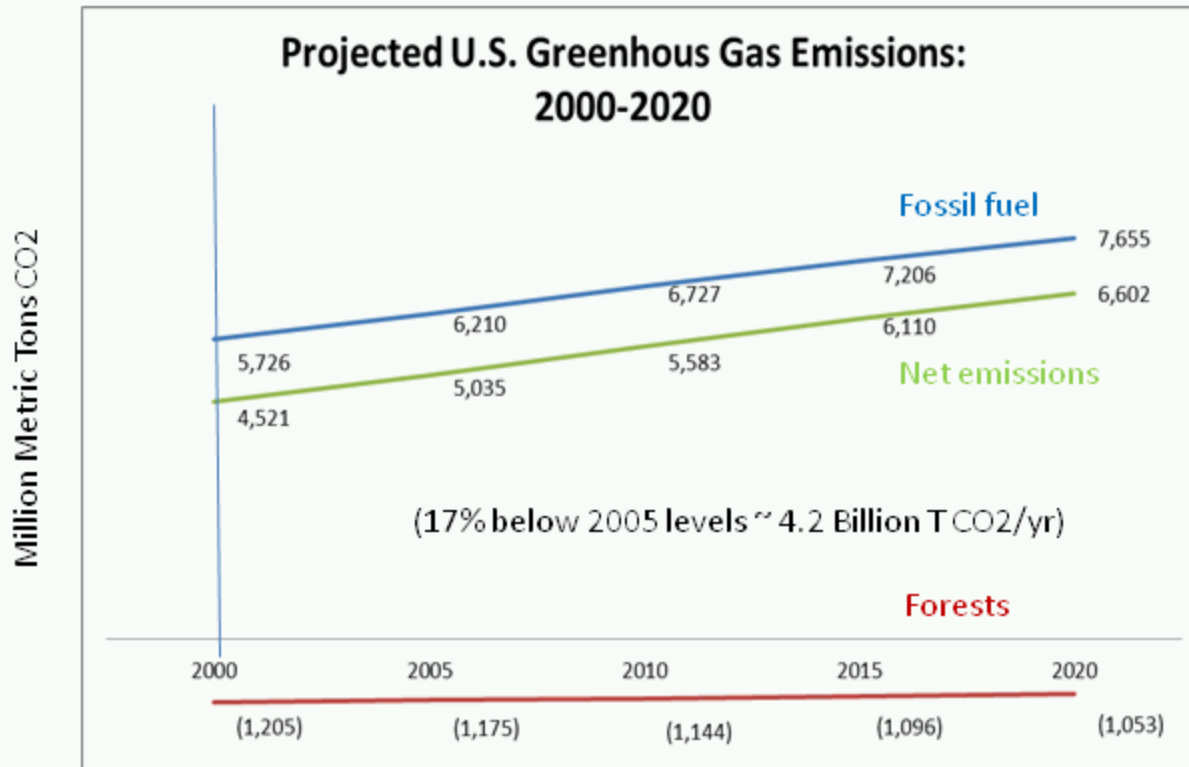


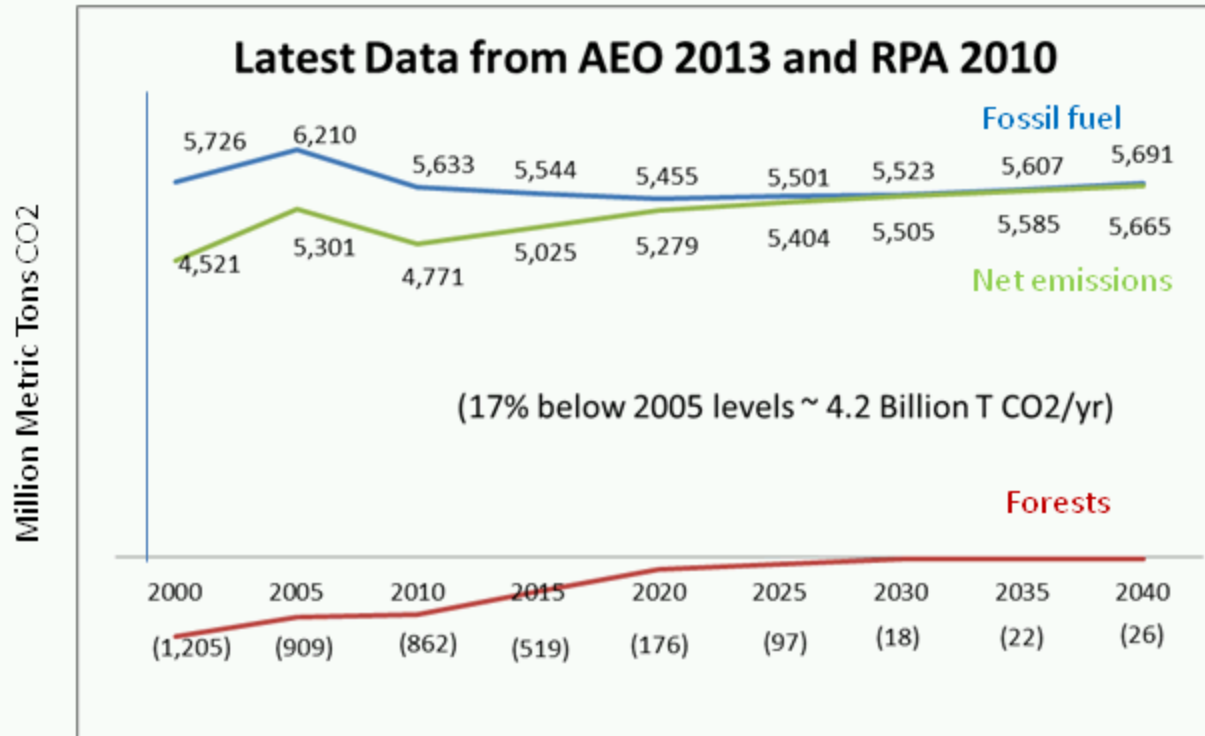
A Pragmatic Approach to Greenhouse Gas Offsets

