

How carbon pricing helps mitigate climate change

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Multnomah Democrats Climate Action Forum
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The GND – something is missing...



HR 109
7 Feb 2019

95 cosponsors

Resolved “...achieve **net zero GHG emissions...**”

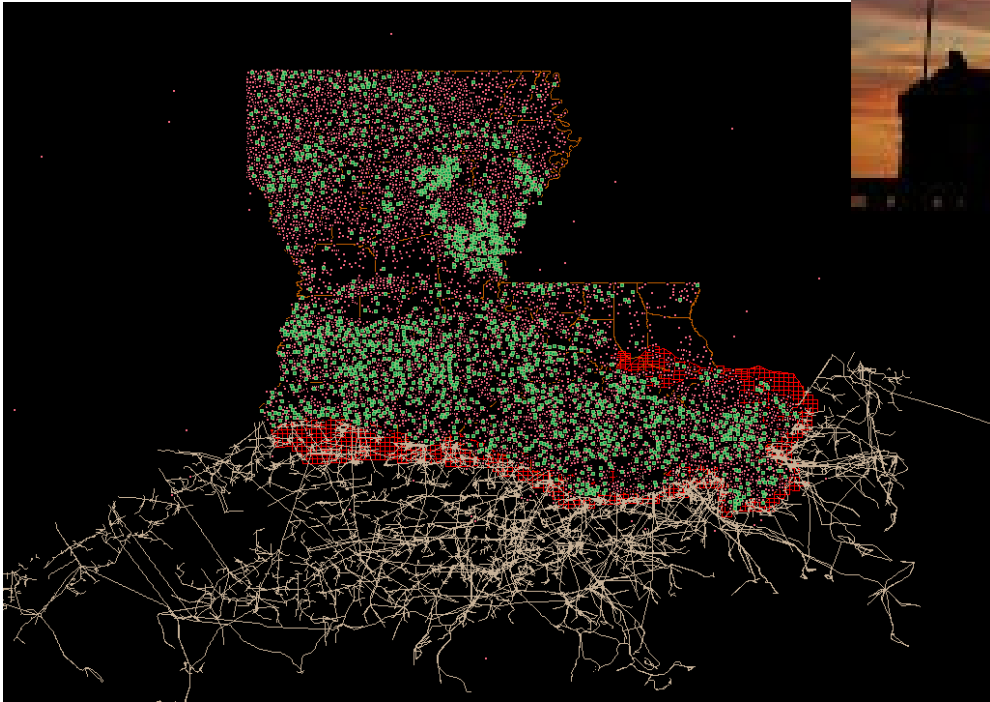
“...fair and just transition...”

“...clean manufacturing...”

“...restoring ecosystems...”

“...100% power...clean, renewable...”

The GND doesn't say **how** to *stop fossil fuels*



“all of the above”
amounts to
business as usual
and a 3.5°C world

Proposed:

Pricing carbon pollution is the best way to catalyze the decisive turn away from fossil fuels that must happen very soon

IPCC1.5 endorses carbon pricing

“Policies reflecting a high price on emissions are **necessary** in models to achieve cost-effective 1.5°C-consistent pathways”

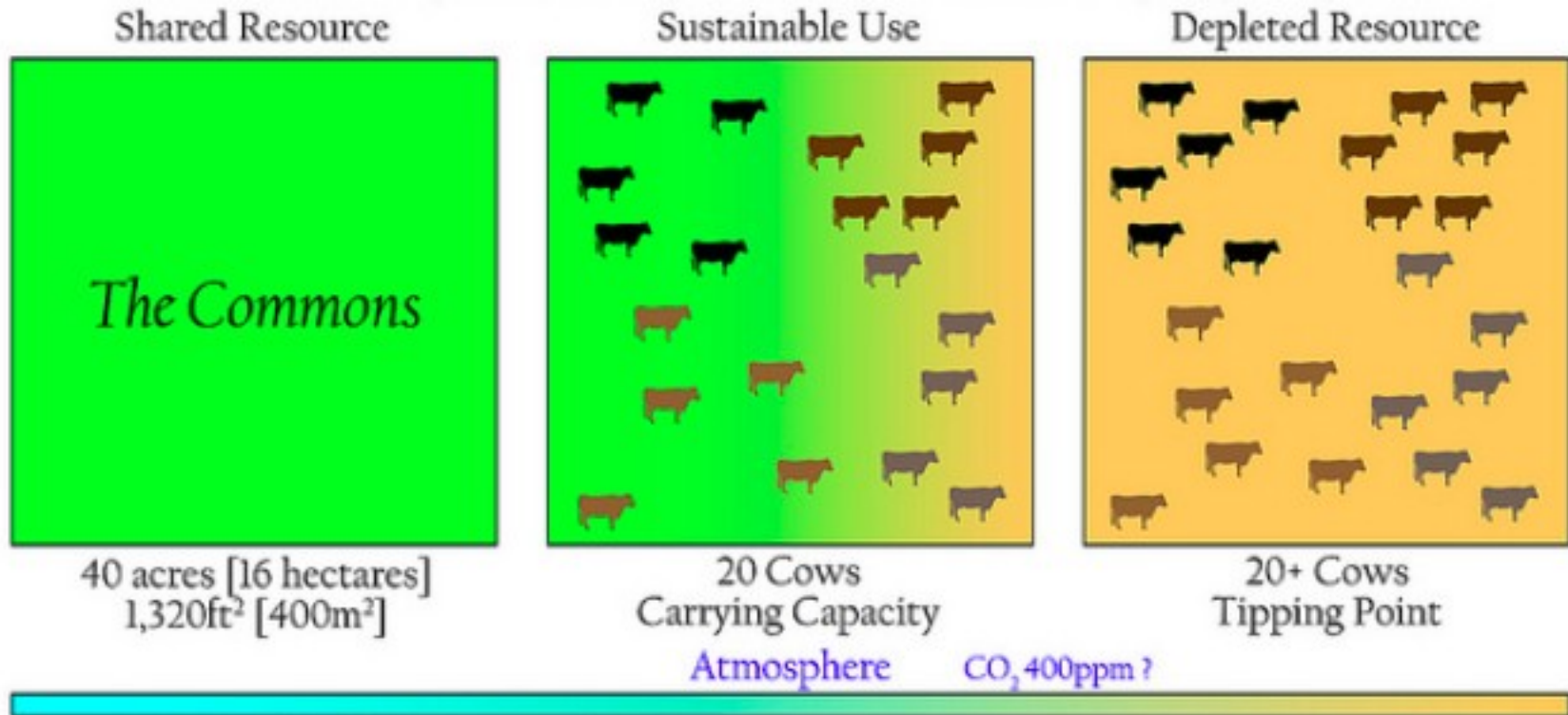
William Nordhaus, Nobel Prize in Economics, 2018: for showing that “...the **most efficient remedy** for problems caused by greenhouse gases is a global scheme of **universally imposed carbon taxes**”



THE UNIVERSITY OF TEXAS SCHOOL OF BUSINESS/PHOTOGRAPH BY REUTERS

William Nordhaus (left)
Paul Romer (right)
2018 Nobelists in Economics

Carbon pricing corrects market failure



- **Markets *per se* did not cause climate change**
- *Unregulated* markets did
- Pricing corrects the negative externality

