

Cap-and-Trade for Oregon?

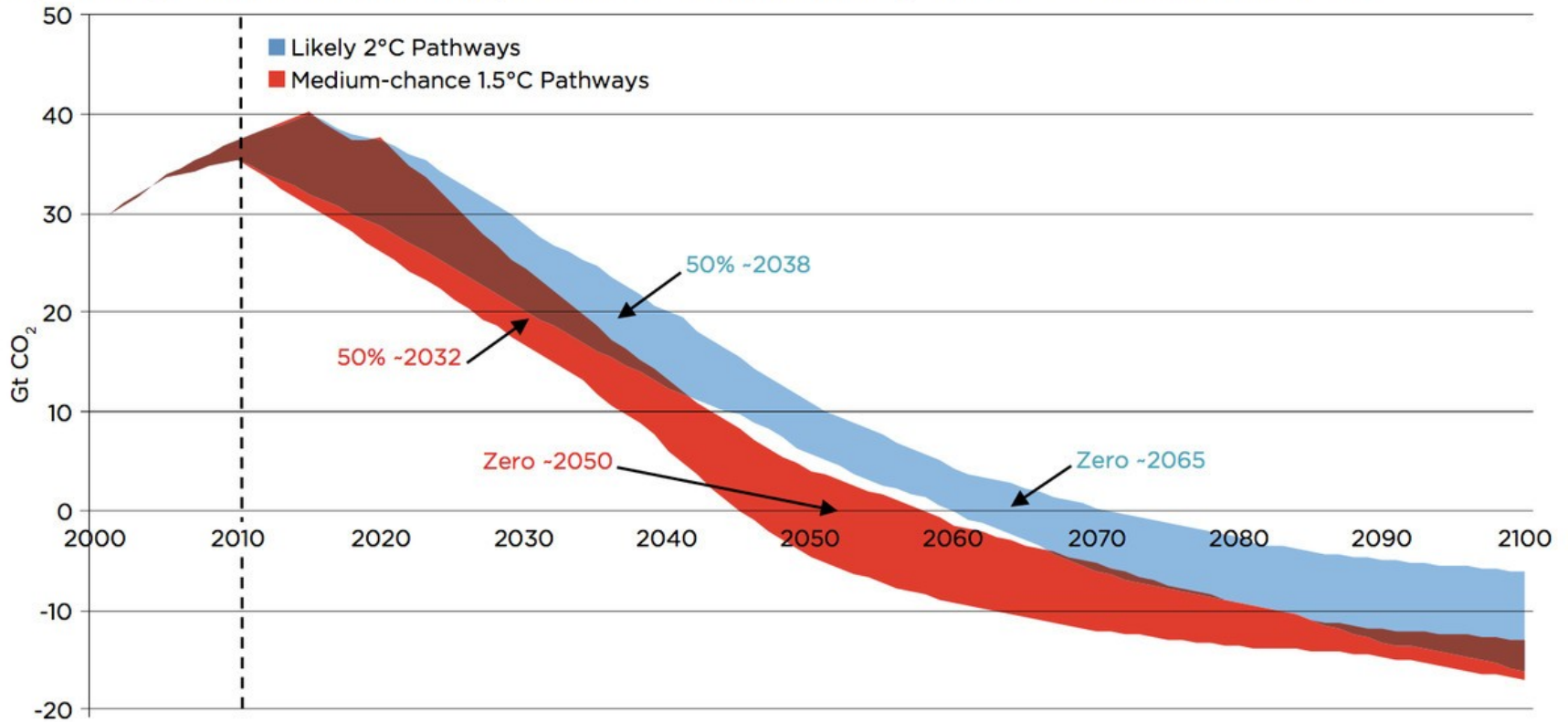
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1.5°C: Deep Reductions, Net Zero, Net Negative

Figure 1: Range of Global Emissions Pathways in Scenarios Consistent with Likely Chance of 2°C or Medium Chance of 1.5°C¹⁸

