



# Are Renewables Mandates Still Necessary With GHG Markets in Place?

NREMC 2008  
October 27, 2008



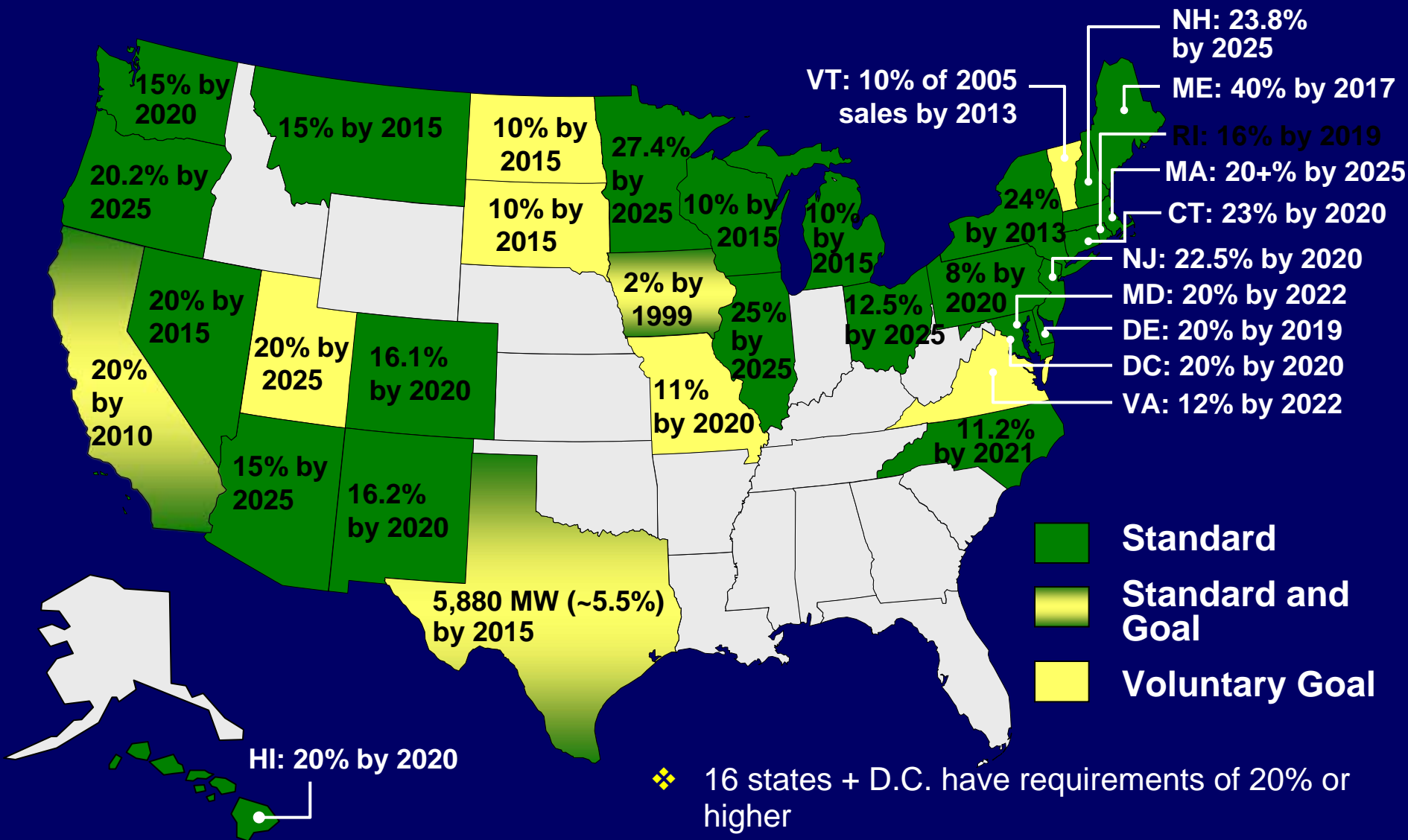
Cliff Chen  
Clean Energy Program  
Union of Concerned Scientists  
[www.ucsusa.org](http://www.ucsusa.org)

