

RGGI – An Update on the SF₆ Carbon Offset Project Category

Session 4: Offsets as a Climate Protection Mechanism

June 2, 2009

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M.J. BRADLEY & ASSOCIATES LLC
A Climate Change Capital Group Company

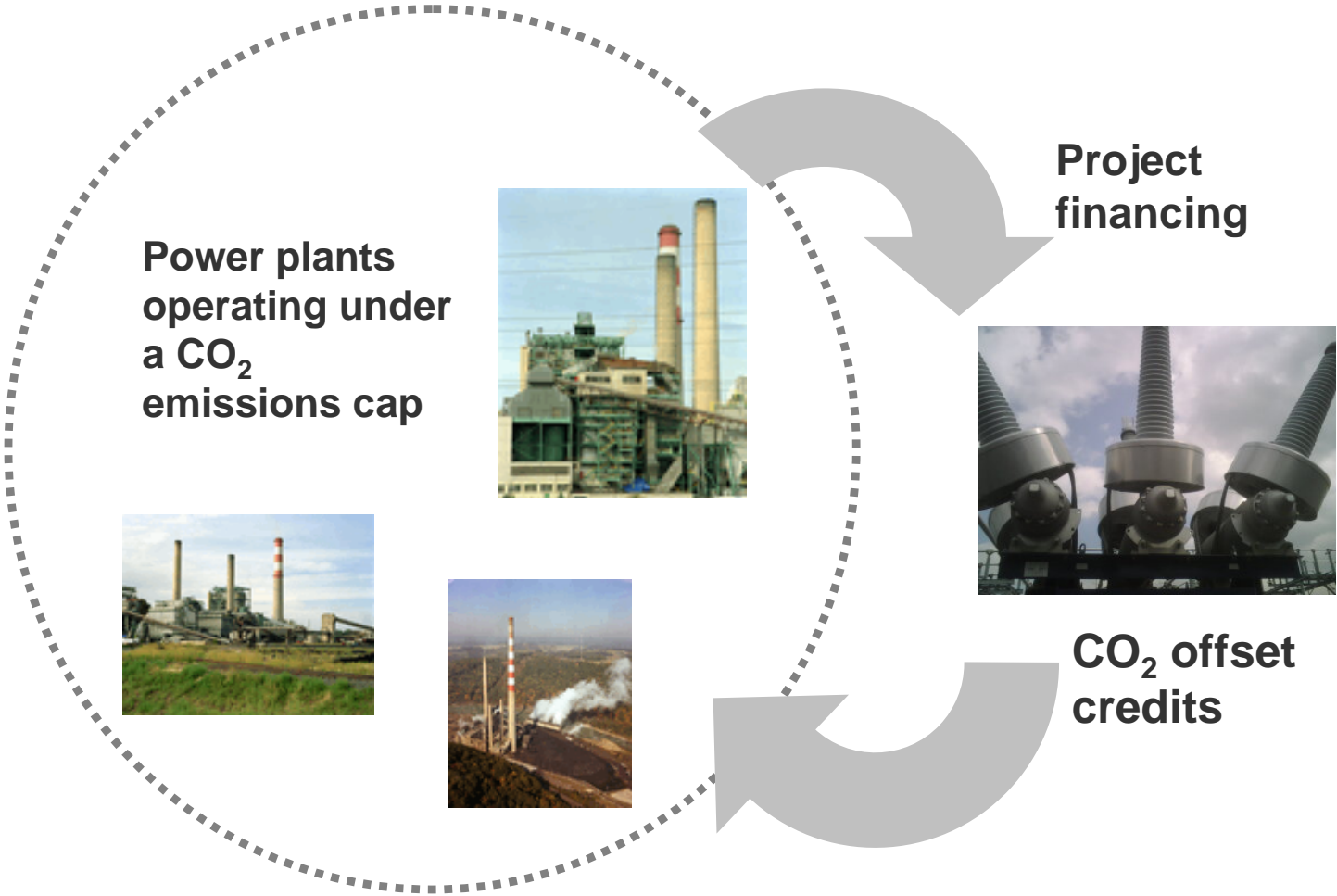
Agenda

- 1 Carbon Offsets Overview
- 2 RGGI Offset Overview
- 3 RGGI SF6 Offset Consistency Application and M&V

What is an Offset?