Example: market mechanism at work

Coal SO₂ emissions ☒
acid rain ☒ dead lakes

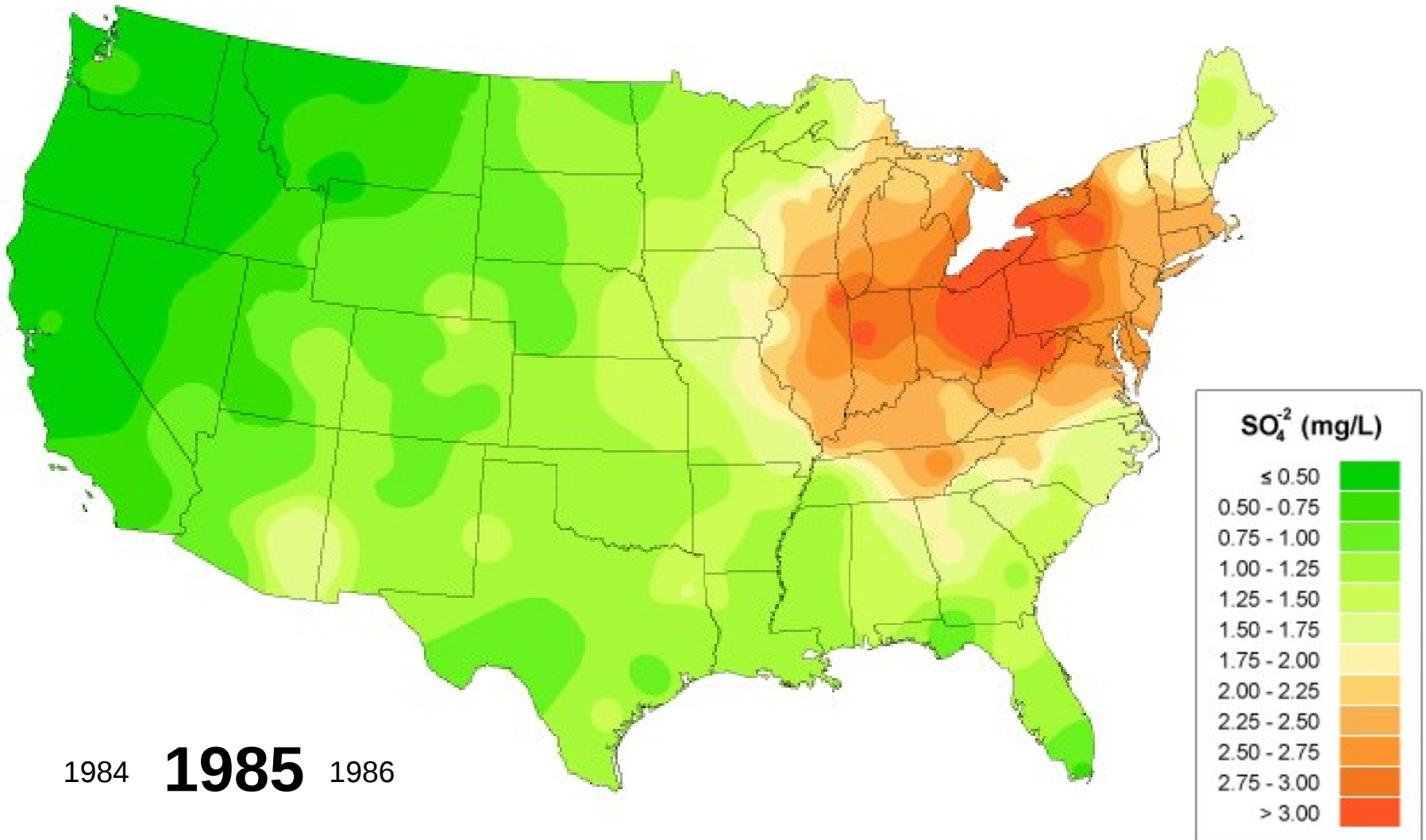
EPA limits overall annual
emissions – a regulation

Emitting SO₂ requires
allowances (1a = 1 ton SO₂)

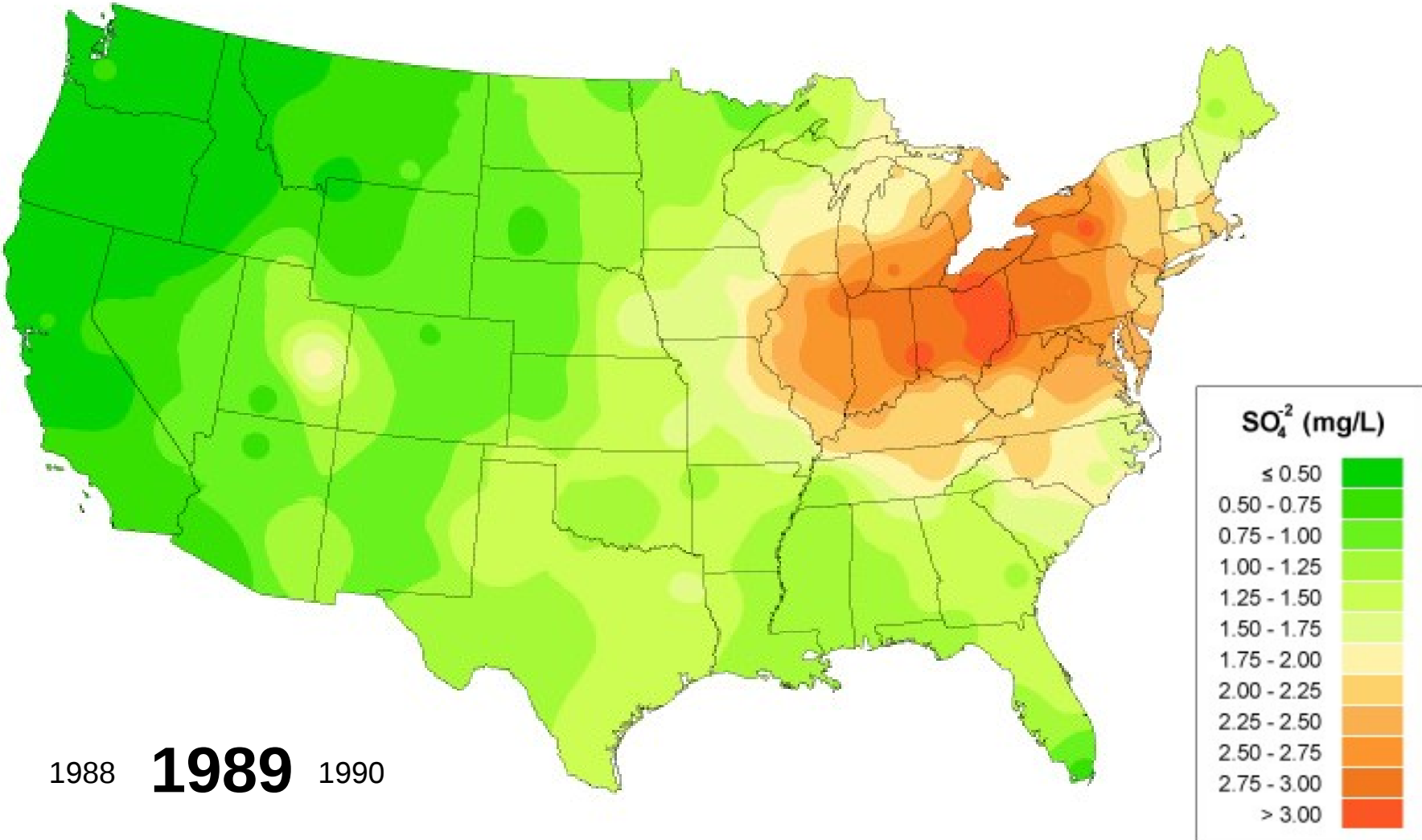
Allowances can be traded,
replacing source-specific rules
(a market-based solution)
[find lowest cost; spur innovation]