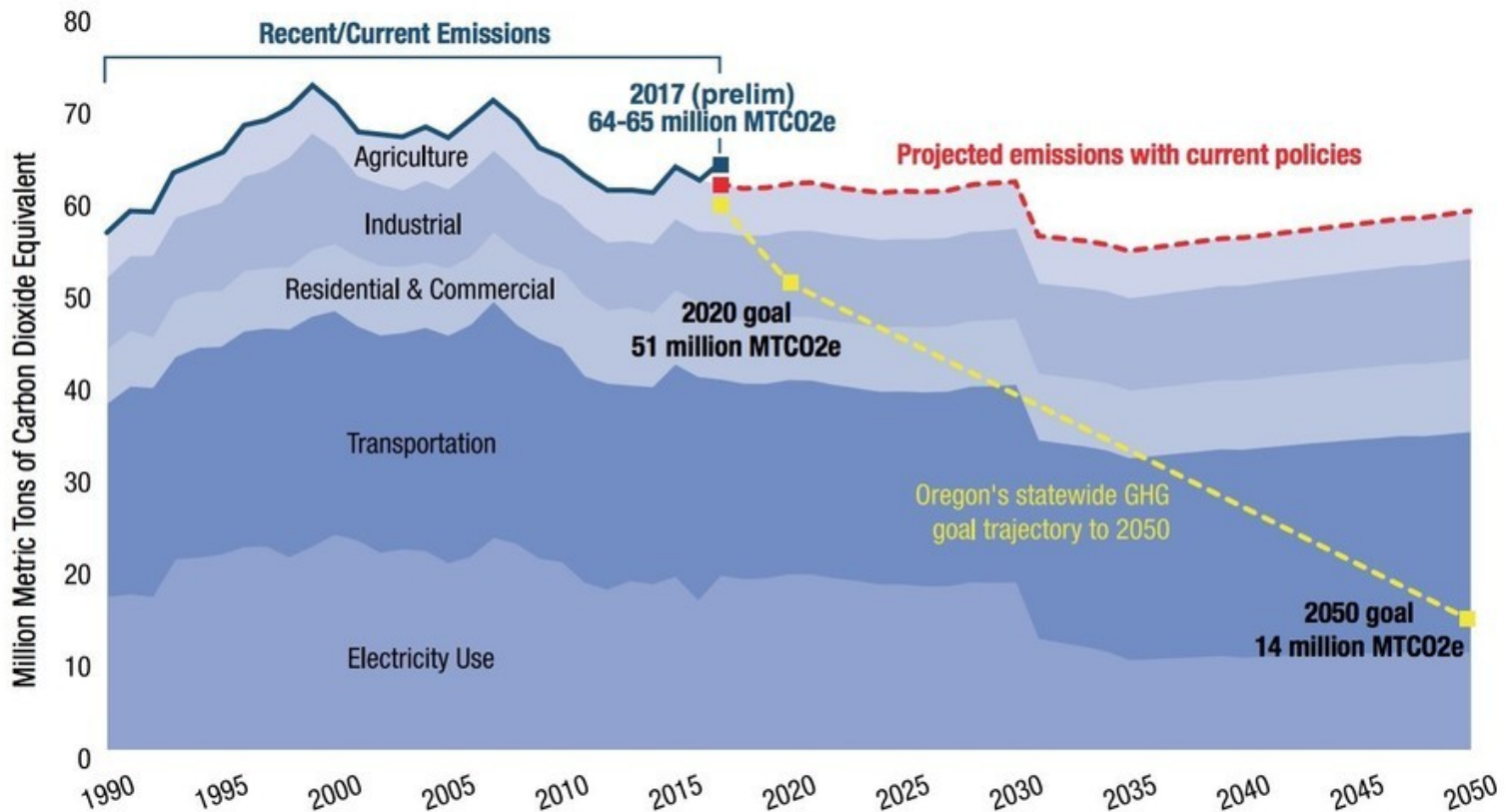


Sources: Joeri Rogelj et al

**“EVERY SYSTEM IS PERFECTLY DESIGNED TO
GET THE RESULTS IT GETS” . . . AND SO . . .**

Oregon is Not Aiming for Net Zero or Negative (or 1.5°C)