# Presentation Overview

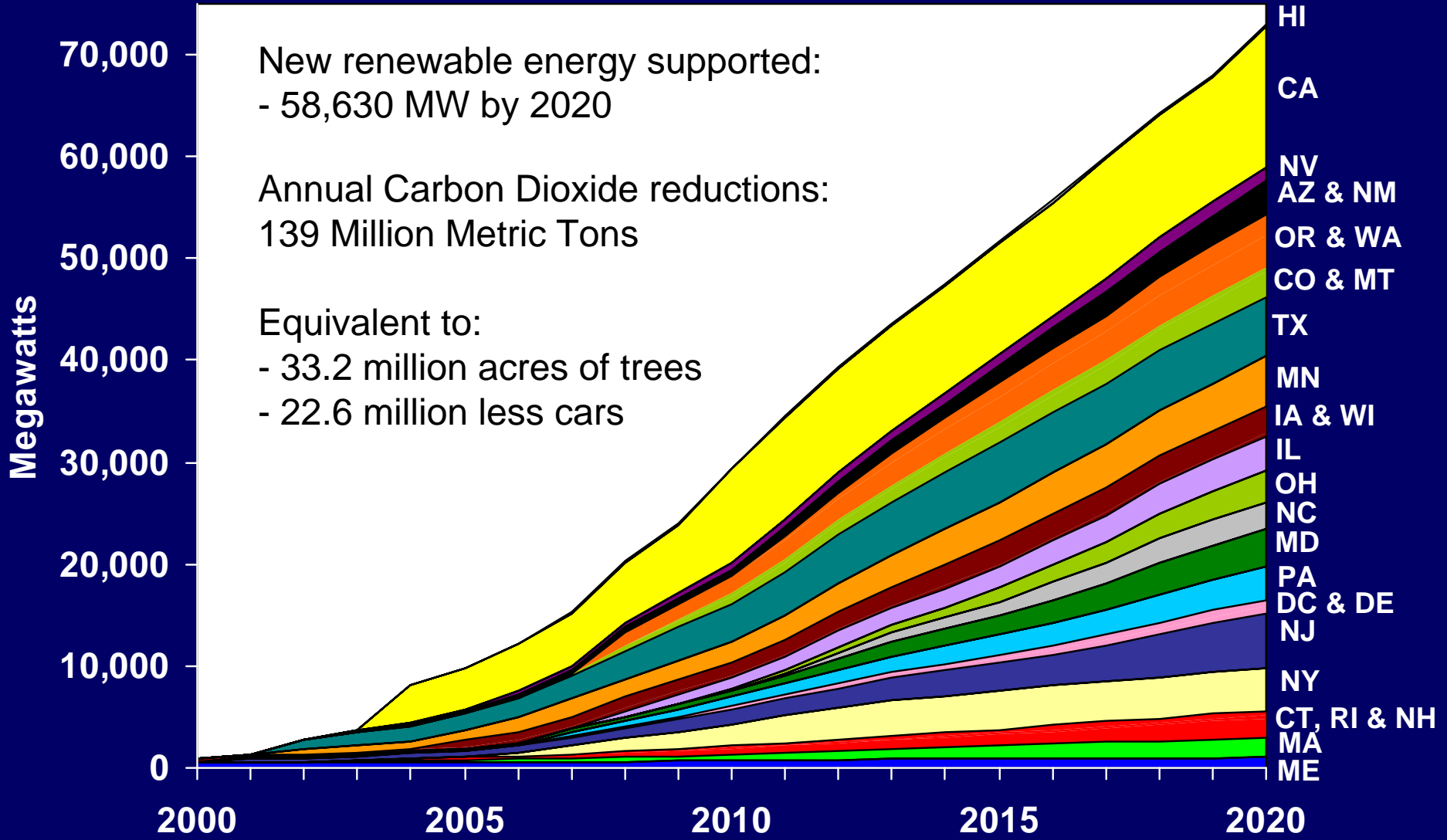
- 1. RES Overview**
- 2. Cap-and-Trade in Theory and Practice**
- 3. What Has Cap-and-Trade Done for Renewables?**
- 4. What Will Cap-and-Trade Do for Renewables?**
- 5. Conclusions**

# Renewable Electricity Standards

## 27 States + D.C.



# Renewable Energy Expected From State Standards\*



\*Projected development assuming states achieve annual renewable energy targets.

