



Regional Greenhouse Gas Initiative

An Initiative of the Northeast & Mid-Atlantic States of the U.S.

Staff Working Group Update on Development of Potential Offsets

Chris Sherry, NJ DEP
RGGI Stakeholder Group Meeting
NYC
February 16, 2005



Working Groups created to assess viability of individual offsets types:

- Retired EU Allowances
- Retired CDM Credits
- Landfill gas
- SF₆ from electricity T&D
- Forest management & preservation
- Degraded land or cropland to forest
- No-till agriculture
- Manure digesters
- End-use energy efficiency (natural gas, electricity)
- Renewable energy (electric generation--multiple technologies)
- Fugitive emissions from natural gas T&D
- Coal mine methane capture
- High GWP gases (HFC 23, PFC Aluminum, etc.)
- Geological sequestration



Working Groups Plan

Viability review:

- Evaluate general viability of offset type based on SWG criteria

Outline implementation needs for each offset type:

- Identify ease of implementation and implementation barriers
- Identify needs for expert consultation
- Develop detailed timeline for implementation

Prioritize based on SWG assessment:

- Identify potential offsets viable on priority basis (near-term -- possible inclusion of standards and/or standardized approaches in Model Rule)
- Identify potential offsets viable for development in mid-term (development between Model Rule and program start)



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Detailed Evaluation: Possible Inclusion of Standards in Model Rule

- Landfill gas projects
- SF₆ -- electric transmission & distribution
- Natural gas -- improvements in end-use energy efficiency
- Afforestation
- Retired EU Allowances & CDM Credits

- This list does not necessarily comprise offsets that will be included in Model Rule
- Work continues on evaluating other offset types not on this list
- List dictated in part by what is achievable in the near-term (viability/complexity of standards development)
- SWG may also specify priority list of additional offsets for development of standards--beyond those included in Model Rule



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Working Group Contacts

- Landfill Gas: Joe Fontaine, NH DES
- SF₆: John D'Aloia, NY PSC
- Natural Gas: David Farnsworth, VT PSB &
Chris Sherry, NJ DEP
- Afforestation: Jason Denham, NY DEC
- EU Allowances & CDM Credits: Franz Litz, NY DEC



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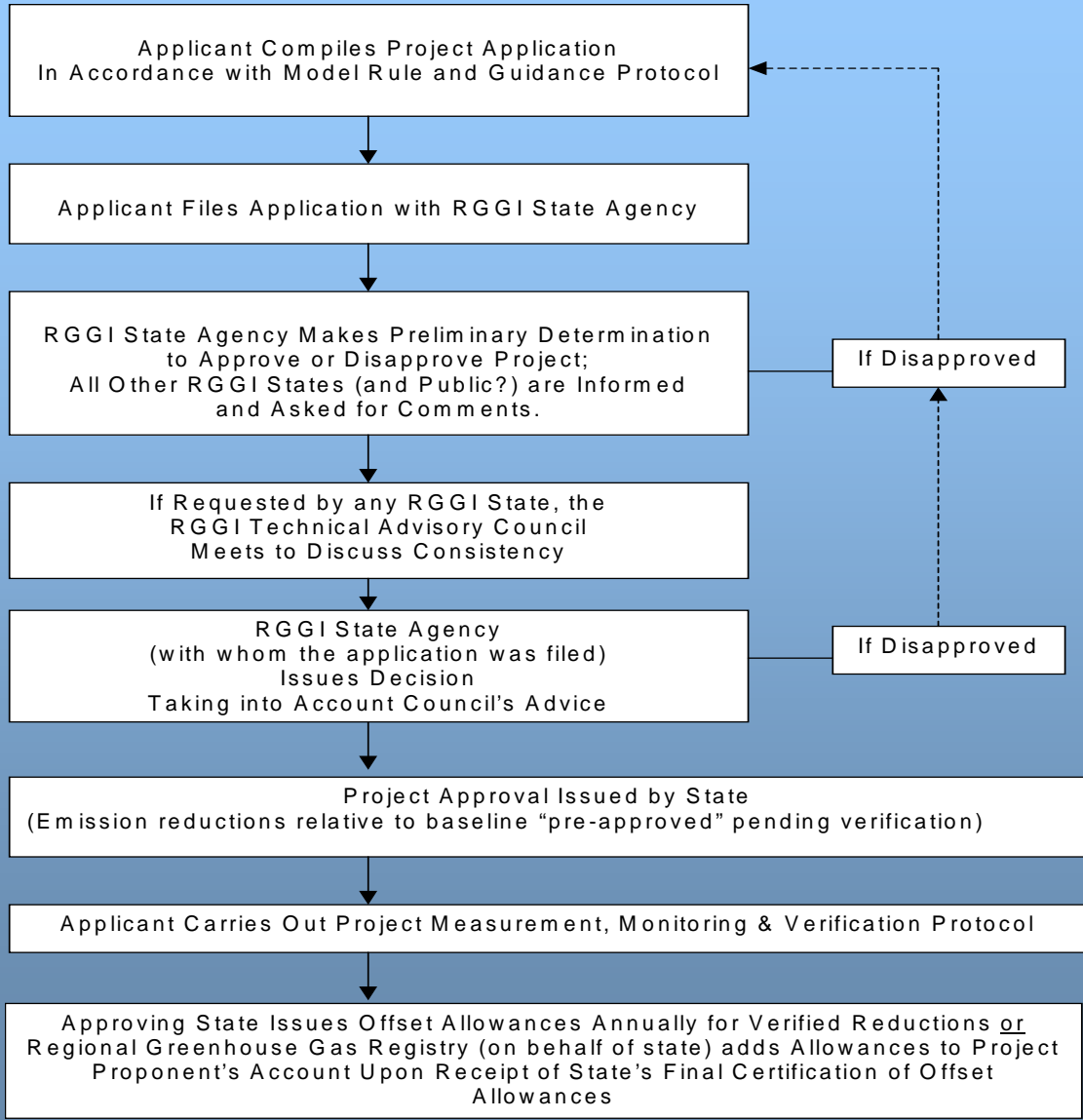
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Program Administration