- GHG Offsets (or carbon offsets) are generated from projects that reduce the amount of greenhouse gases entering the atmosphere. (CO₂, N₂O, CH₄, HFC, PFC, SF₆)
- Carbon offsets are not readily available as a commodity (like NO_x and SO₂ allowances) in the U.S. for purchase and use for compliance with emerging mandatory polices.
- Under a cap-and-trade program, offsets must be approved and issued by a government agency. Once issued, they are functionally equivalent to an allowance.

Cap-and-Trade System with Offsets



Cap-and-trade system....with...offset credits

Pros and Cons of Offsets in a Compliance Regime

Pros

- Compliance flexibility
- Cost-effectiveness
- Technology innovation
- Reductions from uncapped sectors
- Co-benefits

Cons

- Environmental integrity concerns
- Decrease reductions from capped sectors
- Technology inhibition
- Negative co-effects

Key Issues and Considerations

Essential Offset Criteria

■ Real

- ▶ An offset project must represent an actual GHG emission reduction.

■ Quantifiable

- ▶ Any reductions claimed by an offset project must be measurable.

■ Additional

- ▶ An offset project must create reductions beyond those that would have occurred under a business-as-usual scenario.

■ Verifiable

- ▶ An offset project must be subject to regular audits to ensure that the claimed reductions are actually occurring.

■ Permanent

- ▶ The reductions achieved by an offset project must be effectively permanent.

Regional Greenhouse Gas Initiative (RGGI)

- First regional CO2 cap and trade program in the U.S.
- Start date of January 1, 2009
- Covers fossil-fired electric generating units 25 MW and larger
- Three-year compliance period
- Two-phase cap--stabilize emissions through 2014; reduce 10% by 2018
- Emissions offsets as a compliance option
- Regional allowance auctions.
Allowance prices in the first two auctions:
 - ▶ \$3.07/ton for 12.5 million plus
 - ▶ \$3.38/ton for 31.5 million plus
 - ▶ \$3.51/ton for 31.5 million plus



RGGI Offset Categories

RGGI Eligible Offset Categories

Landfill gas (methane) capture and combustion

Sulfur hexafluoride (SF6) emission reduction in the electricity transmission and distribution sector

Afforestation (transition of land from non-forested to forested state)

End-use fossil fuel efficiency in commercial and residential sectors

Methane capture and combustion from farming operations

RGGI Offset Program Guidance

- Prescriptive standards for specific project categories, to ensure that offsets are real, additional, verifiable, enforceable, and permanent.
- Benchmark/performance standard approach allows project developers to understand program requirements up-front.
- The project specific categories were integrated into the RGGI Model Rule and were subsequently adopted as part of each of the RGGI state's RGGI regulations.
- There are a number of areas in the specific project categories that are not as detailed as they need to be and require additional guidance.
- The RGGI states worked with:
 - ▶ ICF Consulting to develop model consistency applications and guidance documents and
 - ▶ The GHG Management Institute to develop an accreditation process for third party verifiers.

RGGI Status Update

- On May 14, 2009, the RGGI participating states released:
 - ▶ Model offset Consistency Applications and Monitoring and Verification (M&V) Report materials and
 - ▶ Model verifier accreditation application and submittal materials.
- The model templates will be used by the RGGI states to develop consistent state-specific materials.
- The offset module within the RGGI CO2 Allowance Tracking System (COATS) provides for registration of offset projects and electronic submittal of materials, tracking of offset project status, and public accessibility to documentation.
- Each independent verifier must be accredited by the RGGI participating state in which the offset project is located.
 - ▶ Certain regulatory requirements for accreditation will be met through demonstration of accreditation to ISO 140654 by the American National Standards Institute (ANSI).
 - ▶ Prior to engaging with an offset project sponsor, verifiers must submit a pre-engagement conflict of interest (COI) disclosure filing.