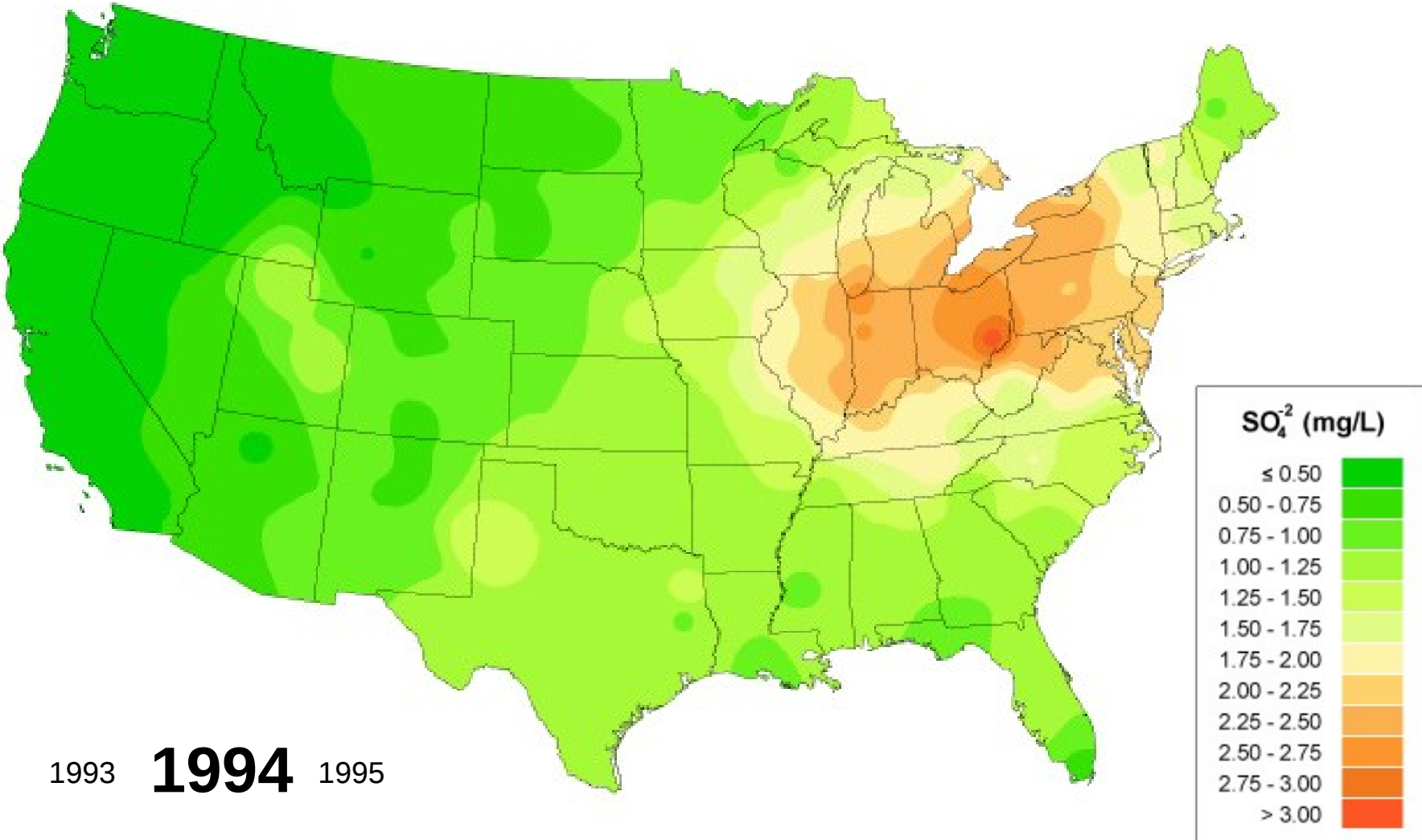
Sulfate Ion Concentrations 1985-2004



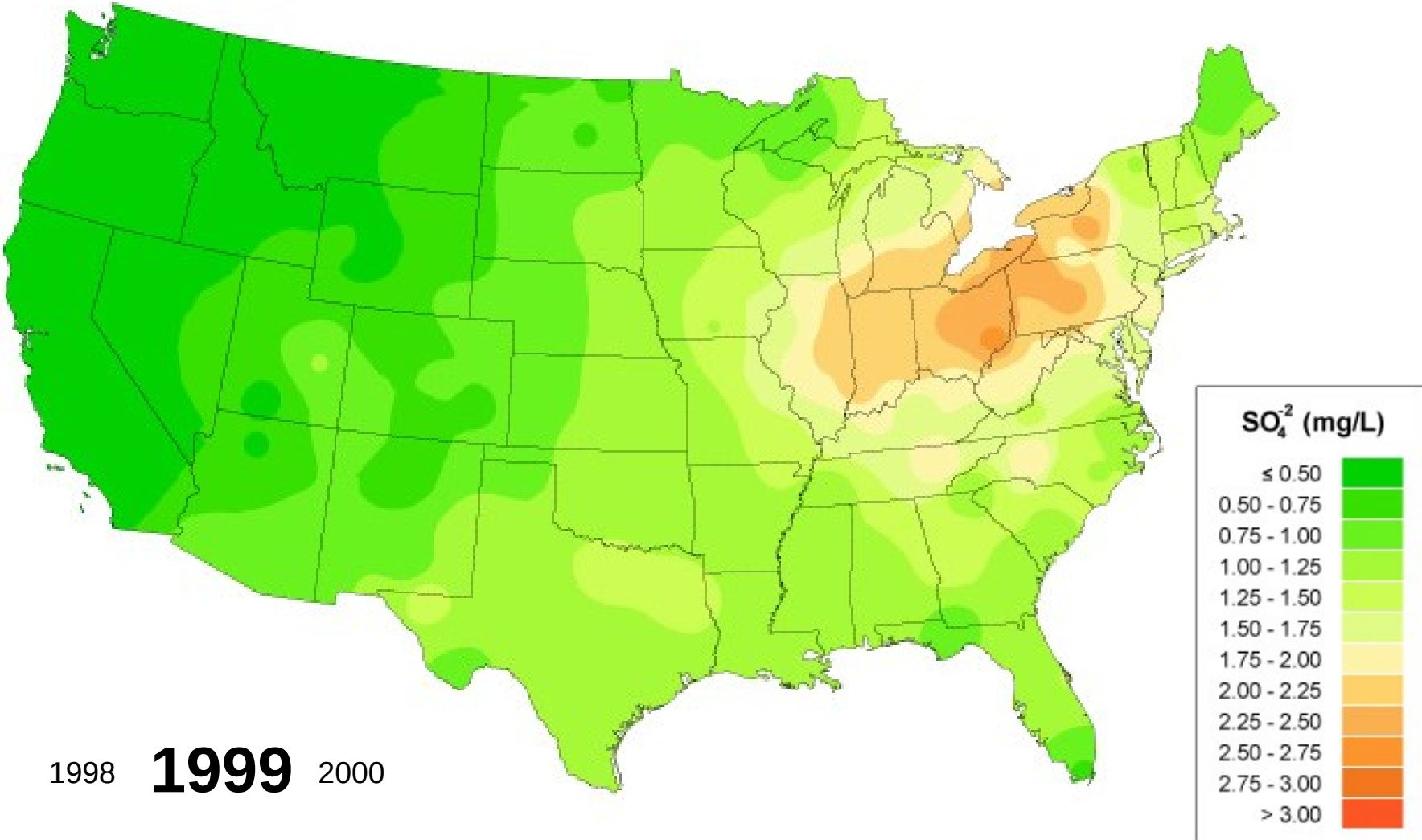
Sulfate Ion Concentrations 1985-2004



Sulfate Ion Concentrations 1985-2004

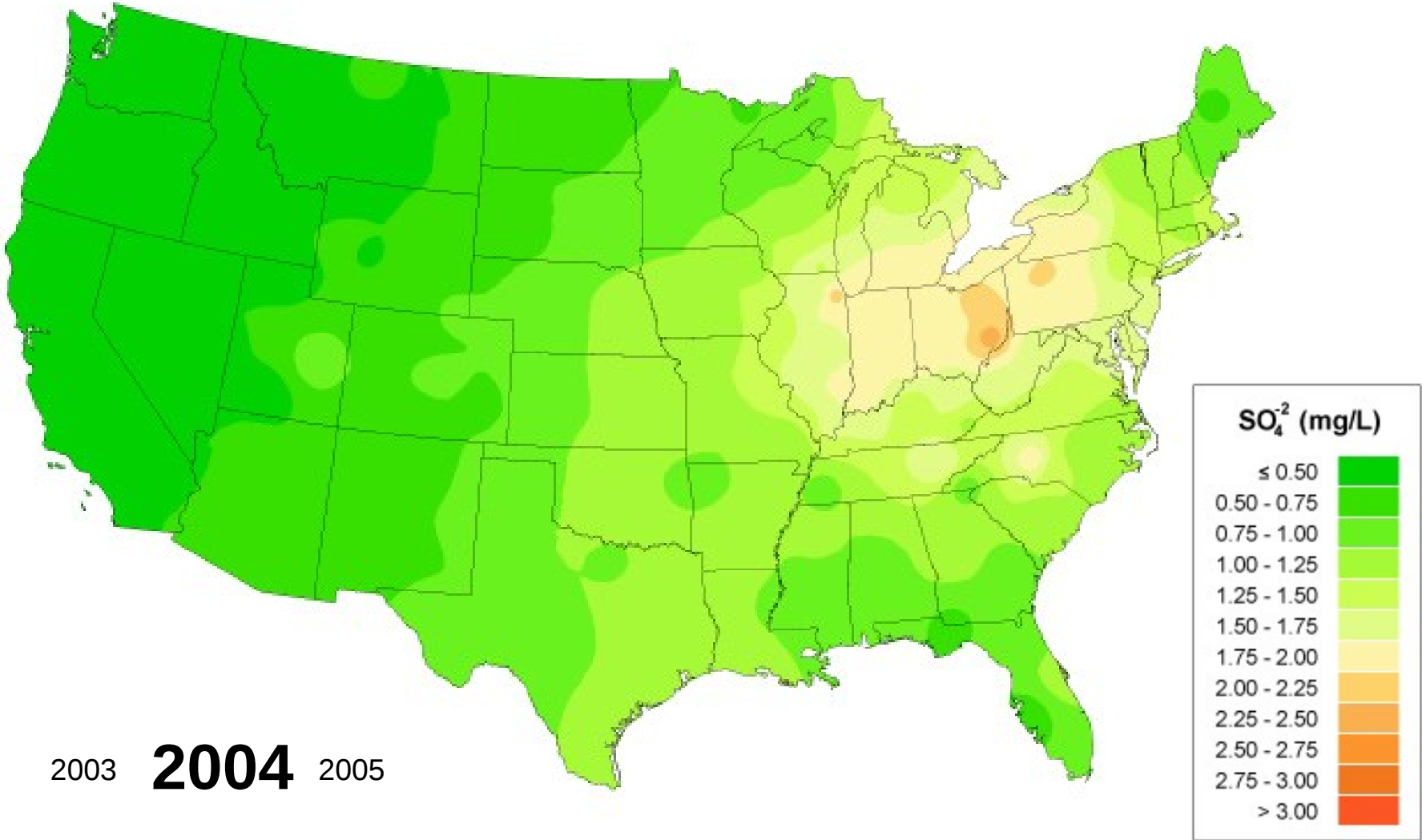


Sulfate Ion Concentrations 1985-2004



1998 **1999** 2000

Sulfate Ion Concentrations 1985-2004



Carbon tax

Govt. taxes fuel carbon contents; **tax increases over time**