A potential offsets program could be administered in multiple ways:

- state-by-state administration
- state-by-state administration with the help of a regional technical assistance organization, with states retaining compliance authority for issuing allowances
- multi-state regional body, with states retaining compliance authority for issuing allowances

POSSIBLE RGGI OFFSET PROCESS



Draft Offset Quantification Landfill Methane (CH₄) Reductions

February 16, 2005
RGGI Stakeholder Meeting
NYC

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Calculation of CH₄ Reductions

- Directly measure volume of CH₄ collected using continuous flow monitoring equipment
- Convert to mass reductions by multiplying by the density of CH₄ and by dividing by 2,000 lb/ton
- Convert to CO₂ equivalent reductions by multiplying by 20.25, the net global warming potential (GWP) for CH₄ (23) minus the CO₂ produced by combustion (44/16 or 2.75)



Ineligible Reductions

- Any reductions achieved as a result of any equipment installed to comply with any federal, state, or local regulations, including EPA's New Source Performance Standards (NSPS, namely 40 CFR Part 60, Subparts WWW and/or CC) requiring non-methane reductions from landfills
- Any reductions claimed as credits or allowances and used to meet any other mandatory requirements.
- Indirect emissions reductions due to offset electricity generation



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Afforestation: A Project-based Offset Option For RGGI

February 16, 2005



*Jason Denham, Senior Forester NY DEC &
RGGI Staff Working Group, Offsets Subgroup*



Defined for RGGI purposes

Afforestation = Conversion of lands in a non-forest land use to a forest land use, through human intervention.

Synonyms:

*Cropland or Grassland to Forest,
Afforestation/Reforestation*



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Eligibility Pre-requisites

1. Legal additionality.
2. Project area must have been in a non-forest condition for a minimum of 10 years (a financial/biological additionality test).
3. Project area, duration, and actions to be taken are all defined before project initiation. (And may be limited in a manner TBD)



Baseline Determination

A project's baseline is set using the *base-year* approach, with carbon sampling done at project initiation.

Because of the prerequisites for eligibility, it is assumed that carbon levels at the project site would remain reasonably stable in a business-as-usual scenario.



Project Monitoring

After the initial baseline measurement, the project area is periodically re-sampled to determine net carbon sequestration.

(Monitoring periods of 3-6 years have been suggested.)



Verification

Some level of independent verification of carbon measurements will be required. States may opt to perform this verification themselves, or to require third-party verification at the expense of the project initiator.



Issuance of Offset Credits

Credits are issued at the end of each monitoring cycle, after monitoring and verification have been completed, and in accordance with the accounting method selected.



Accounting

In order to equate (potentially impermanent) carbon sequestration by forests with avoided carbon emissions, **time** must be accounted for.

