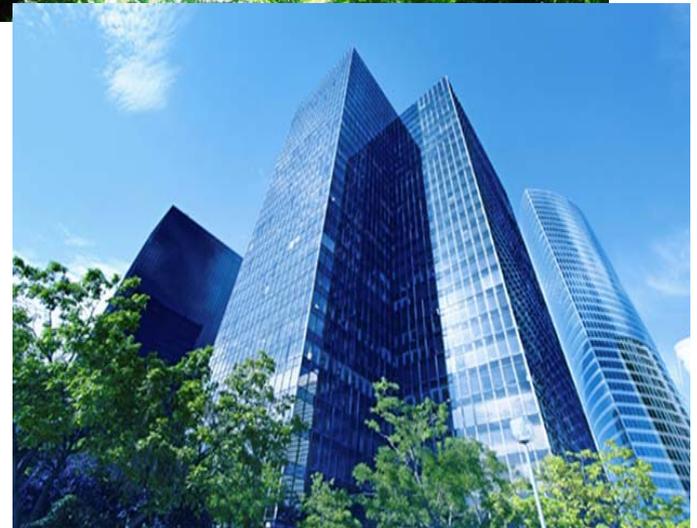


Offsets



- “The Signatory States will evaluate the offsets component of the Program, with attention to price, availability, and environmental integrity, and recommend whether changes to the Program are warranted.”
- MOU Offsets:
 - Eligibility, initial offsets types, additional offsets, geographic limits, and allowance use limits.
 - Offset Triggers
 - Safety Valve Offsets Trigger

- Review could include:
 - Expanded offsets types (UTC, SMR)
 - Reports by RGGI offset contractors
 - Comparison to other offset programs
 - Economic benefit for state/region
 - Offset allowance use
 - Offset allowance awards





Questions?



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Department of the Environment

Maryland CO₂ Budget Trading Program

2010 Review



Air Quality Planning Program

September 21, 2009



Summary

- On April 20th 2007, Maryland officially became a member of RGGI
- Regulations in place
 - COMAR 26.09, MD CO₂ Budget Trading Program
 - Cap-n-trade Rule, July 17, 2008
 - Auction Rule, August 25, 2008
 - Amendment 1, May 19, 2009
 - An iterative process
- Participation in all 5 auctions to date
 - VY09 allowances: 26,658,909
 - VY12 allowances: 1,199,652
 - Total \$: 84,793,984



COMAR 26.09.02.02(E)

“By September 1, 2010, the Department shall evaluate implementation of this subtitle and shall pursue revision of the regulations in the subtitle as appropriate. The Department shall evaluate elements of this subtitle such as the allocation for auction and for purchase by CO₂ budget units as well as review the performance of the regional program, including the auction. If the subtitle has not been implemented in full by January 1, 2009, the Department may delay review until the year following full implementation.”