Direct price setting;
monitor emissions

Transparent
administration;
Huge potential revenues

Cap & trade

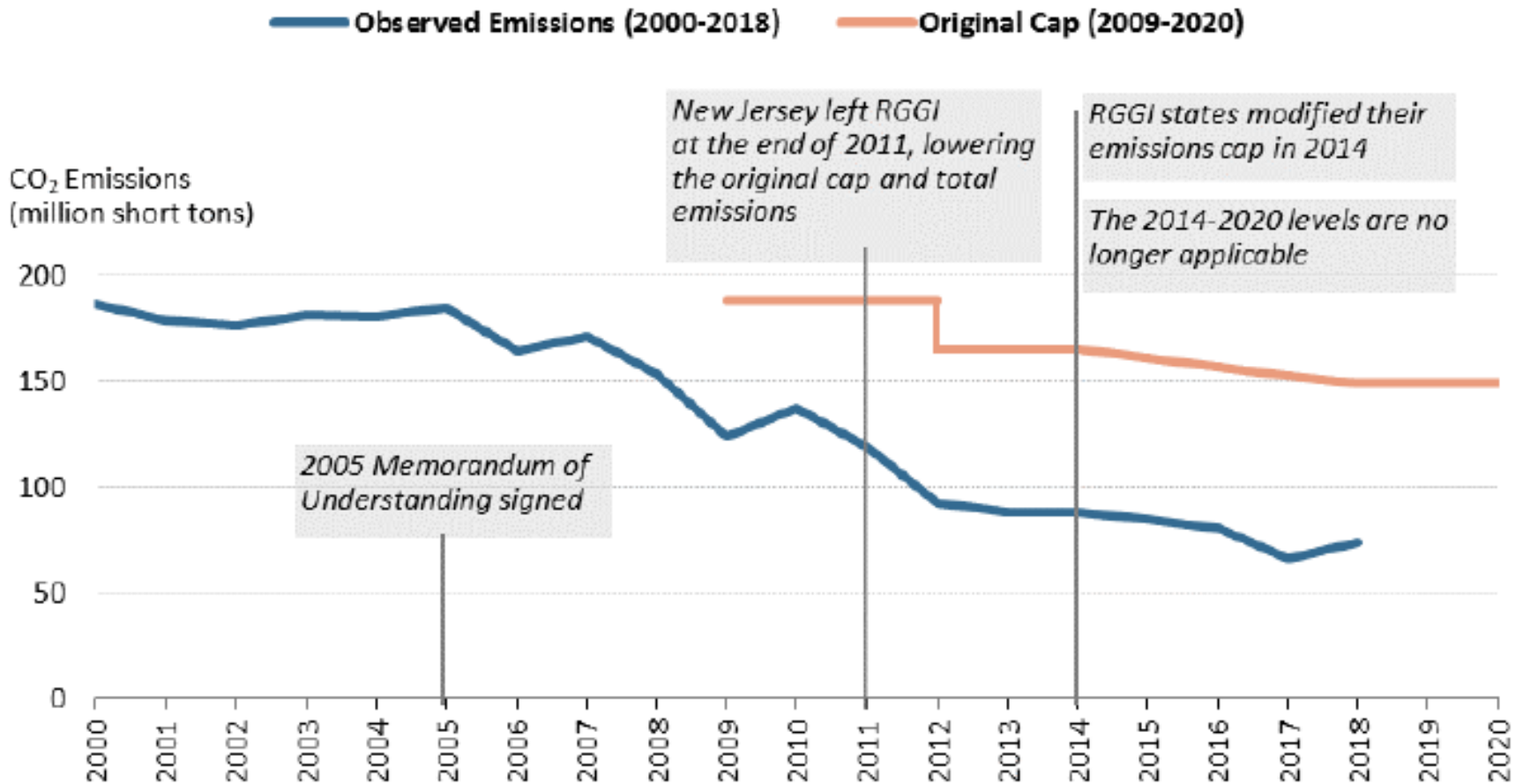
Govt. sets emissions cap; sells allowances; **cap decreases over time**

Direct emissions limit
price fluctuates

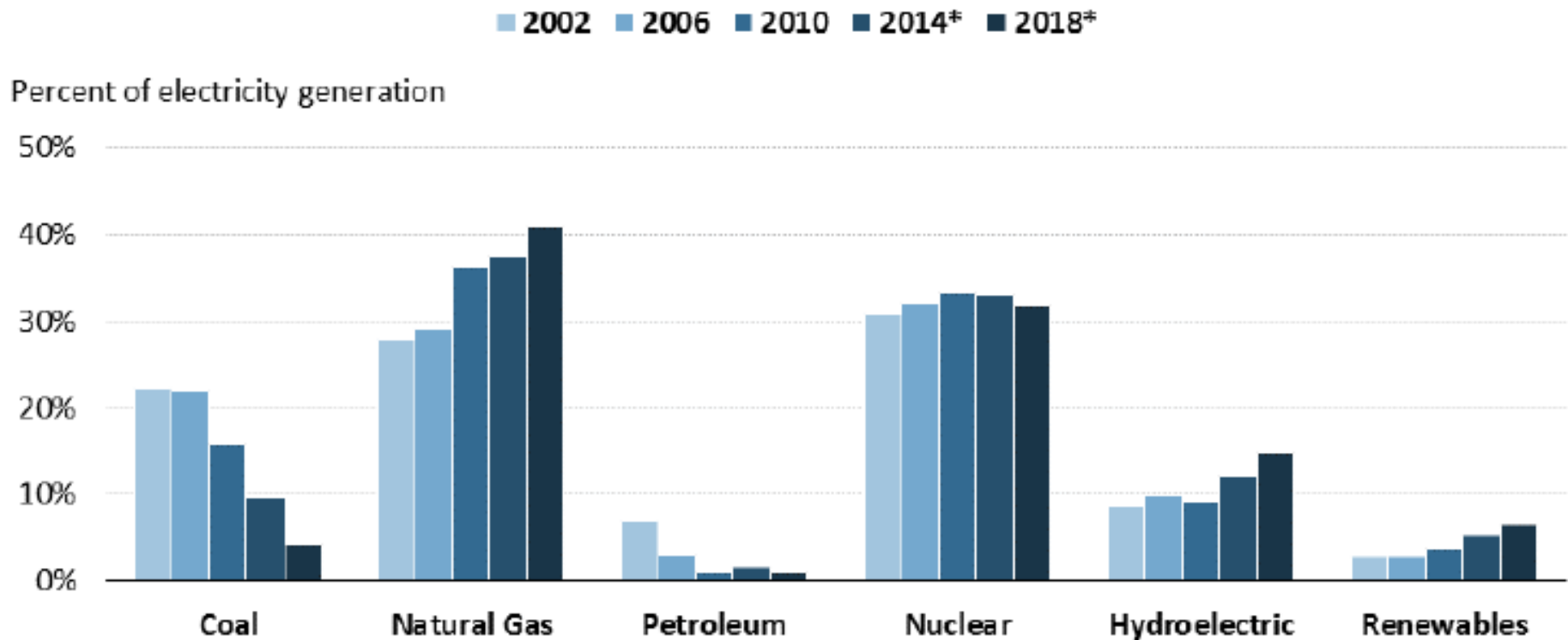
Very complex
administration;
Huge potential revenues

