

Early Action Incentives in U.S. Environmental Markets

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What is Early Action?

- Activities undertaken prior to the implementation of a particular regulatory program. For example...
 - ...before mandated GHG reductions.
 - ...prior to TMDL implementation.
- The generation of an outcome prior to mitigating an impact elsewhere

What are the Benefits of Early Action?

- Facilitating Market Function
 - Address “thin markets” by seeding potential supply
 - Provide learning opportunities for participants
- Facilitating Advance Mitigation
 - Speed delivery of services

Tools to Facilitate Early Action

- **Buyer Banking** – buyer holds credit for later use
- **Seller Banking** – seller/producer holds credit for later sale
- **Purchase Guarantee** – set price/quantity of future credit transaction
- **Advance Sale** – sale of credit before activity completion
- **Early Action Crediting** – credit for pre-compliance activities
- **Grandfathering** – allowance of certain class of activities
- **Phased-in Baselines** –changing basis for crediting
- **Other Supporting Tools** – incentives, administrative support, etc.

Tool	Objective	
	Market Function	Advance Mitigation
Buyer Banking	<ul style="list-style-type: none"> • Provides liquidity • Reduce price volatility 	<ul style="list-style-type: none"> • Provides early mitigation
Seller Banking	<ul style="list-style-type: none"> • Provides liquidity 	<ul style="list-style-type: none"> • Provides early mitigation
Purchase Guarantees	<ul style="list-style-type: none"> • Provides certainty • Provides market experience 	<ul style="list-style-type: none"> • Encourages early investment
Advance Sale of Credits	<ul style="list-style-type: none"> • Provides liquidity • Reduces risk & price volatility 	<ul style="list-style-type: none"> • Allows centralized restoration • Encourages early investment
Early Action Credits	<ul style="list-style-type: none"> • Provides liquidity 	<ul style="list-style-type: none"> • Provides early mitigation
Phased-in Ratcheting Baseline	<ul style="list-style-type: none"> • Can decrease credit supply/increase cost 	<ul style="list-style-type: none"> • Encourages early investment, increased performance
Other Tools & Incentives	<ul style="list-style-type: none"> • Provides liquidity • Provides certainty 	<ul style="list-style-type: none"> • Provides early mitigation

Tool	Party Affected	
	Buyer	Seller
Buyer Banking	<ul style="list-style-type: none"> • Hedges costs • Links prices to expectations 	<ul style="list-style-type: none"> • Facilitates early demand • Links prices to expectations
Seller Banking	<ul style="list-style-type: none"> • Purchase options • Eases transactions 	<ul style="list-style-type: none"> • Eases market response • Requires upfront financing
Purchase Guarantees	<ul style="list-style-type: none"> • Predictable credit supply/price 	<ul style="list-style-type: none"> • Predictable credit demand/price
Advance Sale of Credits	<ul style="list-style-type: none"> • Purchase options • Eases transactions 	<ul style="list-style-type: none"> • Provides capital for acquisition/management
Early Action Credits	<ul style="list-style-type: none"> • Purchase options 	<ul style="list-style-type: none"> • Provides certainty • Facilitates early mitigation
Phased-in Ratcheting Baseline	<ul style="list-style-type: none"> • Ensures quality • Decrease supply/increase costs 	<ul style="list-style-type: none"> • Facilitates early mitigation • Decreases options/ increases costs
Other Tools & Incentives	<ul style="list-style-type: none"> • Purchase options • Regulatory certainty 	<ul style="list-style-type: none"> • Facilitates early mitigation • Regulatory certainty

Wetland & Stream Mitigation

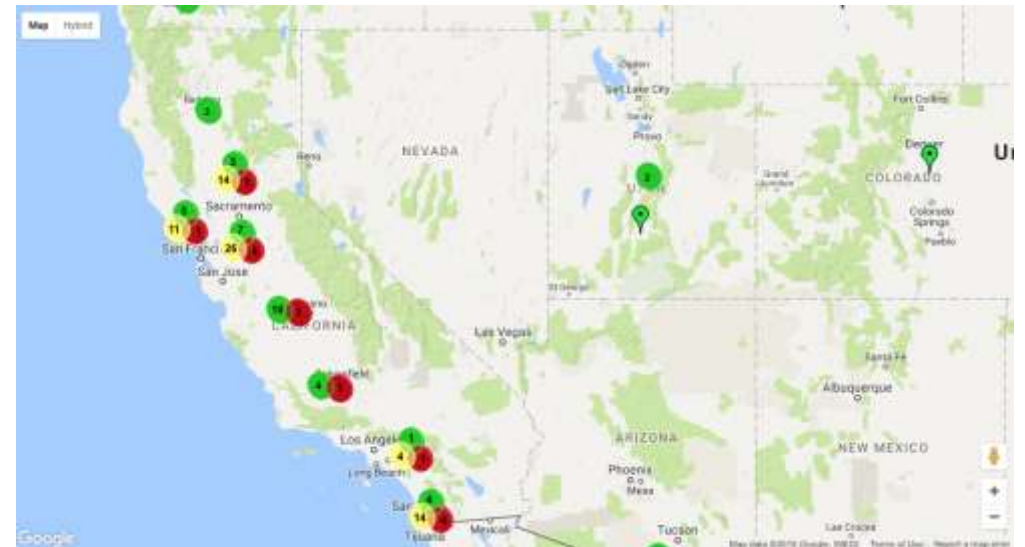
- 2008 Final Rule a big influence
- State DOTs also playing a big role
- Tools used
 - Advance Sale of Credits
 - Seller Banking



Source: www.daytondailynews.com

Species & Habitat Conservation

- Emphasis has traditionally been on habitat preservation...
- Tools used
 - Seller Banking
 - Some cross-over to Early Action Crediting



Source: <https://ribits.usace.army.mil/>

Greenhouse Gas Mitigation

- Great deal of analysis stemming from state, federal, and international climate efforts
- Offset markets a big source of experience
- Tools used
 - Buyer Banking
 - Seller Banking
 - Early Action Credits



Water Quality Trading

- Inherently thin due to narrow watershed reach of programs
- An important testbed despite mixed trading success
- Tools used
 - Buyer Banking
 - Grandfathering
 - Government Purchase
 - Advance Sale
 - Ratcheting Baseline
 - Other Tools



STORMWATER
DATABASE

Tool	Markets Used			
	Species and Habitat Conservation	Wetland and Stream Mitigation	Greenhouse Gas Mitigation	Water Quality Trading
Buyer Banking			X	X
Seller Banking	X	X	X	
Purchase Guarantees		(X)	(X)	X
Advance Sale of Credits		X		X
Early Action Credits	(X)		X	X
Phased-in Ratcheting Baseline			(X)	X
Other Tools & Incentives				X

Conclusions

- Tools are flexible, and must be matched to market structure and stakeholder need
 - Early action incentives will differ between parties
 - Market structure can also influence tool selection
 - Tools best suited for use may change over time
- Anecdotal evidence suggests that early action can yield economic benefits
- Market actors indicating benefits of early action
 - existence of mitigation banks, influence of pre-compliance demand on project implementation
- Greater data on costs/benefits of early action are needed

Questions?

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