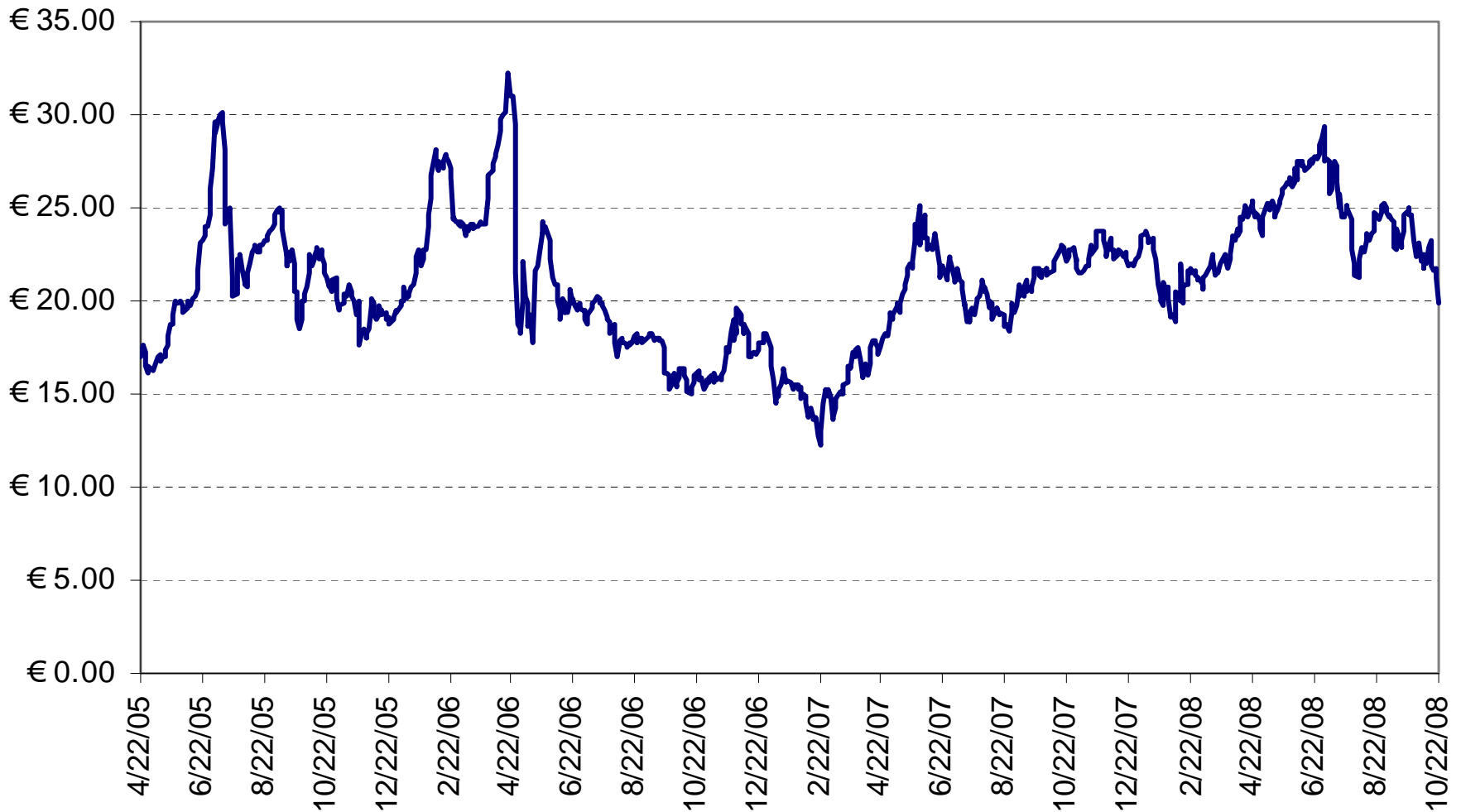
# Cap-and-Trade: In Theory

- Emissions allowance commodity internalizes GHG emissions cost externality
- Market optimizes least-cost reductions at given cap level
- Provides regulators with a tool to efficiently address a daunting economy-wide problem
- Renewables compete on level playing field against all GHG abatement options

