

Cutting
Emissions

Pricing
Carbon

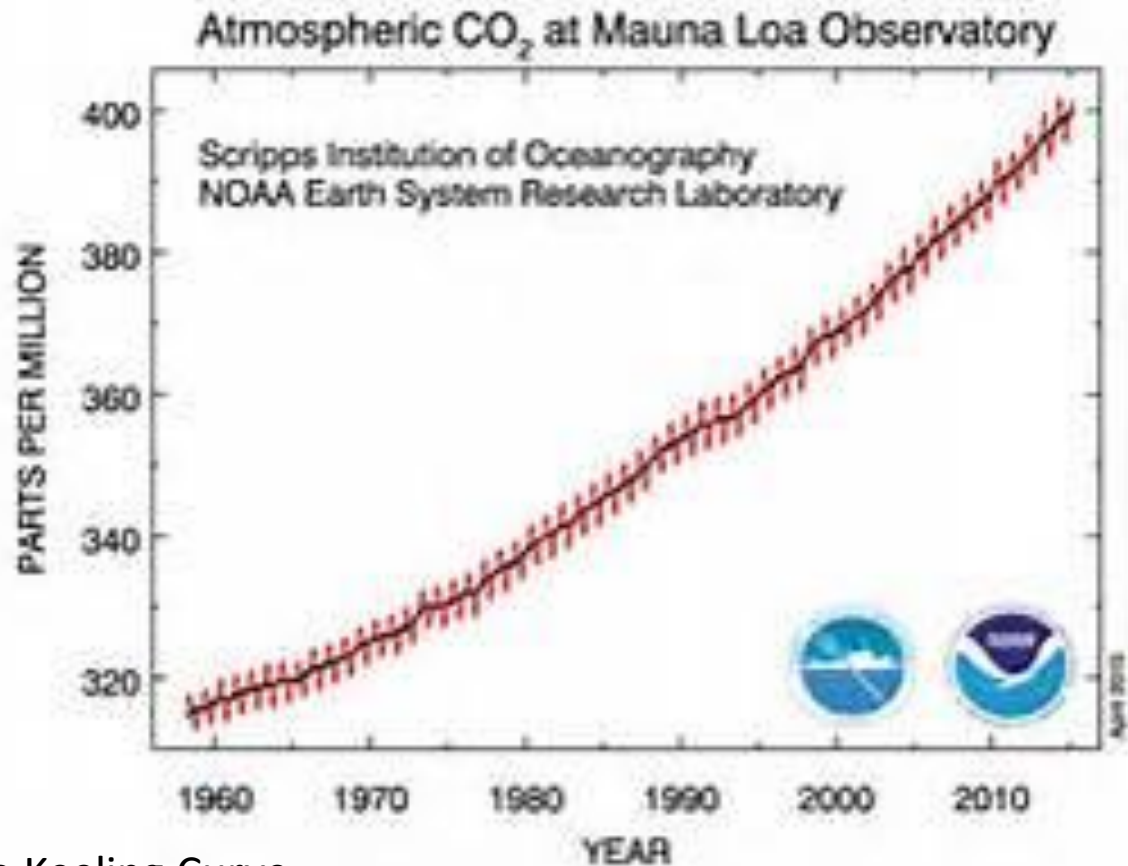
Fee And
Dividend

Paris Accord

Compiled by Phil Nelson, 2017



We were warned



The Keeling Curve

Charles David Keeling, Scripps Institution of Oceanography

“Keeling’s measurements of the global accumulation of carbon dioxide in the atmosphere set the stage for today’s profound concerns about climate change. They are the single most important environmental data set taken in the 20th century.”

