

# Design of a U.S. cap and trade program

Nathaniel O. Keohane, Ph.D  
Director, Economic Policy & Analysis

“Climate Change Policy:  
Lessons from the European Experience”  
Center for European Studies, Rutgers University  
March 26, 2010



Is cap and trade dead?

Is cap and trade dead?

Depends on what you mean by  
“cap and trade” ...

Is cap and trade dead?

Depends on what you mean by  
“cap and trade”...

and by “dead.”

## Major policy design issues (1/6)

**Targets and timetables**

Scope and point of reg.

Offsets

Int'l competitiveness

Cost containment

Allocation

HR2454:

2012: 3% below 2005

2020: 17% below

2050: 83% below

Notes:

- 2005 emissions were 17% above 1990.
- We are currently looking up at the 2012 target.

## Major policy design issues (2/6)

Targets and timetables

Scope and point of reg.

Offsets

Int'l competitiveness

Cost containment

Point of regulation

Scope should be **as broad as possible** to capture largest gains from trade.

“Point of regulation” refers to who is responsible for submitting allowances.

- Economists tend to favor “**upstream**” point of regulation.
- But the political process favors a **midstream** system.

## Major policy design issues (3/6)

Targets and timetables

Scope and point of reg.

**Offsets**

Int'l competitiveness

Cost containment

Allocation

Offsets effectively **expand the scope** of the market.

But **strong scientific review** is crucial.

Not all offsets are created equal:

- Domestic offsets
- Tropical forest carbon (REDD)
- International
  - CDM (project-based)
  - Sectoral crediting

## Major policy design issues (4/6)

Targets and timetables

Scope and point of reg.

Offsets

**Int'l competitiveness**

Cost containment

Allocation

A legitimate environmental and economic issue behind the façade of protectionism.

**Avoid carbon leakage** from trade-exposed manufacturing sectors.

Solutions:

- Output-based allocation
- Border adjustments



## Major policy design issues (5/6)

Targets and timetables

A price collar, sure – but will it be “hard” or “soft”?

Scope and point of reg.

Offsets

Classic tension between greater certainty about cost and greater certainty about outcomes.

Int’l competitiveness

**Cost containment**

Allocation

## Major policy design issues (6/6)

Targets and timetables

Scope and point of reg.