Slide 1



U.S. Climate Action Report – 2002

Slide 2



EIA Annual Energy Outlook 2013

USDA Forest Service 2010 Resources Planning Act Assessment HFW scenario

Slide 3

Approaches to Greenhouse Gas Abatement

- **Traditional Command and Control**
 - Regulatory agency sets standards
 - Specific technologies (scrubbers)
 - Performance (tons, tons/unit output)

- **Cap and Trade**
 - Regulatory agency sets overall objective (total allowable emissions)
 - Allocates or auctions emission allowances
 - Firms must obtain allowances in order to emit a pollutant
 - Firms can receive allowances, purchase allowances, or reduce emissions

- **Cap and Trade with Offsets**
 - Unregulated firms can receive credits for reducing emissions
 - Regulated firms can purchase offset credits to meet regulatory requirements (“offsetting emissions”)

- **Emission Taxes**
 - Internalizes public damage
 - Equates costs of abatement

- **Incentives**
 - Expand existing multi-attribute programs (EQIP, CSP, CRP)
 - New targeted GHG incentives

Approaches to Greenhouse Gas Abatement

Attributes of Cap-and-Trade

Concept: Regulators set overall limits on emissions (or environmental performance). Firms must have allowances to emit the pollutant. Allowances can be bought, sold, or transferred

Attributes:

- Establishes clear property rights for pollutants
- Taps market forces to efficiently allocate resources to reduce pollution
- Provides incentives to innovate
- Equates costs of environmental control across all polluters

Concerns:

- Makes it difficult to address localized environmental damage
- Could concentrate pollution in lower income areas
- Distribution of allowances creates new assets– and transfers of wealth

Attributes of Cap-and-Trade

Issues with Offsets

Offsets are produced by entities that are not regulated:

- Would the action have happened anyway? (Additionality)
- Will other firms/entities fill gaps if the action results in a drop in production? (Leakage)
- What are we measuring benefits against? (Baselines/benchmarks)
- Most land-based offsets are difficult to measure. Can we truly assess the benefits? (Uncertainty)

Issues with Offsets

Offsets Market “Lingo”

Issue 1: Additionality – Would the action happen anyway?

– Potential solutions:

- Limit entry (categorical exclusions)
 - Exclude activities
- Document justification,
 - Reporting requirements
 - Barrier tests
- Discount credits,
 - Proportional additionality
- Accept it (adjust goals)

Offsets Market “Lingo”

Offsets Market “Lingo”

Issue 2: Leakage – Will the environmental impact move elsewhere?

Internal Leakage: Swapping fields within an operation.

- Potential solution:
 - Require entity-wide reporting.

Market Leakage: Others respond to reduction in supply of goods.