C.F. Kennel, 2006

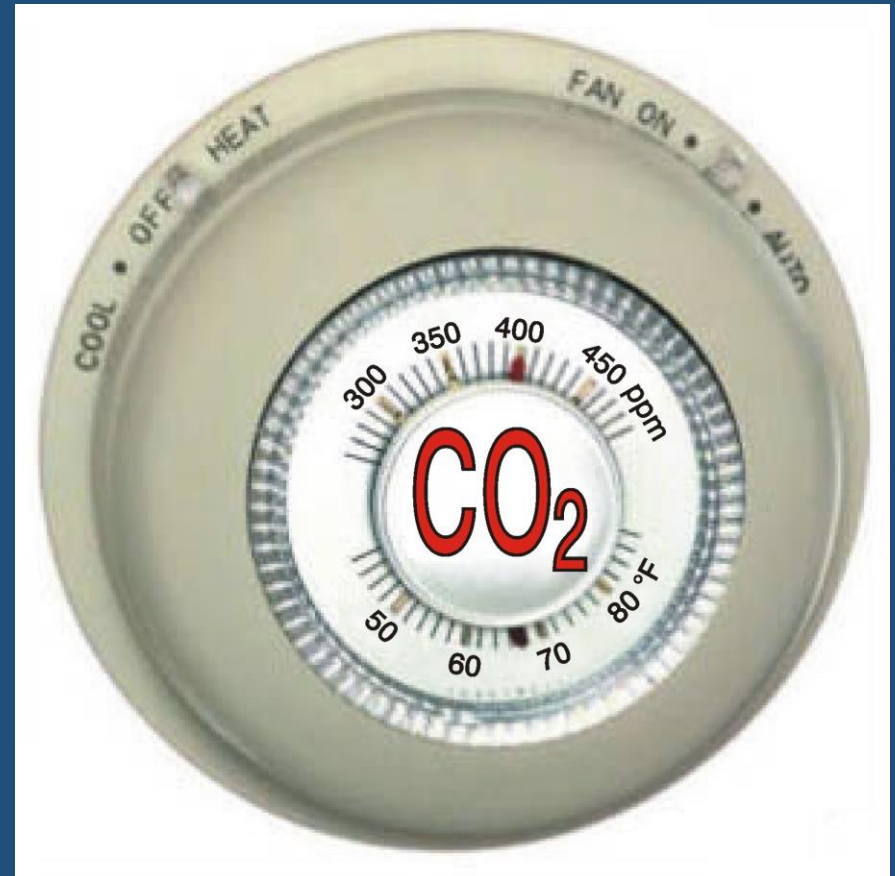


Carbon Dioxide Controls the Earth's Temperature

Water vapor and clouds are the major contributors to Earth's greenhouse effect, but the planet's temperature ultimately depends on the atmospheric level of carbon dioxide.

Carbon dioxide, methane, and other gases provide the core support for the greenhouse effect. Without them, water vapor would quickly precipitate from the atmosphere, plunging the earth into an icebound state.

Hence the “thermostat” shown in the picture.



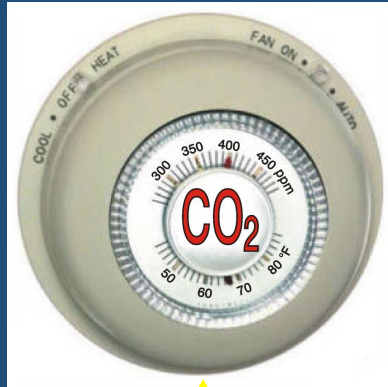
NASA GISS: Lilly Dell Valle

Prevent Further Damage

aka “Mitigation”



Car accident on 101 Freeway



More Water Vapor
and Clouds

Warmer Air,
Warmer Water
(Global Warming)

Atmosphere
Biosphere
Cryosphere
(Climate Change)

HUMAN RESPONSES

Personal
Family, Friends, Neighbors
Town and City
State
National
International

Carbon Pricing Primer

Carbon emissions carry hidden costs

THESE ARE THE 5 WAYS WE CAN PAY...

The Status Quo

Whole society finances fossil fuels

Most expensive option, by far

Regulation

Boots on the ground, eyes on emissions

Dependent on budget for enforcement

Cap & Trade

Regulatory solution, artificial market

Narrow focus, requires enforcement

Carbon Tax

'Sin tax', pressure on consumers

Highly effective, can slow GDP

Carbon Fee & Dividend

100% returned to households

Revenue-neutral, grows economy

Five Ways to Pay

Poet economist, extracted 14 April 2017

Pricing Carbon

Cap and Trade or a Carbon Tax?

Price on Carbon – Putting the Market to Work

	Cap and Trade	Carbon Tax
Emissions	Declining emissions cap set by government	Emissions volume based on market
Price	Price based on market	Rising price set by government

<http://priceoncarbon.org/pricing-mechanisms/>

Carbon Tax

Singapore Plans Southeast Asia's First Carbon Tax From 2019

Bloomberg 20 Feb 2017

The proposal would charge between S\$10 (\$7) and S\$20 a ton on emissions of carbon dioxide and five other greenhouse gases.... Singapore would be the first Southeast Asian nation to put a price on carbon.

