Markets and Regulation: Alternative or Complements?

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Policy Goals

1. Achieve environmental improvement goals

   Water quality, soil erosion, habitat, wetlands loss, etc.

2. Do so at lowest cost possible

   – Total cost (regardless of who pays)

   – Final Incidence (who bears burden)

   Consumers, Producers, Taxpayers ?

How do markets achieve environmental performance?

- Markets will provide environmental services to the point where Supply = Demand

- Problem:

  - environmental services are public goods

  - therefore generally inadequate demand

- Solution:

  - Government involvement

  - permit trading, "cap-and-trade," "offsets"

Market: Environmental Goal Met

- SO2 market in Clean Air Act
  - 1990 Clean Air Act Amendments
  - Regulated SO2 discharges from power plants
- Made them tradable: cap-and-trade
  - Producer could meet cap themselves or could buy credits from those who exceeded their clean up
  - SO2 emissions from have fallen from 17.3 million tons in 1980 to about 7.6 million tons in 2008, a decrease in emissions of 56 percent (EPA)

Market: Environmental goal?

- Chicago Climate Exchange
  - Operated from 2003-2010
  - Established ground rules, proof of concept, but
  - Ceased trading due to inactivity in C markets.

- Non point source: Water Quality Trading
  - Permit requirements (NPDES) on point sources only
  - ~ 475 of 700 watersheds agriculture contributes 90%+ of N loads (Ribaudo et al. 2008)
  - No chance for water quality trading to achieve significant reductions

Markets and Cost

- Well functioning markets are about competition: lowest cost dominates

- Less discussed, role of "property rights"
  - who gets to choose level of pollution
  - society, regulations determine legal limit
  - polluters, private property

Property rights with polluters

- Cost share programs - voluntary
  - Conservation Reserve Program,
  - Environmental Quality Improvement Program,
  - Conservation Security Program, and
  - Wetlands Reserve Program , etc.
- Reverse auctions
- Offsets (baseline and trade)
- Labeling, consumer information programs
- Conservation compliance

Property rights with society

- Approach for many pollutants
  - Industrial sources air pollution
  - Point sources water pollution
  - Smoking bans, etc.
- Policies that are consistent with:
  - Cap and trade (capped sectors)
  - Regulatory requirements

BMPs: Everglades Agricultural Area

- 718,000 acres (40 acre fields)

- Everglades Regulatory Program
  - goal 25% P reduction overall
  - mandatory BMPs, 1995
  - Implemented via points
    - flexibility in BMPs, 25 points/farm
    - expert judgment set point values
    - must implement and monitor WQ

Wikipedia

EAA Regulatory Program

- Property Rights: with citizens

- First 3 years: 55% P load reduction (SFWMD, 1998)

- Unable to find information on costs
  – Direct cost of BMPs
  – Lost profit
  – Cost of monitoring
  – Cost of program implementation

Permit Trading System Based on Points

- Assign points to each practice/landuse

- Set total points for watershed and allocate

- Allow trading

- Adopt adaptive management

- Include innovation options

Features

- Puts property rights to clean water in hands of society

- Addresses fairness – early adopters rewarded

- Could use observability of practices as part of point basis

Which works best to achieve these goals: Markets or Regulation?

- Markets: achieve cost reductions, but usually under provide environmental improvements

- Regulations: achieve environmental improvements, but usually not lowest cost

- Markets AND Regulation valuable

- Property rights is important part of story as well

Thanks for your attention!