# GHG Cap-and-Trade: In Practice

- EU-ETS: over-allocation, fuel switching and allowance price volatility
- RGGI: over-allocation, low allowance prices, and emissions leakage
- CA/WCI/Midwest/Federal: in design stages

# EU-ETS Allowance Price Volatility



Source: ECX

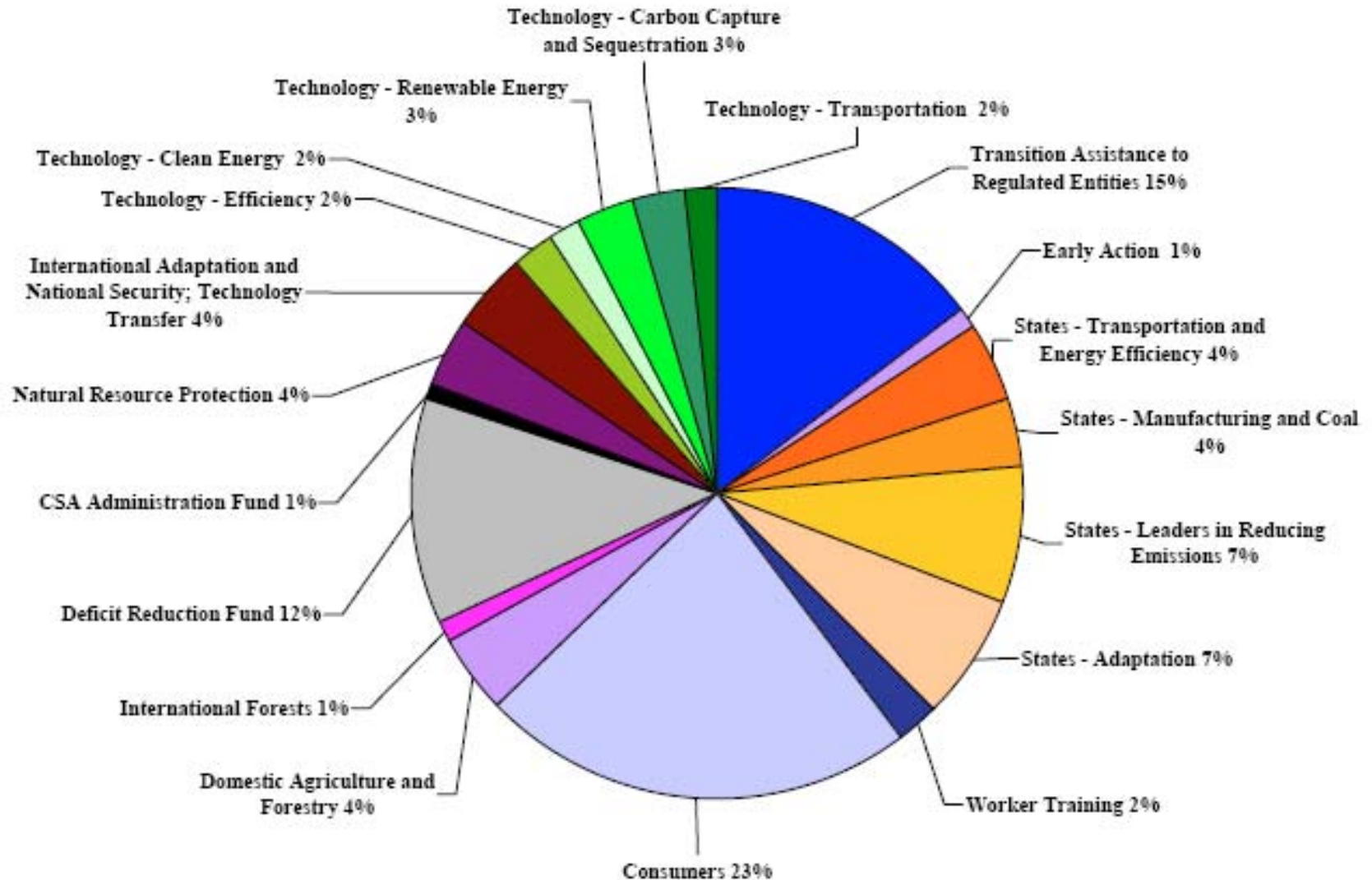
# How Much Has Cap-and-Trade Helped Renewables?