Figure 1. Oregon past and projected greenhouse gas emissions compared to goals



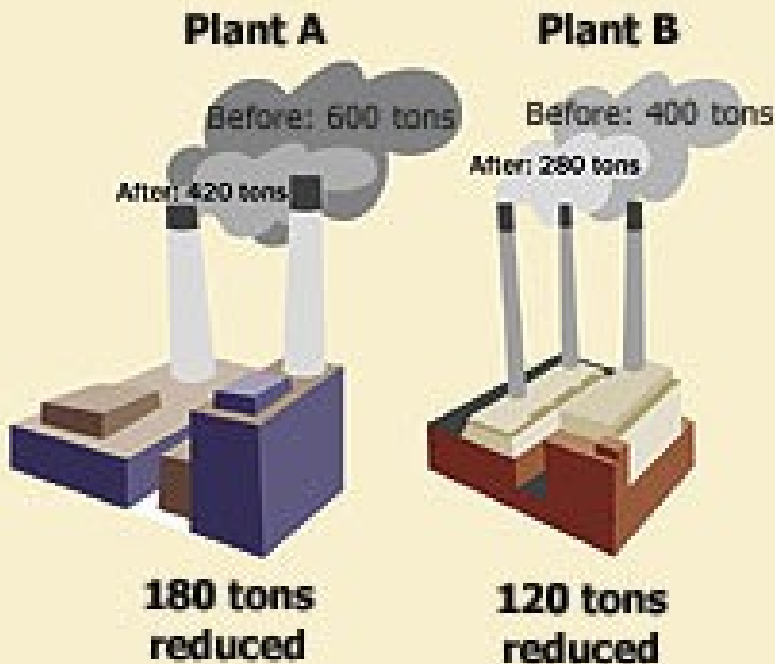
THE PROMISE AND REALITIES OF CAP AND TRADE

Emissions Trading

- Simplest form
 - Regulators set an overall cap on allowable emissions from covered sources
 - Regulators allocate emissions credits/allowances to covered sources
 - each allowance = amount of pollution (e.g., 1 credit = 1 ton CO₂eq)
 - Sources may:
 - Emit same amount of pollution as they have allowances
 - Emit more pollution, and buy allowances
 - Emit less pollution, and sell allowances

Emissions Trading

Traditional Approach: 30% Mandatory Reduction



Total Emissions Reduced: 300 tons
Cost to Reduce: \$12,000

Flexible Cap-and-Trade Approach



Total Emissions Reduced: 300 tons
Cost to Reduce: \$9,000

Emissions Trading

- Typical mechanics
 - Regulators set a cap and divide allowable amount of pollution between covered entities
 - Or auction off all allowances, or combo
 - Facilities then track emissions during relevant period
 - At end of period, facilities must turn in an amount of credits equal to their emissions
 - If allowances > emissions = banked credits or credits to sell
 - If emissions > allowances, must buy credits or pay a penalty