Northeast states cap & trade program (+NJ +VA)

- Applies only to electric power sector
- 47% CO₂ emissions decrease 2008-2018
- Auction \$\$ reinvested in energy efficiency

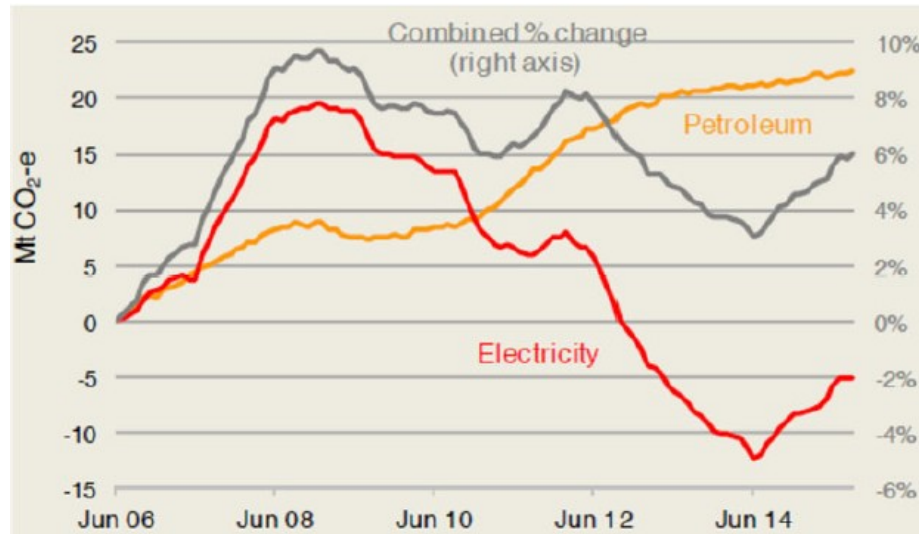


- RGGI – large savings came from coal \rightarrow gas
- Works well so far, with emissions cap decreasing 2.5%/year
- Next: increase stringency to promote renewables over natural gas