Limited experience to date, but so far...

- Price uncertainty has created investment uncertainty and focused compliance into short-term decisions
- Offsets threaten environmental integrity of the cap and allow outsourcing of emissions reductions
- Carbon price does not address structural and non-price market barriers to renewables
- European Business Council for Sustainable Energy: “Emissions trading does not support short-term renewable energy uptake.”



# Renewables May Get a Very Small Slice of the GHG Pie



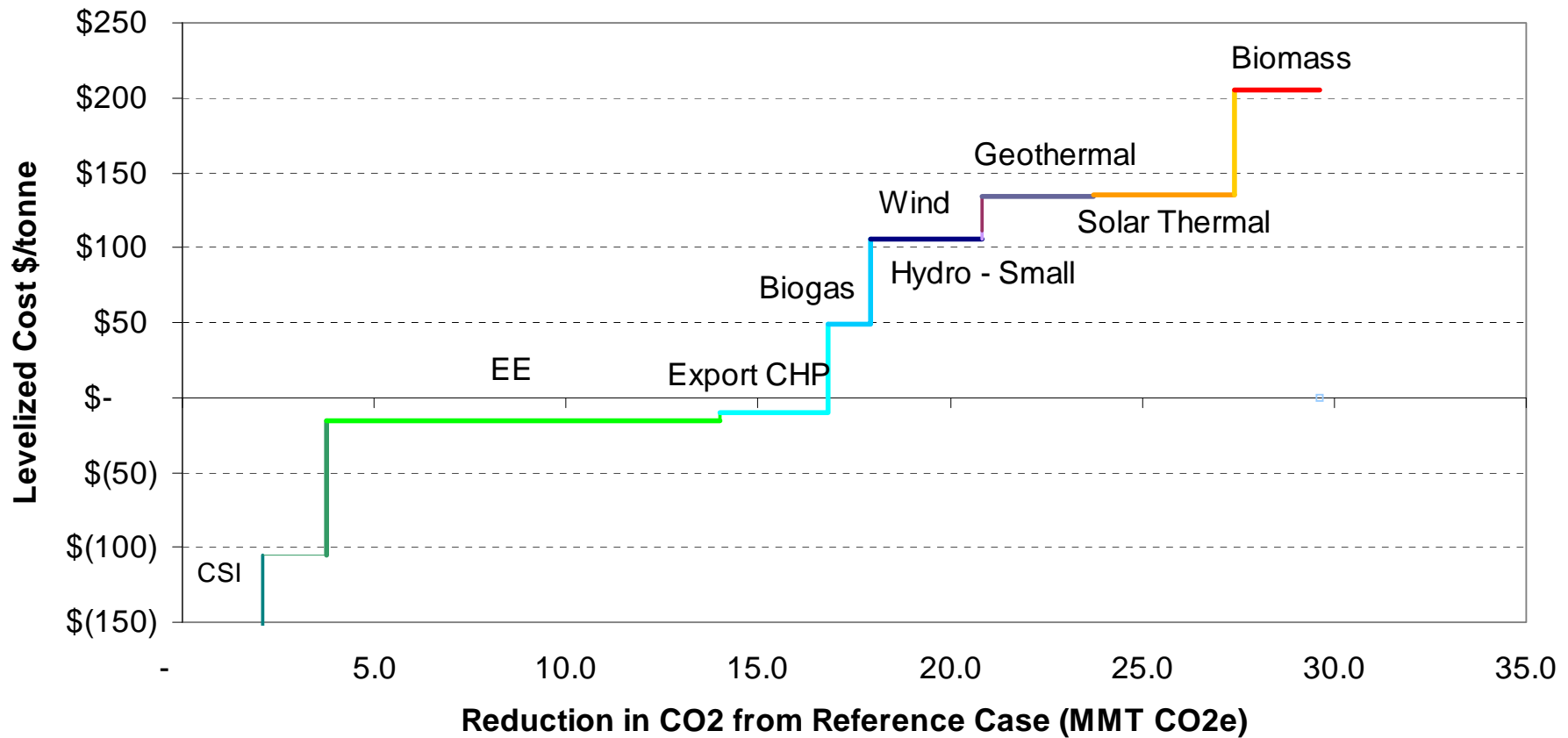
\* Includes all allowances distributed over the life of the program (2012-2050) through both free distribution and auction, and grouped by category. For a description of the sections included in each category see Table 1.