It would raise electricity costs by 2 percent to 4 percent, according to a government report released after Heng's speech.

“Singapore is vulnerable to rises in sea level due to climate change. Together with the international community, we have to play our part to protect our living environment.”



Canada to implement national carbon price

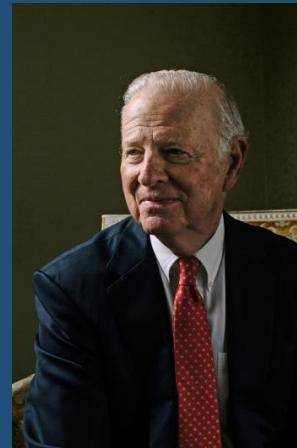
On October 3, 2016, Prime Minister Justin Trudeau announced that Canada would have a national carbon price in place by 2018. The price would establish a floor of \$10 per ton of carbon dioxide the first year and rise to \$50 per ton by 2022. Each of Canada's provinces and territories will be allowed to determine their own mechanism – tax or cap-and-trade – for setting the price, and the federal government will provide a pricing system for provinces and territories that do not adopt one of the two systems by 2018. The federal carbon price will be revenue neutral and will be returned to the provinces to use as they see fit.

Carbon tax push from former GOP officials faces uphill slog

By MICHAEL BIESECKER and CATHERINE LUCEY Associated Press 8 Feb 2017

Former Secretary of State Jim Baker went to the White House on Wednesday to gain Trump administration support for the plan, which would place a new tax on oil, natural gas and coal and then use the proceeds to pay quarterly dividends to American taxpayers.

With the "carbon dividends" potentially reaching about \$2,000 annually for a family of four, the group estimates that about two-thirds of Americans would receive more money back than they would pay in increased fuel costs.



James Baker



Hank Paulson



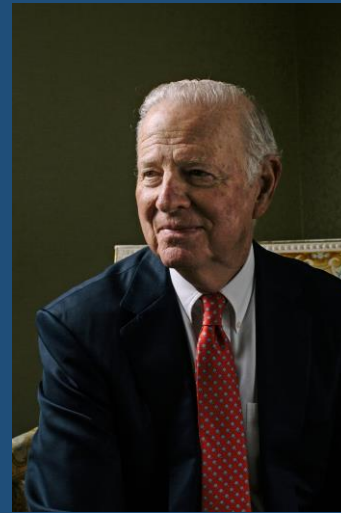
George Schultz

The Conservative Case for Carbon Dividends

Climate Leadership Council Feb 2017

Four Pillars of a Carbon Tax

1. A GRADUALLY INCREASING CARBON TAX
2. CARBON DIVIDENDS FOR ALL AMERICAN
3. BORDER CARBON ADJUSTMENT
4. SIGNIFICANT REGULATORY ROLLBACK



James
Baker



Hank Paulson



George Schultz

Guess Who's for a Carbon Tax Now

Tina Rosenberg, NYT Opinion Pages, 11 April 2017

“If Trump does not go down the path of a carbon tax, we should not lose our resolve. We should stick to our values as Canadians to do something to protect the environment.” — Michael Crothers, President, Shell Canada, November, 2016

“Climate change is happening. We think a broad-based carbon price is the right answer.” — Steve Williams, Head of Suncor, Canada, May 2015

Guess Who's for a Carbon Tax Now

Tina Rosenberg, NYT Opinion Pages, 11 April 2017

“Carbon pricing systems encourage the quickest and most efficient ways of reducing emissions widely.” — Ben van Beurden, the Netherlands, Chief Executive of Royal Dutch Shell, October, 2015

“A global carbon price would help to unleash market forces and provide the right incentives for everyone to play their part. History has shown the power of market forces in making economies less energy intensive as people have found more efficient ways to use energy.” — Bob Dudley, Britain, Chief Executive of BP, February, 2015

The future of energy – opportunities and challenges

Darren Woods, CEO Exxon Mobil



“Governments can help advance the search for energy technologies by funding basic research and by enacting forward-looking policies. A uniform price of carbon applied consistently across the economy is a sensible approach to emissions reduction. One option being discussed by policymakers is a national revenue-neutral carbon tax. This would promote greater energy efficiency and the use of today’s lower-carbon options, avoid further burdening the economy, and also provide incentives for markets to develop additional low-carbon energy solutions for the future.”