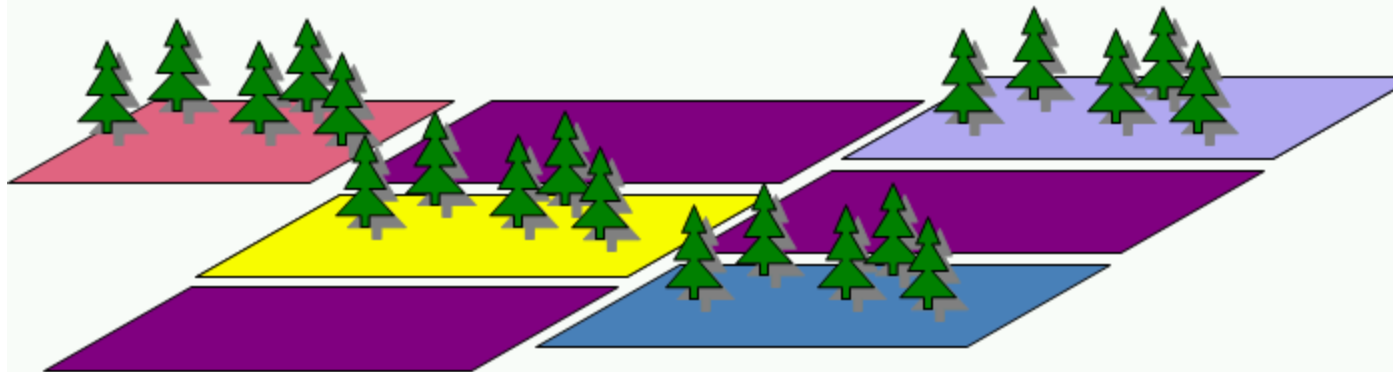
- Potential solutions:
 - Discount credits,
 - Exclude activities,
 - Reporting requirements -- document that changes did not occur elsewhere,
 - Accept it (adjust goals)

Offsets Market “Lingo”

Let's be "pragmatic"

Farmer 1  Farmer 2  Farmer 3  Farmer 4 

Payment	0	\$	\$	\$
Trading Ratio				-\$
Verification costs				-\$
Reporting requirement costs				-\$



Let's be "pragmatic"

Offsets Market “Lingo”

Issue 3: Baselines –What are we measuring benefits against?

Options:

Historic

- Actual performance - Base year/period
- The actions of others

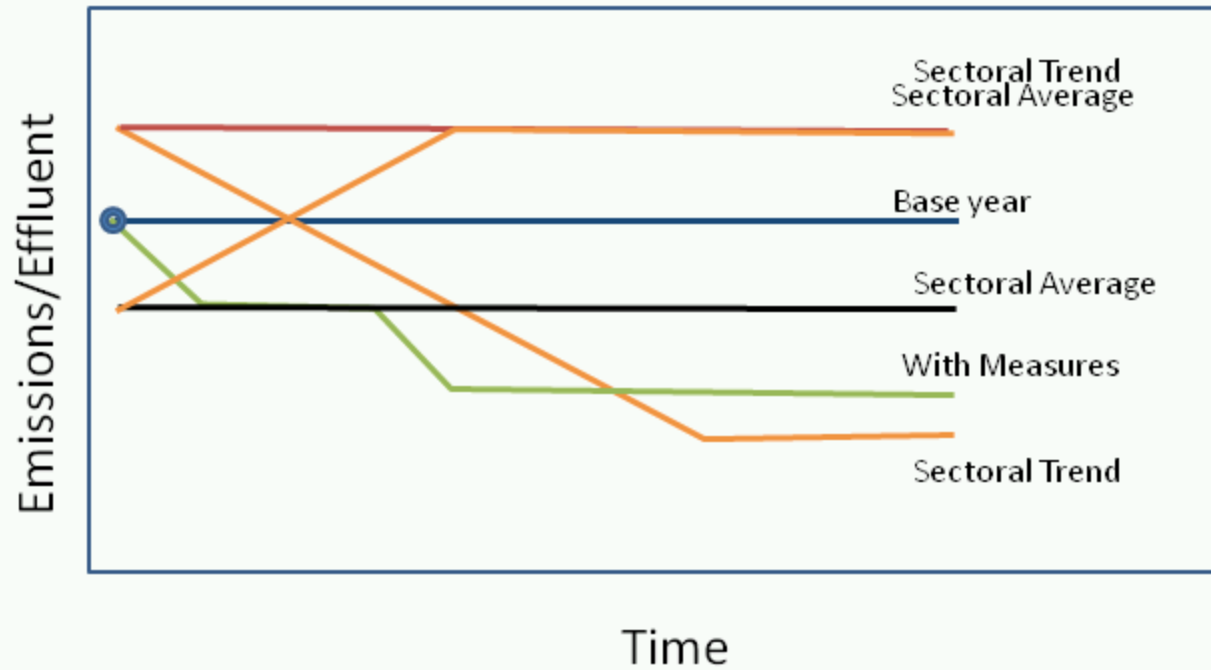
Expectations

- Projections of business-as-usual;
- Projections of expected improvements;
- Projections of expected average business practice
- Unique projections for each project or standard projections based on industry averages.