Emissions Trading Example



Total
allowable
emissions =
purple box =
1000
tons/year

Each
emissions
allocation =
smaller
boxes =
100
tons/year

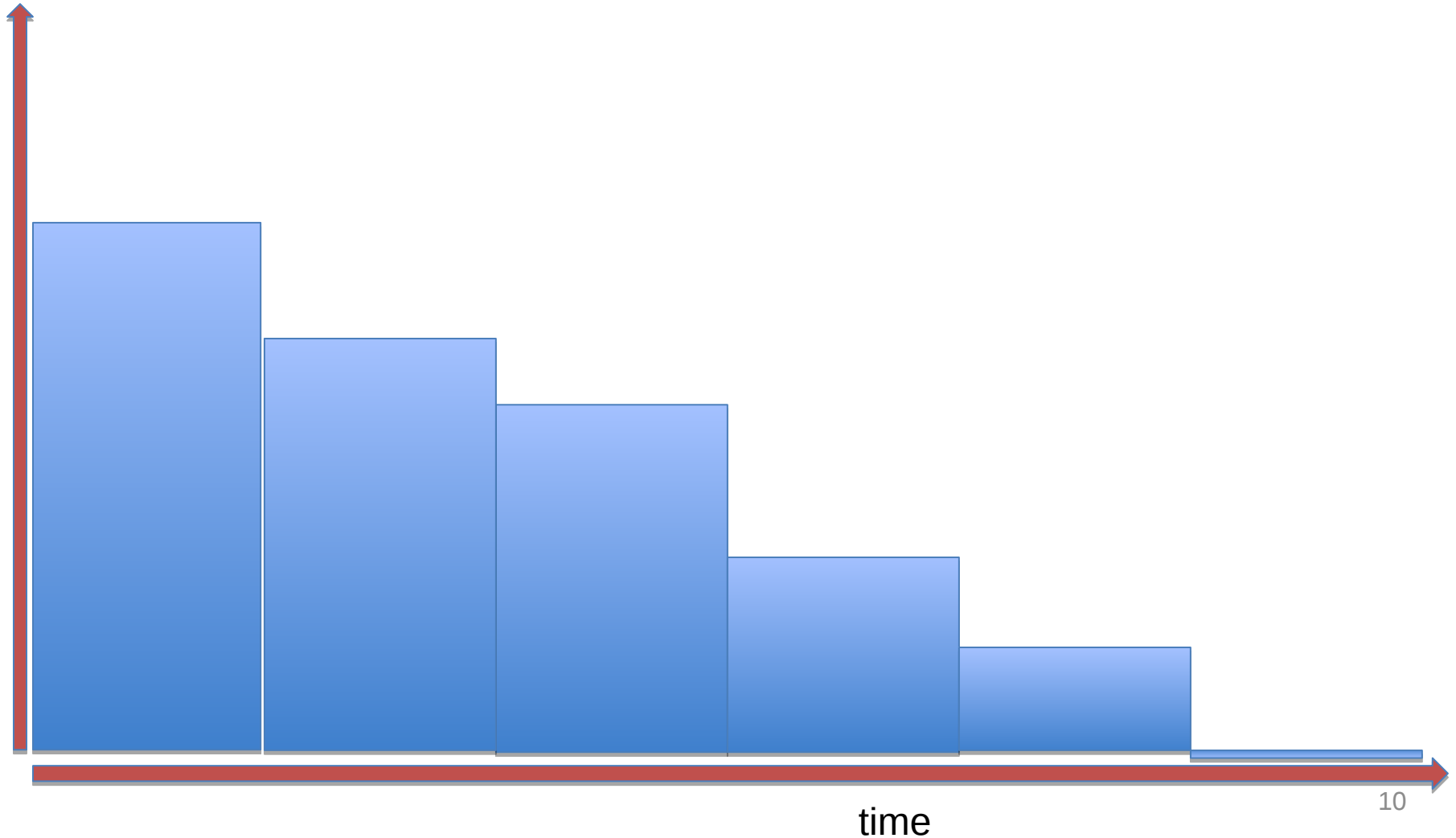
Entity 10 receives 100 allowances (each = 1
tons/year

Entity 10 emits 100 tons in a year

Entity 10 surrenders 100 tons

Getting to Zero Through Cap-and-Trade?

emissions



Emissions Trading: The Rules Matter!

- If cap is not designed to get to zero, then the program will not get to zero
- If parties can “bank” emissions allowances, then future caps may effectively become *higher* than they are set
- If sources shut down and allowances stay in the system, then other sources will not have to reduce as quickly deeply
- If parties can use “offsets,” then cap will be higher than nominally stated

Emissions Trading and Banking



Total allowable emissions = purple box = 1000 tons/year

Each emissions allocation = smaller boxes = 100 tons/year

Bank or sell

Entity 10 receives 100 allowances (each = 1 tons/year)
Entity 10 emits 90 tons in a year
Entity 10 surrenders 90 tons
Entity 10 may keep credits to use later (banking) or sell the credits to someone else

Emissions Trading and Banking



Total allowable emissions = purple box = 1000 tons/year

Each emissions allocation = smaller boxes = 100 tons/year

Bank or sell

If entity 9 emits too much, it may buy credits from entity 10.