A Price on Carbon May Be Coming Soon to the U.S.

After years of debate, says Amy Myers Jaffe, the likelihood of a U.S. carbon tax or cap-and-trade program is greater than ever. Wall Street Journal, 13 Sept 2016

For one thing, the economic rationale for a carbon price is stronger than it ever has been. At the same time, technological advances have made it much cheaper to move away from carbon-emitting technologies, making a carbon price less punitive than it would have been in the past. Meanwhile, one of our biggest global rivals, China, is about to impose a carbon-pricing plan, meaning that the U.S. may not be at a competitive disadvantage if it institutes a similar program.

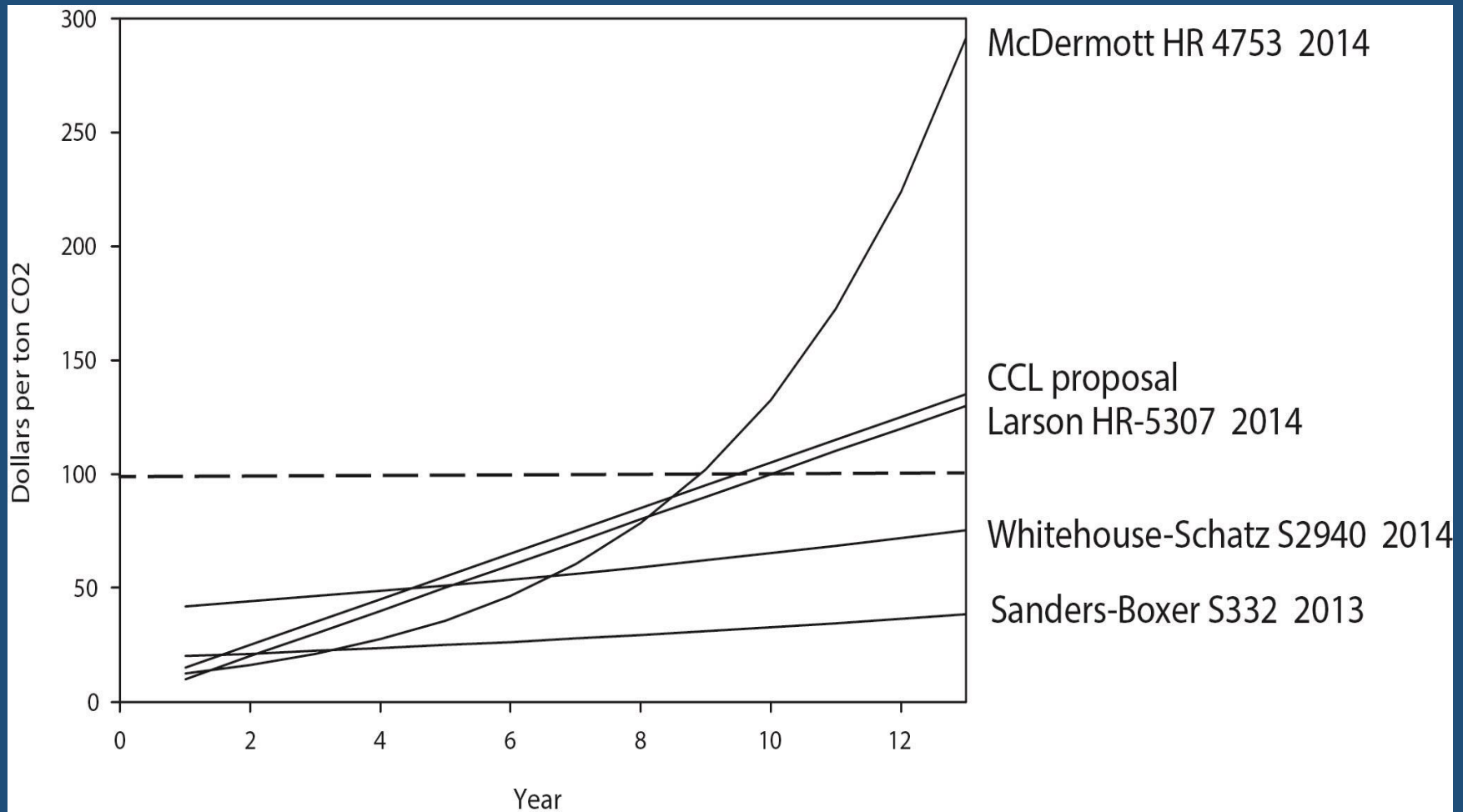
{The same issue of WSJ ran an article: Why a Price on Carbon Is Unlikely in the U.S. Anytime Soon}