Consistency Application Forms

Every Consistency Application includes ten (10) forms divided into three parts, as follows:

■ Part 1. General Information Forms

- ▶ Form 1.1 – Coversheet
- ▶ Form 1.2 – General Information
- ▶ Form 1.3 – Attestations
- ▶ Form 1.4 – Project Sponsor Agreement
- ▶ Form 1.5 – Disclosure of Greenhouse Gas Emissions Data Reporting

■ Part 2. Category-Specific Information and Documentation Forms

- ▶ Form 2.1 – Project Description
- ▶ Form 2.2 – Demonstration of Eligibility
- ▶ Form 2.3 – Emissions Baseline
- ▶ Form 2.4 – Monitoring and Verification Plan

■ Part 3. Independent Verification Form

- ▶ Form 3.1 – Independent Verifier Certification Statement and Report

RGGI Offset Application Process

- Applying to a RGGI participating state for the award of CO2 offset allowances involves a three-step process:
 1. Open a general account in RGGI-COATS and obtain an offsets project ID.
 2. Submit a Consistency Application to the applicable state regulatory agency where the offset project is located.
 3. Submit periodic Monitoring and Verification Report for an approved project that demonstrates the CO2-equivalent emissions reductions or carbon sequestration achieved by the project during the reporting period.
- Both submittals must include a signed verification statement and verification report from an accredited independent verifier.

RGGI COATS

RGGI CO₂ ALLOWANCE TRACKING SYSTEM

RGGI CO₂ BUDGET TRADING PROGRAMS

Accounts Sources Special Approvals Offset Projects Emissions Compliance Allowance Transactions Reports Reference

Create New Offset Project [Help](#)

Note: Only official state Consistency Applications and M & V Reports issued by the reviewing state should be uploaded to COATS on the following page under Project Milestones. Official state applications can be accessed through <http://www.rggi.org/offsets>.

Project Name *

Project Type *

Emissions Credit Type (Unit Type)

Reviewing State *

Account * GN10218: MJ Bradley & Associates, LLC

Select Sponsor Organization

Project Commencement Date *

Project Location *

Project Description *

RGGI Inc.

RGGI Inc. is a nonprofit corporation created to provide technical and administrative services to the Regional Greenhouse Gas

RGGI - SF6 Emission Reduction Actions

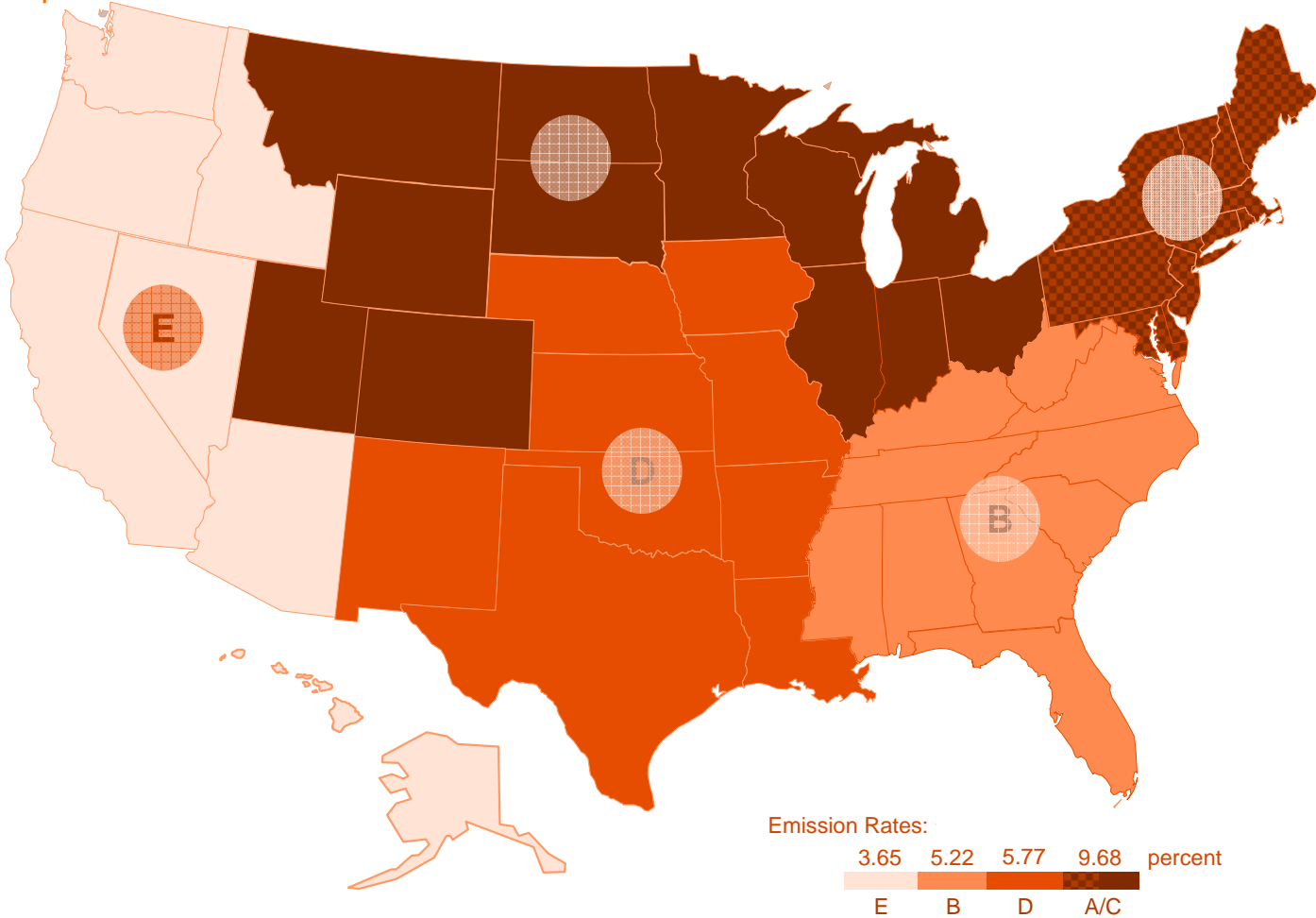
- The RGGI offset category targets incremental actions in one or more of the following three categories:
 1. Early retirement and replacement of SF6 containing electrical equipment;
 2. Repair/refurbishment of SF6 containing electrical equipment, including specific management practices to reduce equipment leakage of SF6; and
 3. Education and training to improve handling of SF6, including cylinder handling and gas cart operation and maintenance.