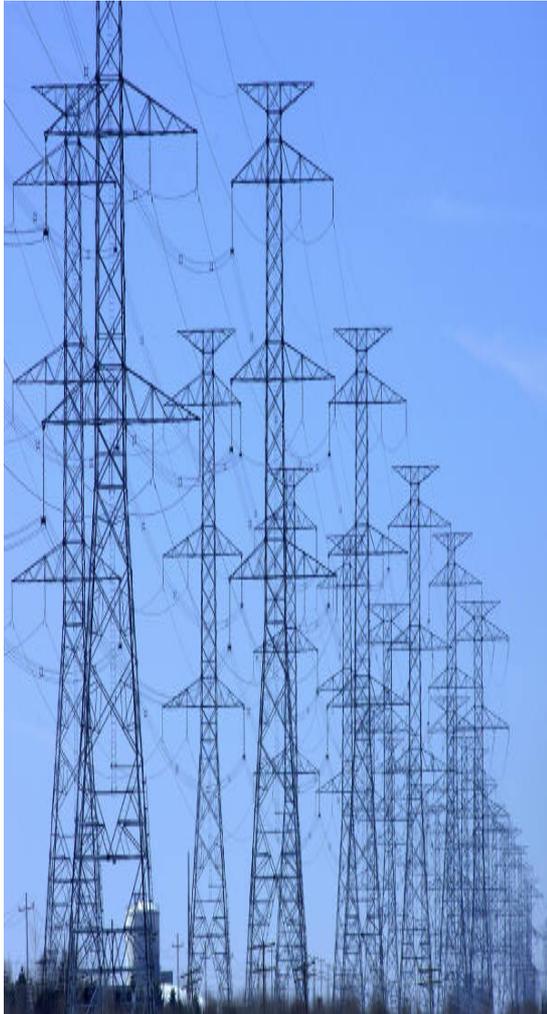


Elements for review

- Auction
- Allocation of allowances
- Set-asides
- Offsets
- CO₂ Monitoring and Recordkeeping
- RGGI Process



Auctions



- Platform
- Regional vs state
- Quarterly auctions
- Number of allowances
 - Current vintage year
 - Futures
- Federal Impacts

Allocation of Allowances

- State Apportionment (37,503,983)
- \$7 Trigger
- Consumer Energy Efficiency Account
- Allocation to Set-asides



Set-aside Accounts

- Limited Industrial Set-aside Account
- Long Term Contract Set-aside Account
- Voluntary Renewable Set-aside Account
- Clean Generation Set-aside Account
- Additional?



MD RGGI Offsets

- MD applications and technical guidance
- Independent Verification Reciprocity
- Cooperative RGGI review
- Federal Impacts



Monitoring & Recordkeeping

- Data in CAMD and COATS
- Reporting criteria
- Calculation vs monitor
- Use of data



RGGI Process



- COATS
- Expansion
- Additional Offsets
- RGGI Cap
- Federal Impacts

Questions?





Department of the Environment

MD CO₂ Budget Trading Program's Set-aside Accounts



Air and Radiation Management Administration

September 21, 2009



Topics Covered

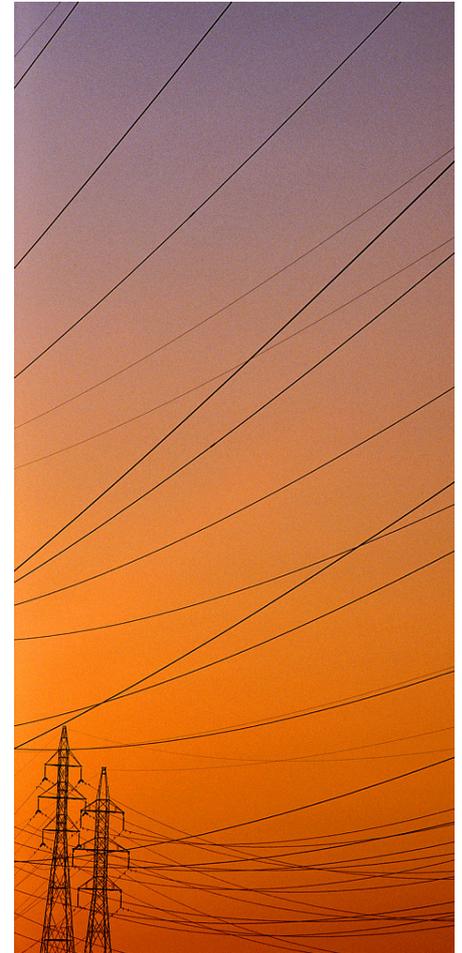
- Limited Industrial Exemption (LIE) Set-aside Account
- Long Term Contract (LTC) Set-aside Account
- Clean Generation Set-aside Account
- Voluntary Renewable Set-aside Account



LIE Set-aside Account

Account Description

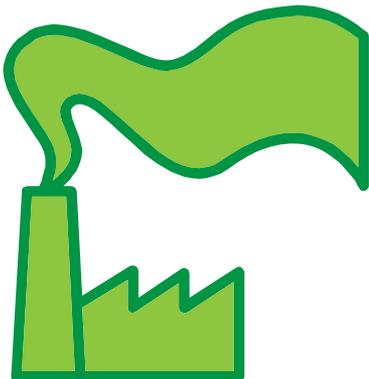
- From the RGGI MR
- Industrial Generators of at least 25 MW
- Annual allocation of 3,456,101 CO₂ allowances
- Opportunity for exemption from demonstrating compliance
- Criteria:
 - Permit condition to limit annual electrical output to the PJM grid to no more than 10% of gross annual generation
 - Comply with the terms of a Department approved Climate Action Plan (CAP)