Carbon taxes – Australia and British Columbia

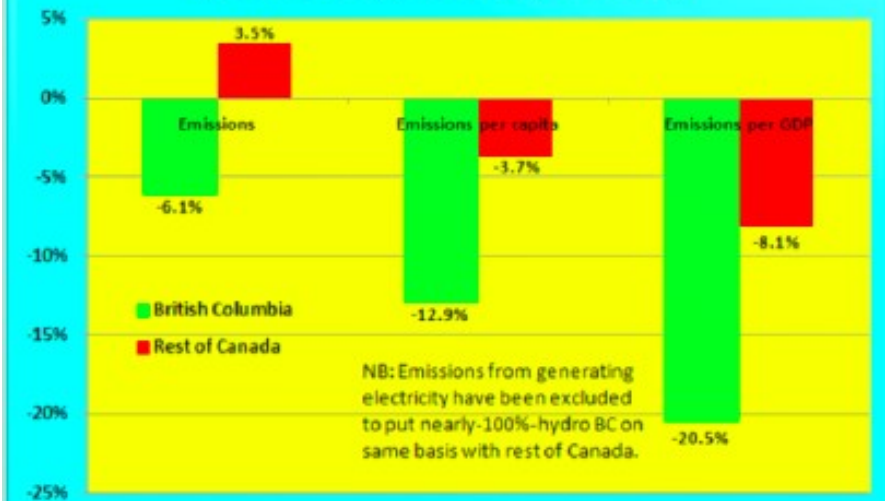
BC key message – C tax can work broadly



Australia

~\$20/ton, 2012-2014
repealed 2014
clear CO₂ reductions

Change in GHG Emissions, Post-Tax
(2008-2013 avg) vs. Pre-Tax (2000-2007)



British Columbia

\$US30/ton (2019)

in effect now

clear reductions in

non-electricity sectors

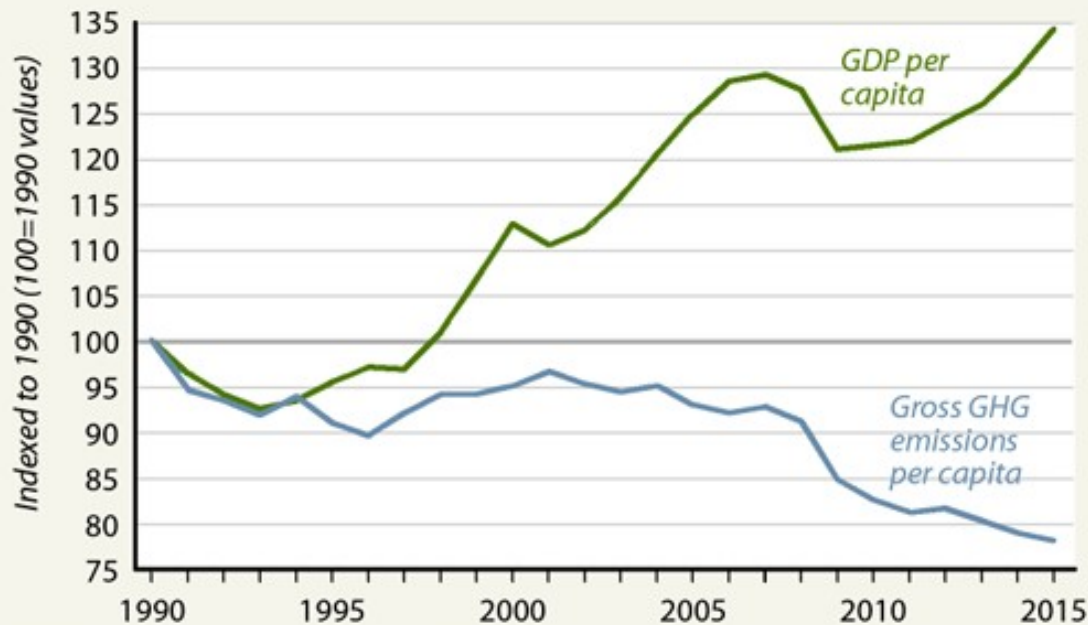
California: falling emissions, growing green

Decoupling: California's Economy Grows as Emissions Fall

Since the state passed climate legislation establishing a cap-and-trade system in 2006, California's gross domestic product per capita has grown more quickly than that of the nation as a whole, even as greenhouse gas emissions have fallen.

GREENHOUSE GAS EMISSIONS AND GDP

California relative trends, 1990-2015



SOURCE: NEXT 10 (via data from Calif. Air Resources Board; Calif. Greenhouse Gas Inventory; Bureau of Economic Analysis, U.S. Dept. of Commerce; U.S. Census Bureau)

Cap & trade establishes backstop

Revenues fund emissions drop through many programs

Momentum builds with confidence in a green future

Emissions are decreasing where there are well-established carbon pricing programs

Northeast US (RGGI)

California/Quebec/Ontario (WCI)

British Columbia

European Union

Effects of carbon pricing

More Expensive



Less Expensive



- Reduced air and water pollution
- Human health benefits
- Reduced global warming damages
- Green economic and job growth, equity

8 Carbon pricing bills in the 116th Congress (2019-2020)

Energy Innovation and Carbon Dividend Act ([HR763](#)) (Deutch/Rooney) **D/R**
House only (Senate in 115th Congress [Coons/Flake] **D/R**)

Stemming Warming Augmenting Pay Act ([SWAP](#)) (Rooney/Lipinski) **D/R**
House only