Demonstration of Eligibility

- There are two ways in which a utility can qualify to generate carbon offsets:
 1. Demonstrate that the offset project has an SF6 entity-wide emissions rate for the baseline year that is less than the applicable regional emissions rate performance standard, OR
 2. If the SF6 emissions rate is greater than the applicable emissions rate performance standard, the entity must demonstrate that the project is being implemented at a transmission and/or distribution entity serving a predominantly urban service territory.
 - A predominantly urban service territory is defined as follows:
 - greater than 50% of the entity's SF6 nameplate capacity is located in an urban area OR
 - greater than 50% of the electrical load served within the entity's service territory is located in an urban area.

Regional SF₆ Emission Rate Performance Standard

To qualify to generate RGGI offsets a utility must have an entity wide SF6 emissions rate for the baseline year that is less than regional performance standards or qualify for the “urban utility exemption”.



Urban Utility Exemption

- Utility must demonstrate that at least two of the four following criteria apply:
 1. **Age of Equipment:** The entity is comprised of T&D equipment that is older than the national average age of equipment.
 - 75% of the entity's total SF6 nameplate capacity must be older than 30 years—the national average age of T&D equipment.
 2. **Poor Accessibility to Underground Equipment:** A majority of the entity's electricity load is served by equipment that is located underground.
 - Greater than 50% of the entity's SF6 nameplate capacity must be located underground.

Urban Utility Exemption (continued)

2. System Reliability: Inability to take a substantial portion of equipment out of service, as such activity would impair system reliability.

- Greater than 33% of the entity's SF6 nameplate capacity must be comprised of SF6-containing operating equipment that would cause system reliability concerns if such equipment were taken out of service.

3. Inherently Leak-Prone Equipment: Required equipment purpose or design for a substantial portion of entity equipment results in inherently leak-prone equipment (an average annual leak rate of 10% or higher).

- Greater than 33% of the nameplate capacity of SF6-containing operating equipment must be considered inherently leak-prone.

Monitoring and Verification Plan

- The M&V Plan must include the following:
 - ▶ Data sources and calculations used to determine baseline year SF6 emissions and reporting year SF6 emissions.
 - ▶ SF6 Inventory Management and Auditing Protocol
- The SF6 inventory management and auditing protocol must include the following elements:
 - ▶ Entity-wide SF6 Inventory Tracking System
 - ▶ Identification of Responsible Personnel
 - ▶ Inventory Tracking System Procedures and Training
 - ▶ Auditing Procedures and Plans
 - ▶ Quality Assurance/Quality Control (QA/QC) Protocol
 - ▶ QA/QC Procedures and Training

Inventory Tracking System

The Entity-wide SF6 Inventory Tracking System must contain the following:

- Identification of the facility(ies) from which all SF6 gas is procured and disbursed;
- An entity-wide log of all SF6 gas procurements and disbursals; and
- An entity-wide inventory of all SF6-containing operating equipment and all other SF6-related items, including cylinders, gas carts, and other SF6 storage containers.