LIE Set-aside Account

Account Description (cont'd)

- Loss of exemption if source fails to comply with criteria
- Retirement of allowances from LIE Account based on actual averaged emissions
- Remaining allowances will be auctioned during the next year



LIE Set-aside Account

- Eligible CO₂ budget sources
 - NewPage Luke Mill
 - Severstal Sparrows Point
- Developing on-site climate action plans
- Plans are due by next month



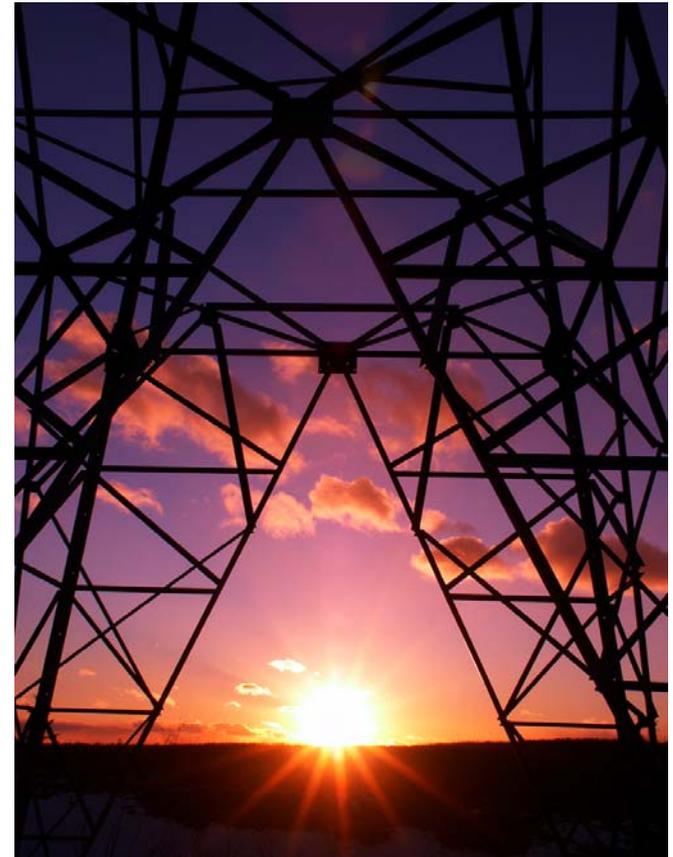
LTC Set-aside Account

- Demonstration that purchasing allowances equal to the source's emissions will affect the financial viability of the plant.
- Eligibility
 - Long term contract for electrical output has been in existence since Jan 1, 2001
 - Applicant is unable to pass the cost of purchasing allowances on



LTC Set-aside Account

- 1,698,191 allowances
- Submit requested financial information
- Maintain allowances in compliance account
- Cannot resell
- Used for compliance
- Unawarded allowances to be auctioned



CG Set-aside Account

- Maryland has a need for the development of in-state clean power
- PSC, December 2007:
 - “...rolling blackouts 2011/2012...”
 - “...addition of 1200 MW...”
- CO₂ emissions from combined cycle natural gas-fired generation facilities less than half that from coal plants





CG Set-aside Account

- Commitment during the 2008 Legislative Session
- An incentive for development of new 'clean' in-state capacity
- 1,875,199 allowances
- Eligible CO₂ budget units:
 - Commence operation after January 1, 2009
 - Use a gaseous fuel as its primary fuel,
 - Apply Best Available Control Technology (BACT) or Lowest Achievable Emission Rates (LAER) as would be required in New Source Review



CG Set-aside Account

- Allowances awarded for up to the first 6 years of operation
- Maintain allowances in compliance account
- Cannot resell
- Used for compliance
- Unawarded allowances to be auctioned
- Set-aside effective in May 09



VRE Set-aside Account

- Voluntary Renewable Set-aside
 - 350,000 Allowances
 - Retirement of voluntary REC's
 - 2 year requirement to review and increase, if necessary, allocation to Account.
- Use of NERC regional emissions factor
- Set-aside became effective in May 09



Questions?