Raise Wages Cut Carbon Act ([RWCC](#)) (Lipinski/Rooney) **D/R**
House only

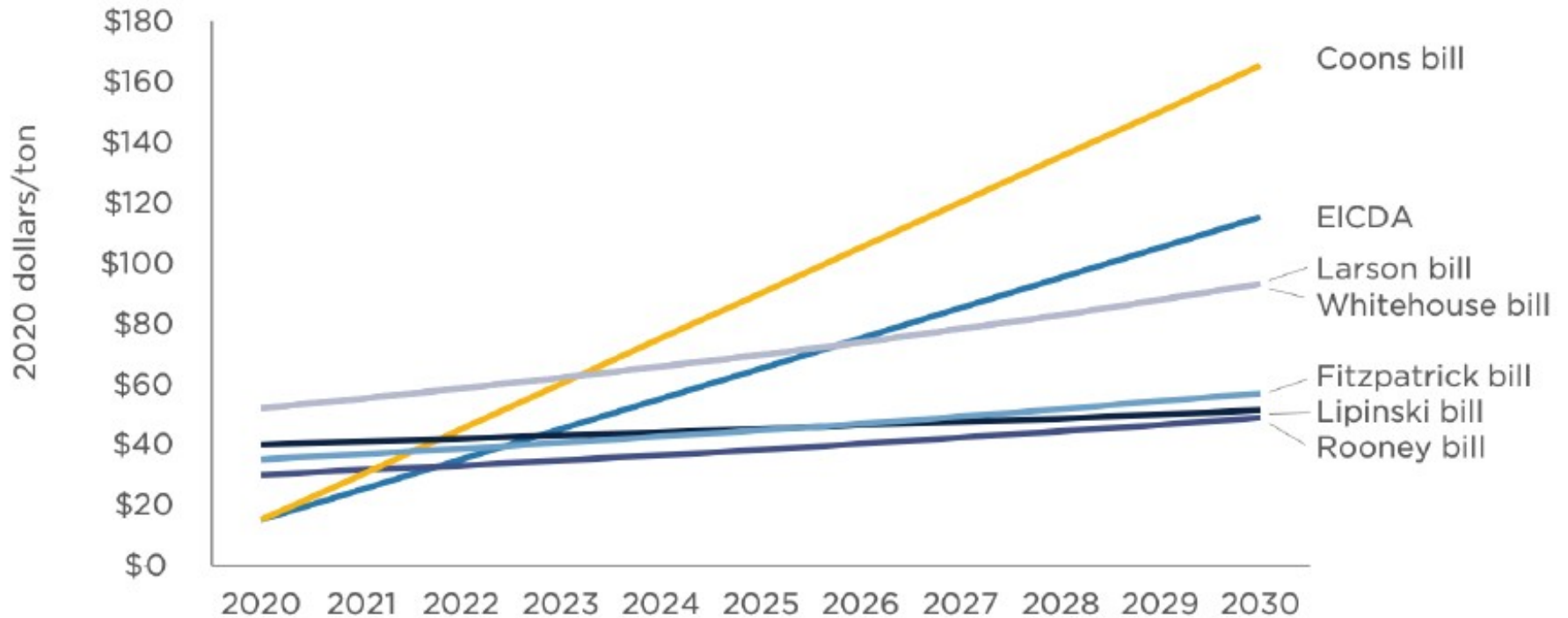
Climate Action Rebate Act ([CAR](#)) (Coons/Feinstein/Panetta) **D**
House and Senate

America Wins Act of 2019 (Larson) **D**
House only

American Opportunity Carbon Fee Act (Whitehouse etc) **D**
Senate only

Healthy Climate and Family Security Act (Van Hollen/Beyer) **D**
House and Senate (CAP and TRADE bill)

Carbon price in two federal C tax bills: goes over \$100 in under 10 years



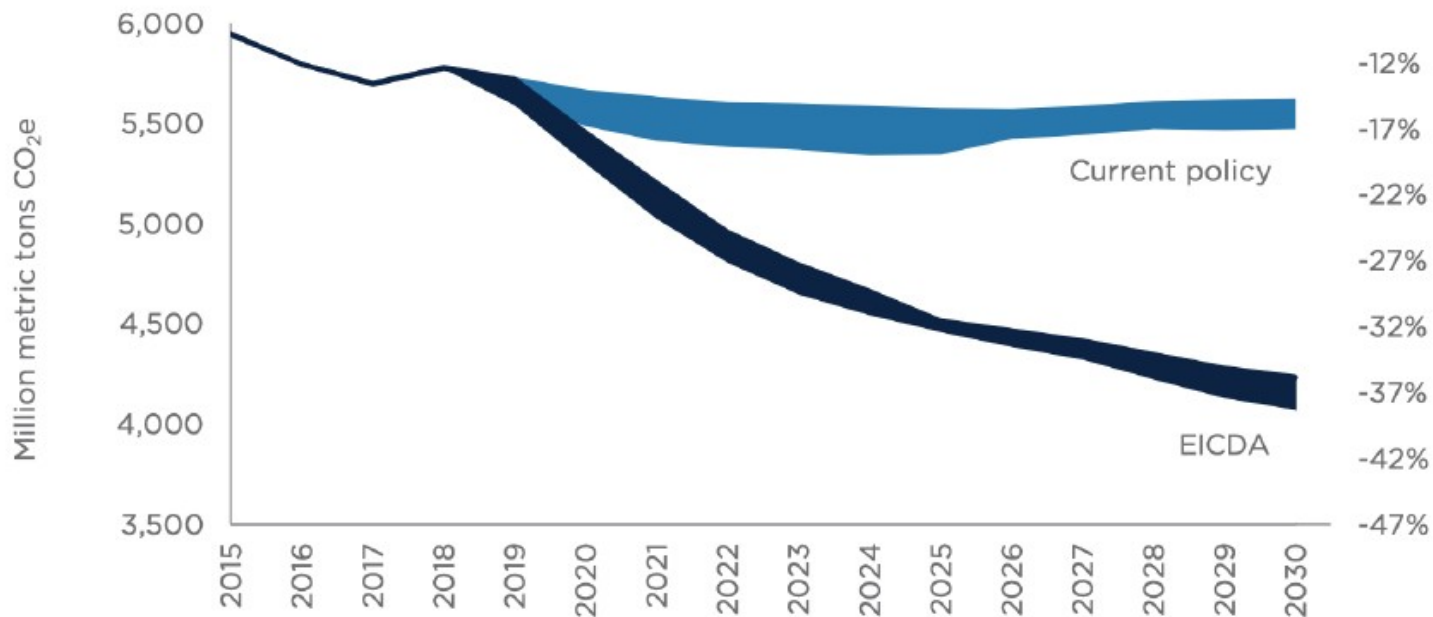
EICDA – sponsored by CCL

69 cosponsors in House; full range of D ideology

Coons bill tougher, but is not getting sold

Energy modeling by Columbia/Rhodium: EICDA catalyzes emissions cuts for 1.5/2C world *Economy-wide 35-40% GHG cut by 2030*