Emissions Trading and Banking



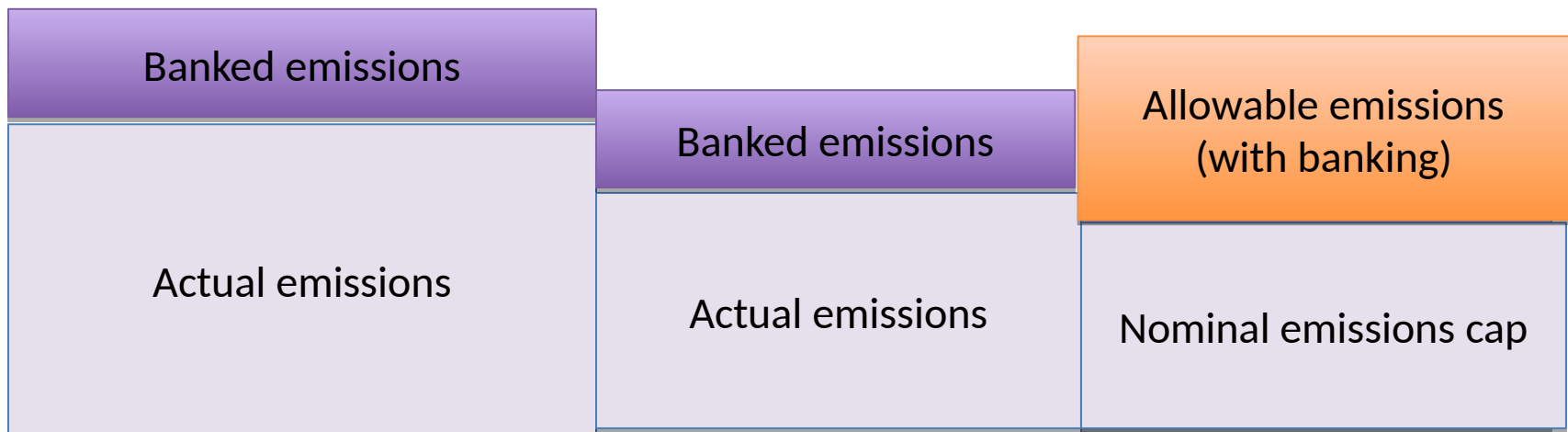
Total allowable emissions = purple box = 1000 tons/year

Each emissions allocation = smaller boxes = 100 tons/year

Bank or sell

What if everyone emits less than expected?
May mean that everyone will “bank” their emissions and apply them to future years.