Maryland Energy

ADMINISTRATION

Powering Maryland's Future

Investing RGGI to Take Control of Maryland's Energy Future

RGGI Stakeholder Meeting

Malcolm Woolf, Director

Maryland Energy Administration

September 2009

Key Issues for RGGI Stakeholder Meeting

- What is Strategic Energy Investment Fund (SEIF) and how can it be used?
- Where are we towards meeting Maryland's energy efficiency and renewable goals?
- How does MEA propose to invest SEIF over the next three years?
- What progress have we made to date?

Purpose of Strategic Energy Investment Fund (SEIF)

To decrease energy demand and increase energy supply to promote affordable, reliable, and clean energy to fuel Maryland's future prosperity.

SEIF Allocation Chart

17.5%

- Energy Efficiency, Conservation & Demand Response Programs

23%

- Residential Rate Relief

50%

- Low Income Energy Assistance

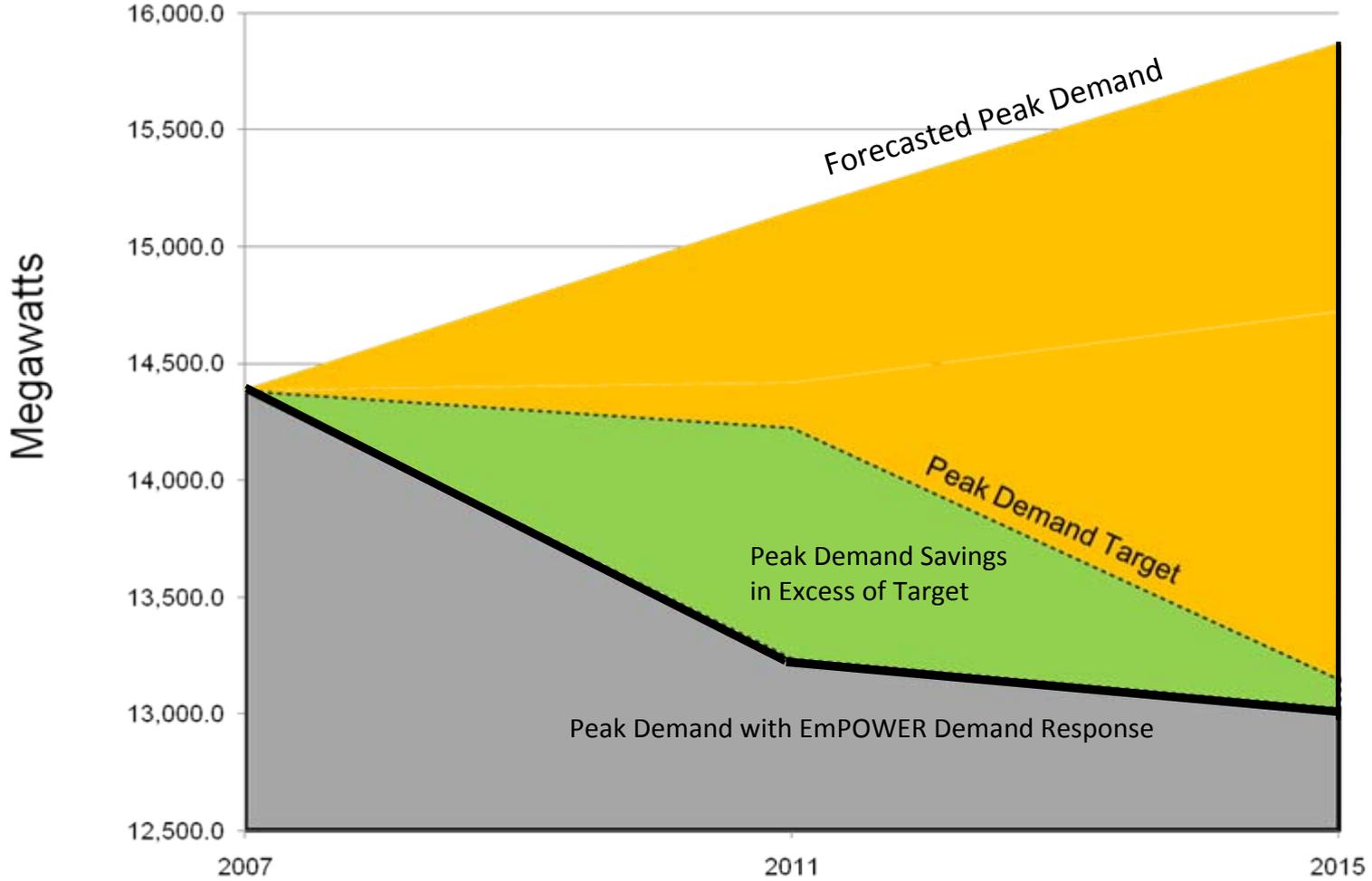
6.5%

- Clean Energy & Climate Change Programs, Outreach & Education

3%

- Administration of Fund

Status of Peak Demand Goal

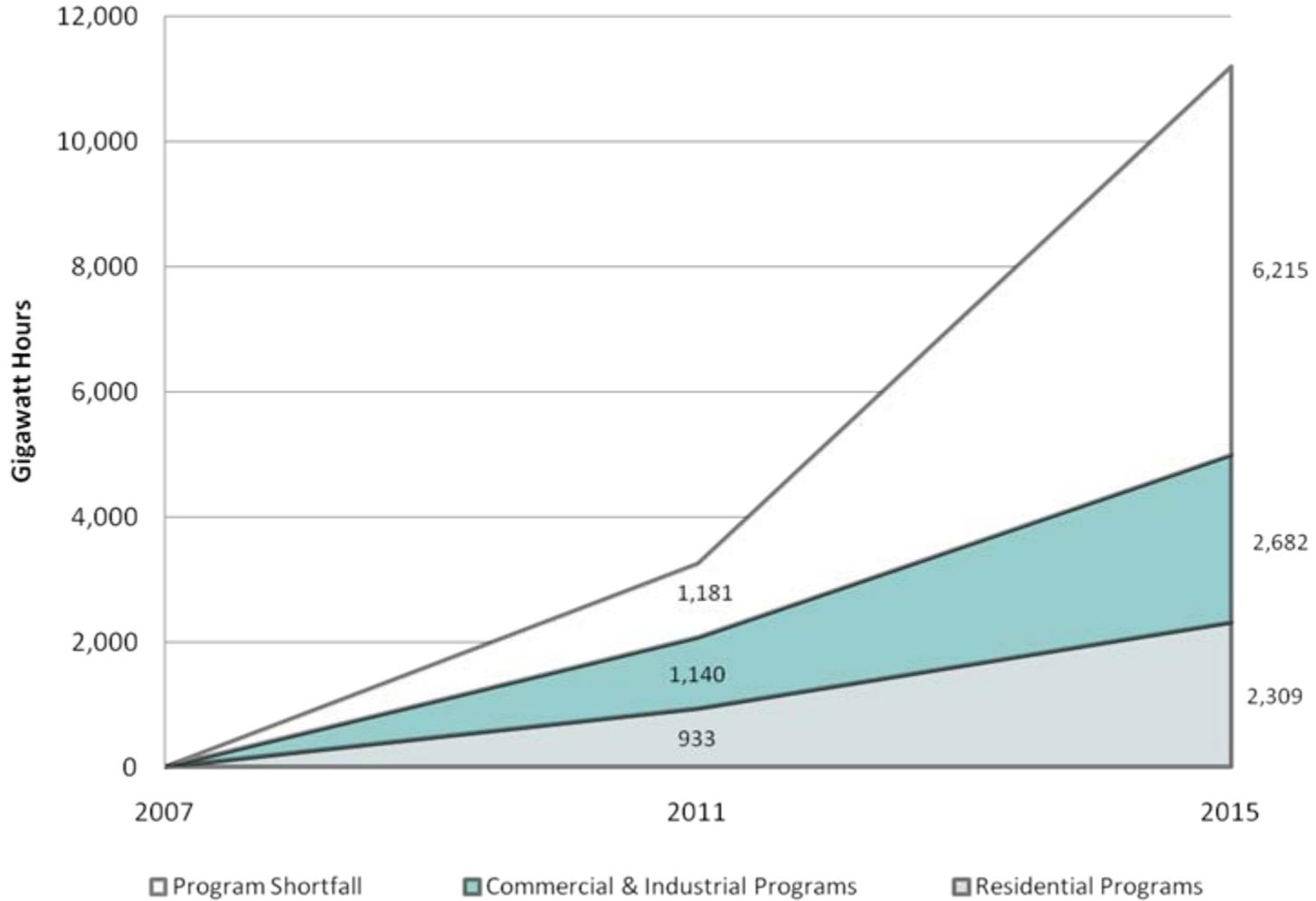