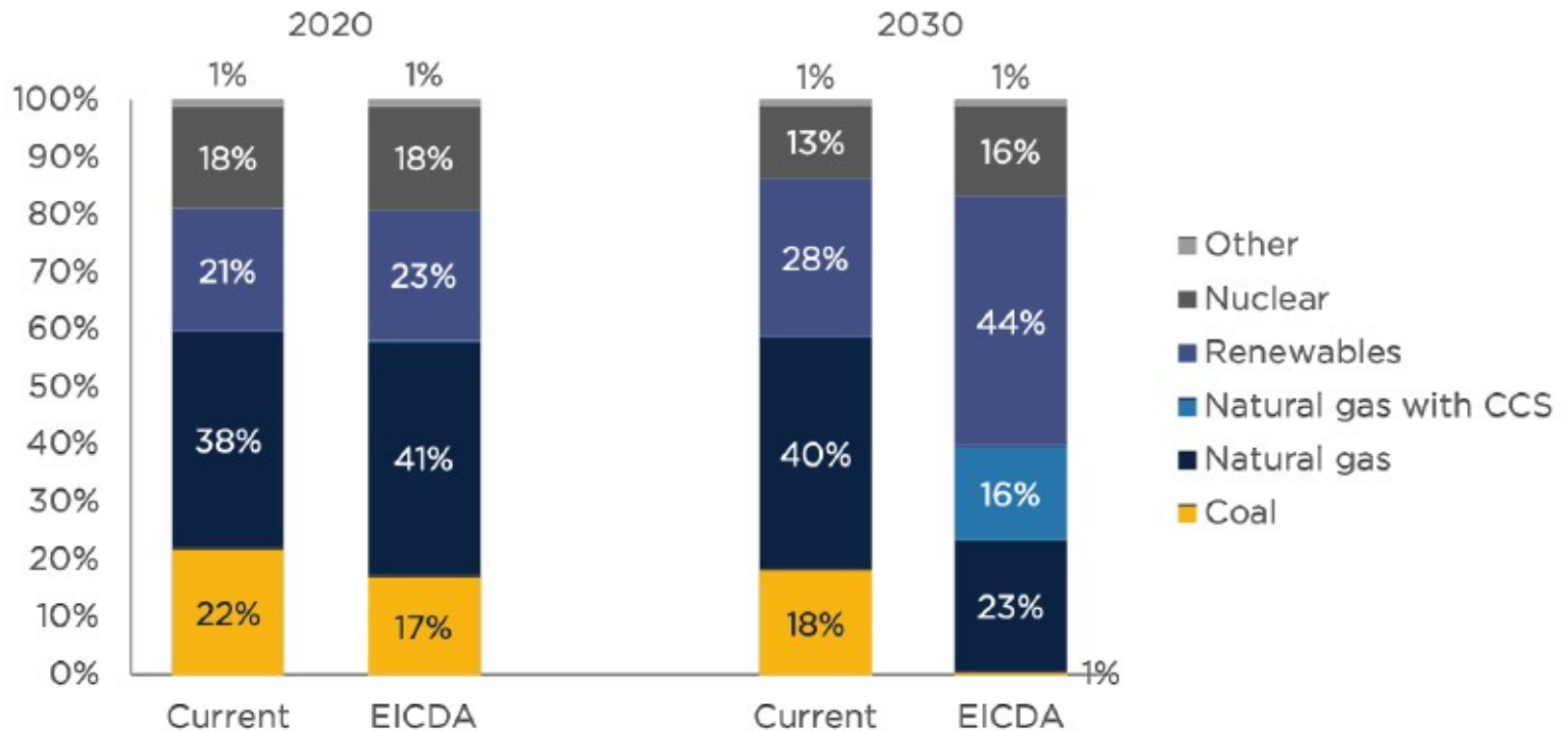
Figure 1: US economy-wide net GHG emissions, 2015-2030



Source: Rhodium Group analysis

- *84% CO₂ drop in electric power ☒ EV adoption*
- *Reduce Oregon's consumption-based emissions*

EICDA: Remakes energy economy



Coal wiped out nationwide in 10 years

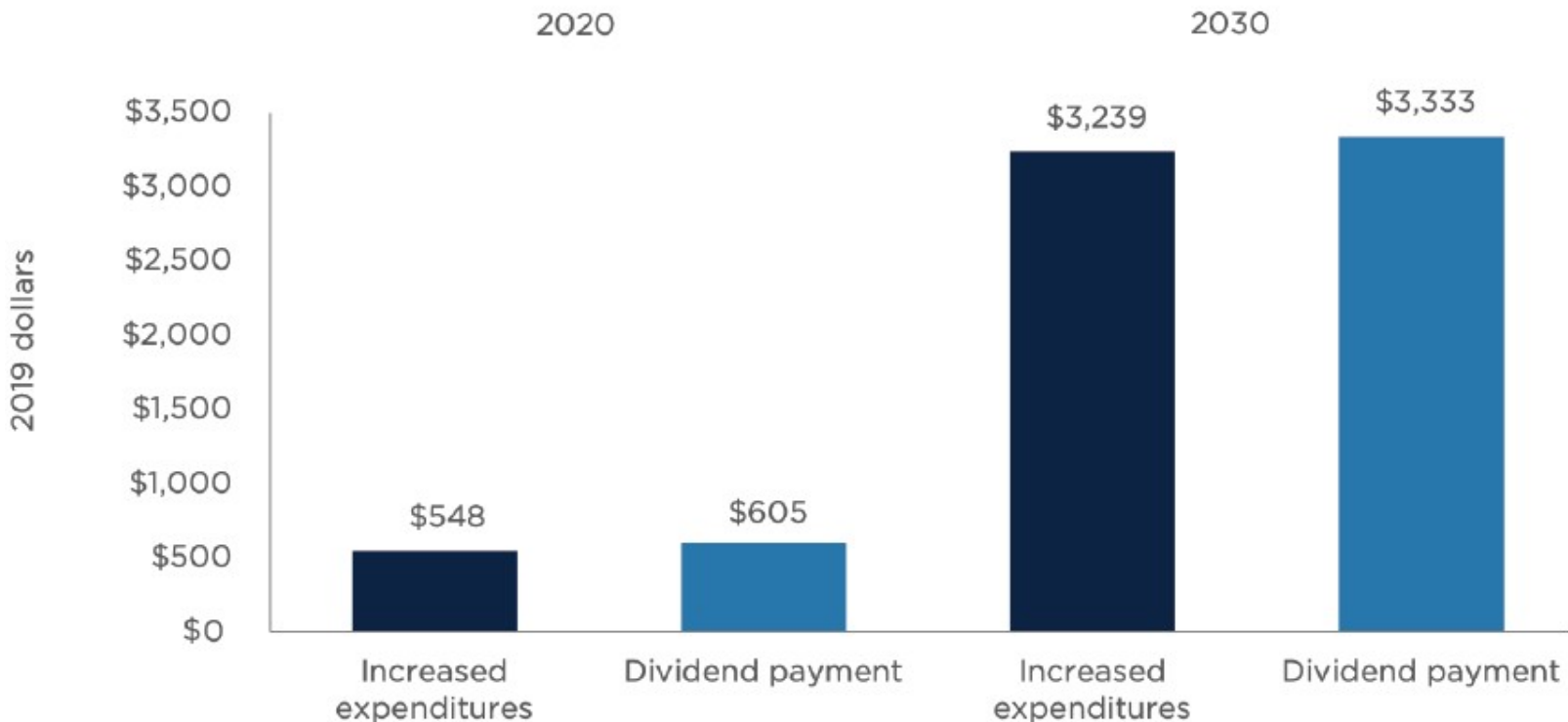
Share of renewables doubles

Big boost for industrial-scale CCS

(necessary for getting back to 350 ppm)

EICDA: Progressive 100% dividend return

- Dividend > expense for low income HHs
- Over \$400 billion revenues by 2030
- Politically robust. No yellow jacket protests
- *Adopted in 4 Canadian provinces. Oregon?*



Border carbon adjustments

Included in many of the federal bills

Imports – tariffs on goods from countries that don't price carbon

Exports – rebates to US companies who sell in countries with no price

A way to spur CO₂ emissions reductions throughout the world

Thank you!



Citizens' Climate Education