Procedures and Training

- Procedures for:
 - ▶ data input, records keeping and records retention, and maintenance of cylinder logs;
 - ▶ records retention, including: purchase/sales records, supplier receipts of cylinders received from and returned to the supplier, recycling and destruction receipts, and records of newly installed SF6-containing operating equipment and retired equipment;
 - ▶ the maintenance of cylinder-specific logs, including maintenance of a master sheet identifying all cylinders using unique identifiers, and a standardized cylinder log form.
 - ▶ confirming that scales used at substations or other locations are consistently calibrated to manufacturer recommendations;
 - ▶ training the inventory management team on the use of the Entity-wide SF6 Inventory Tracking System as a data source, the use of the SF6 mass-balance method, and recordkeeping and record retention practices.

Auditing and QA/QC

Auditing Procedures and Plans

- A schedule (i.e., calendar of dates) for conducting audits;
- Procedures for audits of inventory management, including all inventory tracking systems, data entry, and maintenance of cylinder logs in accordance with the M&V Plan;
- A template for a report on the findings of audits including identification of areas in need of corrective actions; and
- An entity-wide training plan for auditors on how to conduct the procedures for the audits.

Quality Assurance/Quality Control (QA/QC) Protocol

- Names and contact information for QA/QC officers in charge of administering the QA/QC process for inventory data; and
- A schedule establishing periodic (such as quarterly or semi-annually) QA/QC procedures for the inventory of:
 - ▶ Entity-wide SF6 gas procurements and disbursements;
 - ▶ All SF6-containing operating equipment and all other SF6 storage related items, including cylinders, gas carts, and other SF6 storage containers; and
 - ▶ All cylinder-specific logs.

Cylinder Specific Logs

- Each cylinder-specific logs must contain the following:
 - ▶ Location and specific identifying information of the equipment being filled with the SF6 gas from the cylinder;
 - ▶ Location and specific identifying information of the equipment from which SF6 is being recovered and placed into the cylinder for transfer, reuse, recycling, reclamation, or destruction purposes; and
 - ▶ Weight of the cylinder before and after:
 - the cylinder is connected to and disconnected from an automated gas top-off and filling system; or
 - any activity where gas is manually added to or removed from a cylinder.
- The RGGI states have noted that estimating the weight of a cylinder using temperature and pressure to estimate SF6 disbursed from or added to a cylinder is permitted for interim measurements of cylinder weight throughout the year.
 - ▶ Estimating cylinder weight using temperature and pressure is not allowed for determining beginning-of year and end-of-year cylinder weight.
 - ▶ Physical weighing of cylinders using a certified scale is the only acceptable method for calculating cylinder weight that will be used to determine inputs to the mass balance formula.

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SF₆ Service Offerings

- M. J. Bradley & Associates, LLC (“MJB&A”) and Climate Change Capital (“CCC”) are offering a suite of SF₆ emission reduction services to enable electric utility sector companies to capitalize on the financial value in the emerging carbon offset markets.
- The MJB&A/CCC SF₆ emission reduction service consists of several options that can be tailored to meet the specific needs of the utility.
- With an established network of relationships with leading SF₆ firms in the industry, the MJB&A/CCC can provide all or some combination of the following options:
 - ▶ Assistance with development and implementation of rigorous SF₆ operating, handling, and emission inventory procedures.
 - ▶ Education and training of utility staff on the SF₆ inventory and tracking requirements and solutions.
 - ▶ Field leak surveys of SF₆ insulated equipment to identify potential sealing and equipment replacement strategies to reduce SF₆ emissions.
 - ▶ Financial, regulatory and technical feasibility analysis of the potential SF₆ reduction strategies.
 - ▶ Financing for leak sealing, accelerated equipment retirement and replacement, purchase of state of the art SF₆ gas carts and related SF₆ handling equipment.
 - ▶ Purchase of the SF₆ emission reductions.
 - ▶ Assistance with all tasks related to regulatory acceptance and registration of the offsets in RGGI or other carbon registries.