2011 Proposed Savings of 1,933 MW; equivalent of 3 new power plants.

2015 Proposed Savings of 2,885 MW; equivalent of almost 5 new power plants.

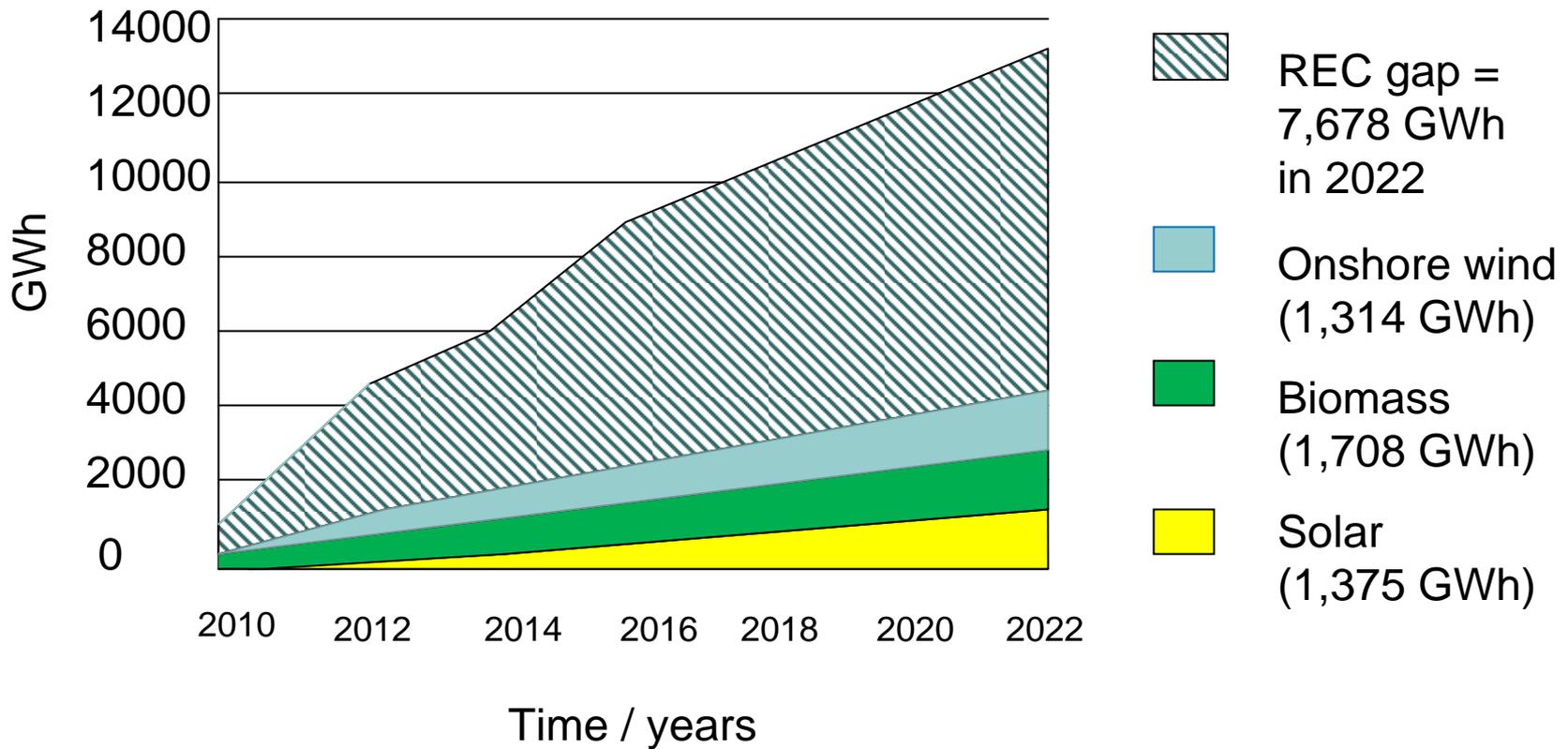


EmPOWER Maryland Energy Program Savings and Shortfall



Note: Programs include combined savings of MEA and Utility

Maryland's RPS: *Planning for 2022 Demand*



MEA's Three Year Investment Strategy

- 1. Expand Energy Efficiency
- 2. Promote Renewable Energy
- 3. Finance Innovation
- 4. Provide Consumer Energy Information

Expand Energy Efficiency

- Multi-Family Housing Retrofits for low and moderate income families
- Industrial/Commercial Loans and Grants
- State Agency Loan Program
- EmPOWERing Clean Energy Communities
- Farm Energy Audit Program



Promote Renewable Energy



- Residential Renewable Energy Grants
- Renewables on Commercial and Government Buildings
- Alternative Transportation Fuel and Infrastructure Grants
- Generating Clean Horizons
- Offshore Wind

Financing Innovation

- EmPOWERing Financing (EF) initiative
- Clean Energy Economic Development Initiatives
- Green Job Training and Building Codes