Emissions Trading and Banking



Flexibility, but may undermine long-term incentives to reduce emissions

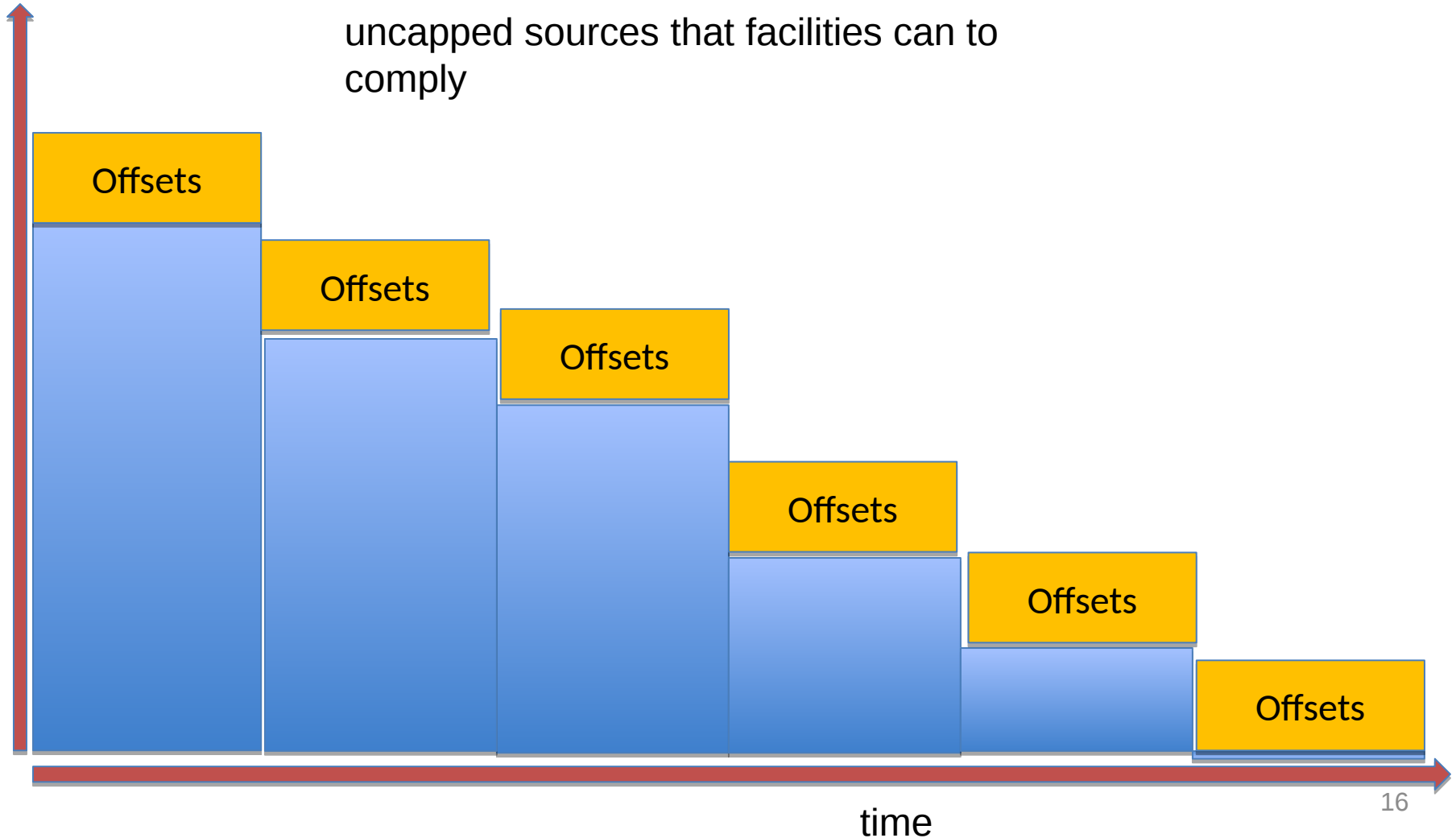
May make the cost of emitting lower than desired

Windfall concern if banked emissions result from facility shutting down

Emissions Trading and Offsets

emissions

Offsets = emissions reductions from uncapped sources that facilities can to comply



Arguments in Favor → Counterpoints

- Absolute cap on emissions → But not with offsets/unlimited banking
- Flexible → Regulatory uncertainty/opportunity for gaming
- Administratively easier → Nope, no evidence
- Spurs innovation → Not necessarily; assumes that emitters are the innovators – lots of examples of how this isn't so
- Revenue generation → Yes, but depends upon design
 - Free allowances versus paid allowances
 - Revenues should fall as cap shrinks
 - Path dependency concerns?

Design Elements to Ensure Cap-and-Trade is as Effective As Possible

- Create programs that aim for zero emissions
- Limit allowance lifespans to prevent unlimited banking
 - Whenever a facility shuts down, cap should lower automatically
- Create local offset programs
- Prohibit land use/forestry/non-fossil-fuel offsets

Design Elements to Ensure Deeper Emissions Reductions

- No preemption of other state/local regulation
- Regular resetting (lowering) of cap if emissions drop quicker than expected
- Set cap low so new emitting facilities cannot get allowances

Environmental Justice Concerns

- Even if the program includes these design elements, cap-and-trade creates environmental injustice risks, e.g.,
 - Heavy emitters continue to be heavy emitters
 - Political compromises protect incumbents

Conclusion

- Cap-and-trade is a difficult tool to get right
 - At least once political actors change the economically pure rules
- Cap-and-trade may help decarbonization, largely through the cap and money earned
- But it cannot be the single policy tool and should not be viewed as *the* solution