Technology standards/cutoffs

Offsets Market “Lingo”

Setting Baselines



Setting Baselines

Offsets Market “Lingo”

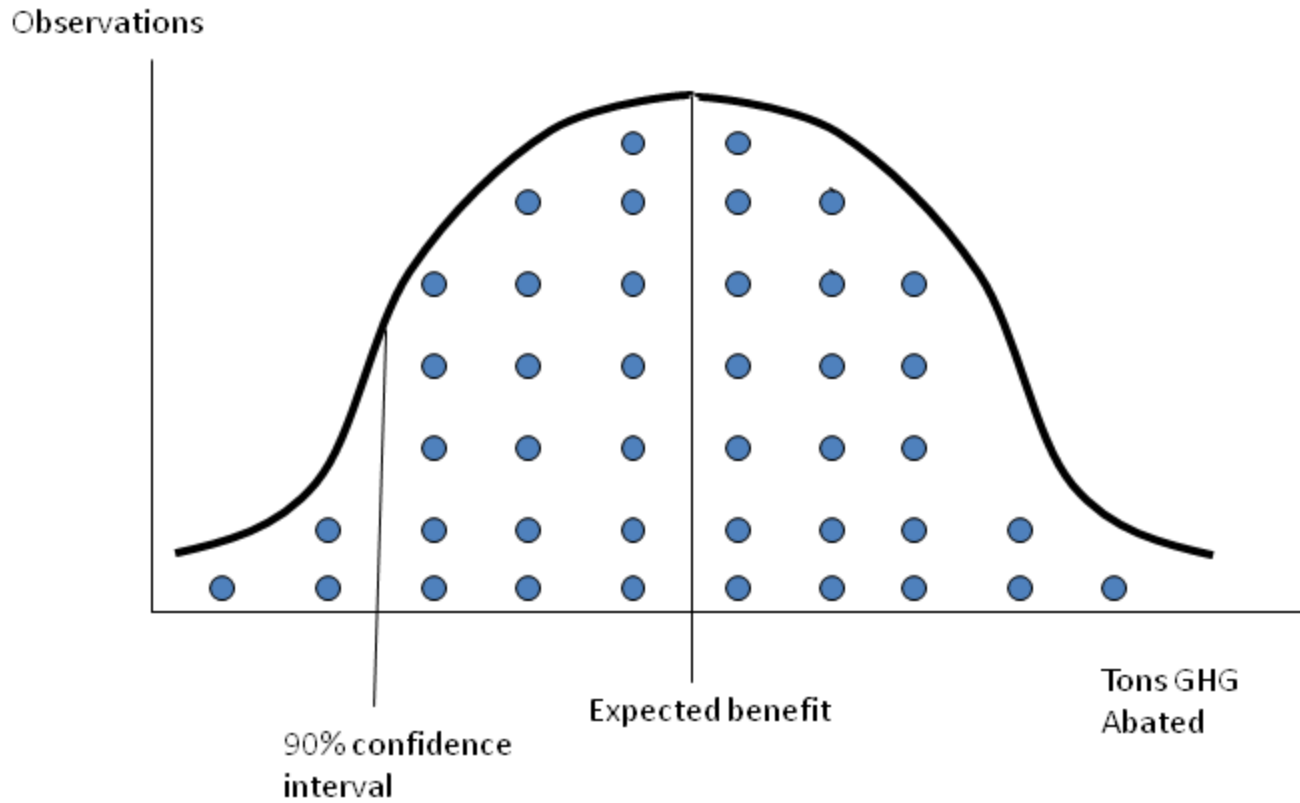
Issue 4: Uncertainty –What if our estimates are wrong?

– Potential solutions:

- Improve estimates
- Exclude categories or pools;
- Discount credits using an uncertainty factor,
 - One-tailed tests
- Accept it (recognize that uncertainty does not imply bias – laws of large numbers apply)

Offsets Market “Lingo”

Accounting for Uncertainty



Slide 13

Points to Frame the Discussion

- The emissions landscape has changed
 - Trends, policies, technological advances have altered GHG profile of the country
- The policy landscape has changed
 - EPA directed to move forward under the CAAA
- Market principles remain important
 - GHG abatement solutions will need to be efficient
- Avoid unintended consequences
- Don't confuse "efficiency" and "equity"
- Focus on aggregate effects of policies

Points to Frame the Discussion