Offsets

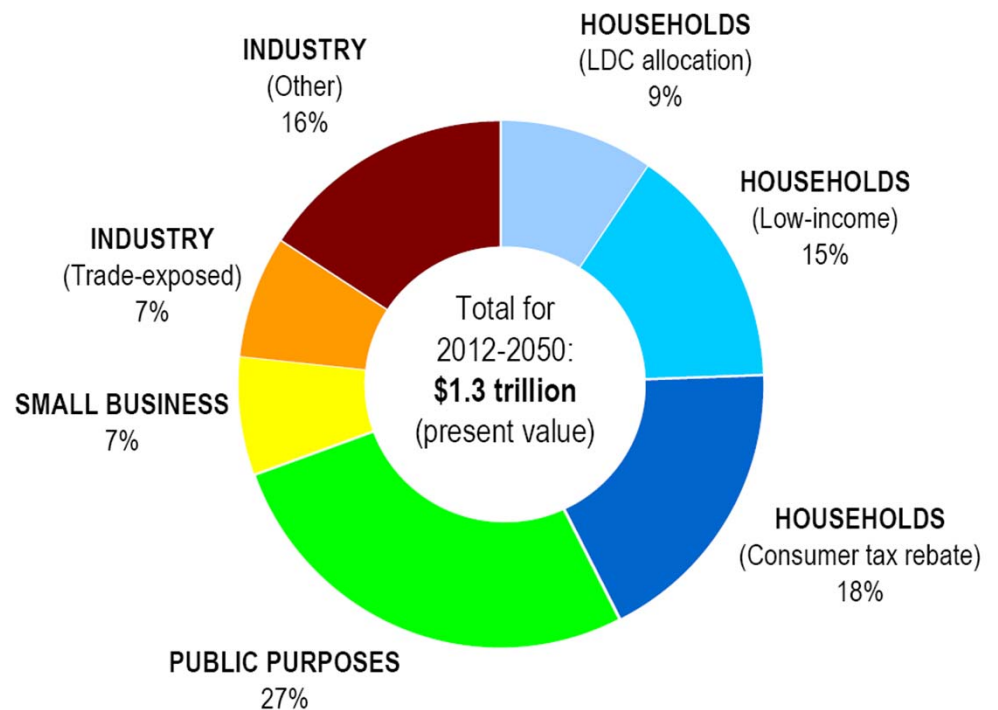
Int'l competitiveness

Cost containment

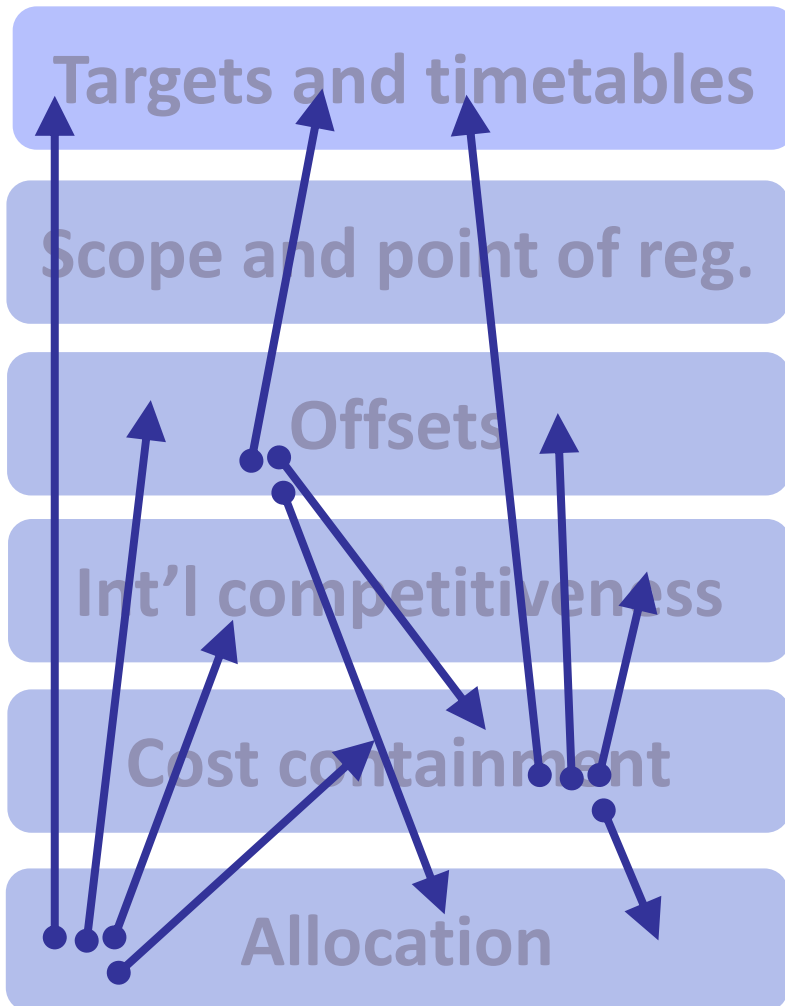
**Allocation**

What matters is **how allowance value is distributed**, not auction vs. free allocation.

Chart shows HR2454 allocation



## Putting it all together (1/2)



Everything is connected!

## Putting it all together (2/2)

Targets and timetables

Scope and point of reg.

Offsets

Int'l competitiveness

Cost containment

Allocation

### What's missing:

- Financial market regulation
- Incentives for coal, CCS, nuclear, etc.
- Complementary measures
- Offshore drilling

## Comparison of legislative proposals

### Waxman-Markey

17% in 2020  
83% in 2050

Mixed, economy-  
wide

Plentiful domestic &  
int'l offsets incl REDD

Output-based rebates  
and border adj.

Allowance reserve  
with "soft" price

2/3 free allocation  
phasing out over time



## Comparison of legislative proposals

### Waxman-Markey

17% in 2020  
83% in 2050

Mixed, economy-wide

Plentiful domestic & int'l offsets incl REDD

Output-based rebates and border adj.

Allowance reserve with "soft" price

2/3 free allocation phasing out over time

### Cantwell-Collins

Much more gradual emissions reductions

Upstream, economy-wide

No offsets

Border adjustment

Hard price collar

Auction with 75% dividend

## Comparison of legislative proposals

### Waxman-Markey

17% in 2020  
83% in 2050

Mixed, economy-  
wide

Plentiful domestic &  
int'l offsets incl REDD

Output-based rebates  
and border adj.

Allowance reserve  
with "soft" price

2/3 free allocation  
phasing out over time

### Cantwell-Collins

Much more gradual  
emissions reductions

Upstream, economy-  
wide

No offsets

Border adjustment

Hard price collar

Auction with 75%  
dividend

### KGL

17% in 2020  
83% in 2050

Hybrid "sector by  
sector"

Domestic offsets;  
int'l less certain

Output-based rebate  
and border adj.

Allowance reserve  
with "firm" price

No auction but  
more dividend

## Lessons from the EU experience

1. Establish a long time horizon with banking



## Lessons from the EU experience

1. Establish a long time horizon with banking
2. Increase the scope of trading

## Lessons from the EU experience

1. Establish a long time horizon with banking
2. Increase the scope of trading
3. **Avoid windfall allocations**

## Lessons from the EU experience

1. Establish a long time horizon with banking
2. Increase the scope of trading
3. Avoid windfall allocations
4. Use good data

## Lessons from the EU experience

1. Establish a long time horizon with banking
2. Increase the scope of trading
3. Avoid windfall allocations
4. Use good data
5. Don't let 27 different jurisdictions set their own caps

## Lessons from the EU experience

1. Establish a long time horizon with banking
2. Increase the scope of trading
3. Avoid windfall allocations
4. Use good data
5. Don't let 27 different jurisdictions set their own caps
6. Behavioral lessons?