Provide Consumer Energy Information

- Maryland Energy Information System
- Consumer Education & Outreach
- Smart Grid



The poster features a green background with a pattern of small icons representing various energy-related items like light bulbs, fans, and power outlets. In the top left corner, there is a circular icon with the number '1' and a small light bulb icon next to it. The main text is in white and black, providing statistics on CFL energy efficiency and savings. At the bottom, there is a white box containing additional information and the Maryland Energy Administration logo.

1

CFLS USE 75% LESS ELECTRICITY THAN INCANDESCENTS, LAST UP TO 10 TIMES LONGER AND CAN SAVE YOU UP TO \$65 OVER THE LIFE OF THE LIGHT BULB.

EMPOWER MARYLAND.

Learn **15 things** that will empower you to save money and reduce power consumption statewide **15%** by **2015**. Be part of a Maryland that is smart, green, and growing. Visit energy.maryland.gov.

Maryland Energy
ADMINISTRATION
Powering Maryland's Future



Projected Benefits from FY2010 Programs

- Estimated 70,000 MWh of electricity saved
- \$370 million projected savings on energy costs over the life of the investments
- Over 560 new green collar jobs
- Reduce CO2 emissions by over 2,000,000 tons, which is equivalent to taking nearly 360,000 cars off the road.
- Over 20,000 MWh of renewable energy produced
- 2.4 million gallons of conventional gasoline displaced.



Projected Benefits by 2015

- Reduce risks of rolling black outs
 - Reduce peak demand by 1,933 MW by 2011 – equivalent to 3 large power plants.
 - Reduce peak demand by another 1,000 MW to reach 2,885 MW – exceeding goal by 10%.
- Cumulative energy efficiency savings of 40 million MWh by 2015 – 60% of MD’s current energy consumption
- Cumulative cost savings of \$6 Billion
- Reduce CO2 emissions by 23 million tons – equivalent to taking 4 million cars off the road
- 8,000+ new “green collar” jobs to Maryland by 2015 (*ACEEE ’08*)



For more information, please contact:

Maryland Energy Administration

410-260-7655 or 800-72-ENERGY

www.energy.md.gov

Maryland Energy

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