Note: Does not include cost-containment provisions.

Source: Pew Center on Global Climate Change

# Some Renewables May Not be Competitive Until CO2 Prices Reach Very High Levels

## CO2 Supply Curve of Selected Low-Carbon Resources



# How Much Will Cap-and-Trade Help Renewables?

Depends on whether...

- Cap has sufficient environmental integrity
- Investor confidence in floor price
- Sufficient regional/national coverage to limit emissions leakage
- Non-trivial distribution of allowances and auction revenues to renewables
- Market is well functioning and has some policy and price stability

# Why Not a Carbon Tax?

- **Taxes provide price certainty and simplicity, but...**
- **...No assurance that sufficient emissions reductions are achieved**
- **Allowance price floor could provide some of the price certainty of a tax**

# **Strong RES is Essential Insurance Policy for Renewables**

- **Near-term cap-and-trade impacts are uncertain; real possibility of loose cap, low and volatile prices, and minimum allocations/auction revenue for renewables**
- **Neither cap-and-trade nor carbon tax addresses key renewable barriers:**
  - **Transmission**
  - **Siting and permitting**
  - **System integration**
  - **Coordinated long-term planning**
- **RES suppresses natural gas demand and price**

# RES is Foundational GHG Reduction Policy



- Renewables are essential component of transition to clean energy economy – growth of renewables market should not be left to chance
- Stronger RES policies will reduce price of GHG allowances
- Don't forget the co-benefits: many reasons to do renewables aside from GHGs

# Conclusions

- Cap-and-Trade will eventually help renewables compete, but near-term impact may be limited
- Learn from early mistakes in cap-and-trade design
- Carbon price needs to be complemented by other policies to address renewables barriers
- Strengthening and expanding RES (and other renewables) policies should be part of any climate policy framework

# UCS Renewable Electricity Standard Toolkit

Union of Concerned Scientists  
Citizens and Scientists for Environmental Solutions

Take Action - Subscribe - Donate - Join

Global Warming Vehicles Energy Invasives Security Food Scientific Integrity

## RENEWABLE ELECTRICITY STANDARDS TOOLKIT

In a growing number of states, renewable electricity standards have emerged as an effective and popular tool for developing a cleaner, more sustainable power supply. UCS created this toolkit to provide renewable energy advocates, policy makers, researchers, and concerned citizens with both summary-level and in-depth information on the design and implementation of each existing state standard.

About the toolkit | What are renewable electricity standards? | Why is renewable energy important? | How are the states doing?

Get an overview: STATES TARGETS ADOPTION GROWTH TRADING

Search for in-depth information: DATABASE OF STATE STANDARDS

Search State Standards

Select a state: All and topic:

Authorizing Legislation and Regulation --Topics-- GO ?

Targets and Timetables --Topics-- GO ?

Eligibility --Topics-- GO ?

Applicability --Topics-- GO ?

Cost Provisions --Topics-- GO ?

Compliance, Tracking, and Enforcement --Topics-- GO ?

Administration and Reporting --Topics-- GO ?

**STATES WITH RENEWABLE ELECTRICITY STANDARDS**  
Twenty-one states, plus Washington, DC, have adopted renewable electricity standards.

Download the detailed state summaries:

AZ | CA | CO | CT | DE | DC | HI | IA | MA | MD | ME  
MN | MT | NJ | NM | NV | NY | PA | RI | TX | WA | WI

- Resources include:
  - Summary-level maps & graphics
  - Detailed state summaries
  - Searchable database of 34 design and implementation elements
- Targeted toward advocates, policy makers, researchers, and concerned citizens
- Available at [www.ucsusa.org/res](http://www.ucsusa.org/res)