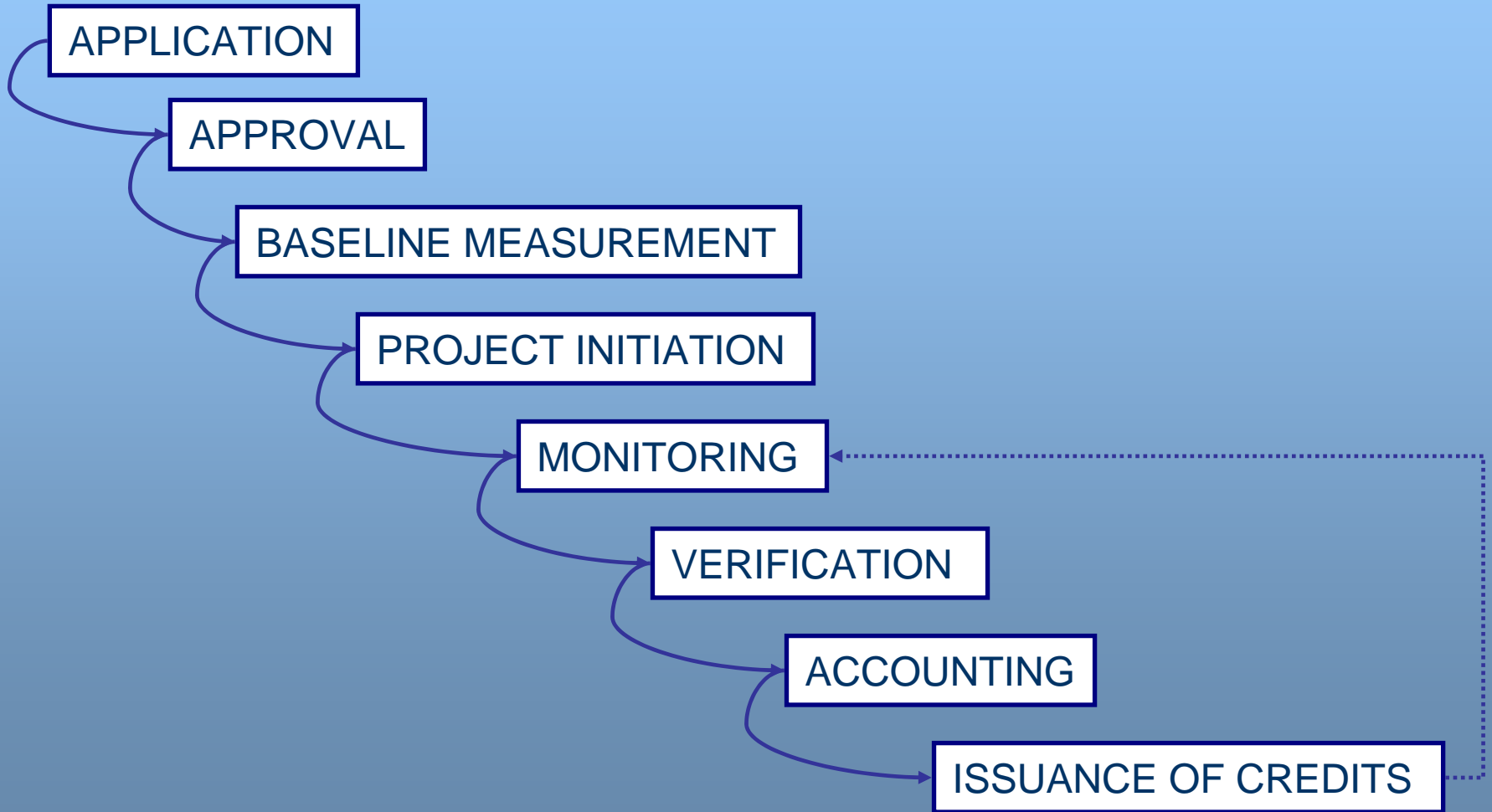
A variety of methodological options exist, and are being evaluated:

1. Ton-Year approach
 2. Rental Contract approach
 3. Temporary Credits approach
-



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SF₆ Overview

- Eligibility – SWG envisions that EPA Partnership participants as well as non-participants will be eligible to demonstrate and produce SF₆ reduction offset credits
- Methodology - SWG proposing to use a mass-balance methodology based on the EPA Partnership Program
- SWG envisioning baseline year of 2004 or later
- Additionality: Reductions achieved must be in addition to other, previously established SF₆ reduction efforts



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SF₆ Offsets Credit Accounting Methodology

The mass-balance method accounts for all company uses of SF₆ using the parameters below. SF₆ not accounted for is assumed to have been emitted to the atmosphere, and the offset credit is the reduction in the emissions from the baseline emissions.



SF₆ Offsets Credit Accounting Methodology

- Changes in Inventory (bottles of gas)
- Purchases/Acquisitions of SF₆
- Sales/Disbursements of SF₆
- Changes in Total Nameplate Capacity of Equipment

Total Annual Emissions = net of the parameters above

Total Annual Offset Credit = reduction in annual emissions compared to baseline emissions

Additionality Issue: Adjustment for changes in baseline? (such as BAU equipment replacements or new equipment installations)