Illustration: Anastasia Vasilakis for The Wall Street Journal

Fee and Dividend

Bills and Proposals for U.S. Congress



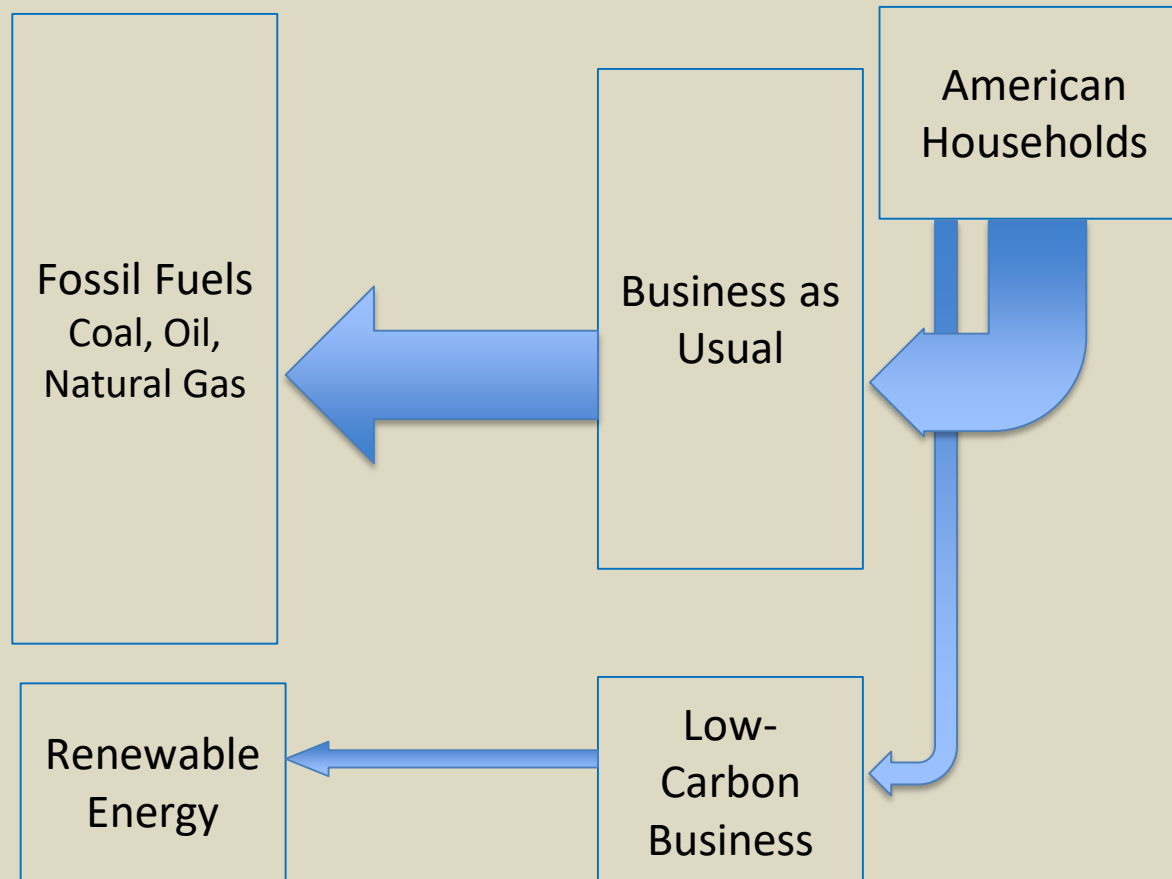
Bills and Proposals for U.S. Congress

	Rebate	Invest	Debt reduction, reduce taxes
Sanders-Boxer EPA (amends Clean Air Act)	60 percent	40	0
Larson Treasury (modifies tax code)	10	20	70
McDermott Treasury & EPA	100	0	0
Van Hollen Carbon permits at auction. Treas & EPA	100	0	0
Whitehouse-Schatz Treas, EPA, DOE	33	33	33
<i>Comparisons with other proposals</i>			
Citizens Climate Lobby	100	0	0
Jorgenson	0	0	100

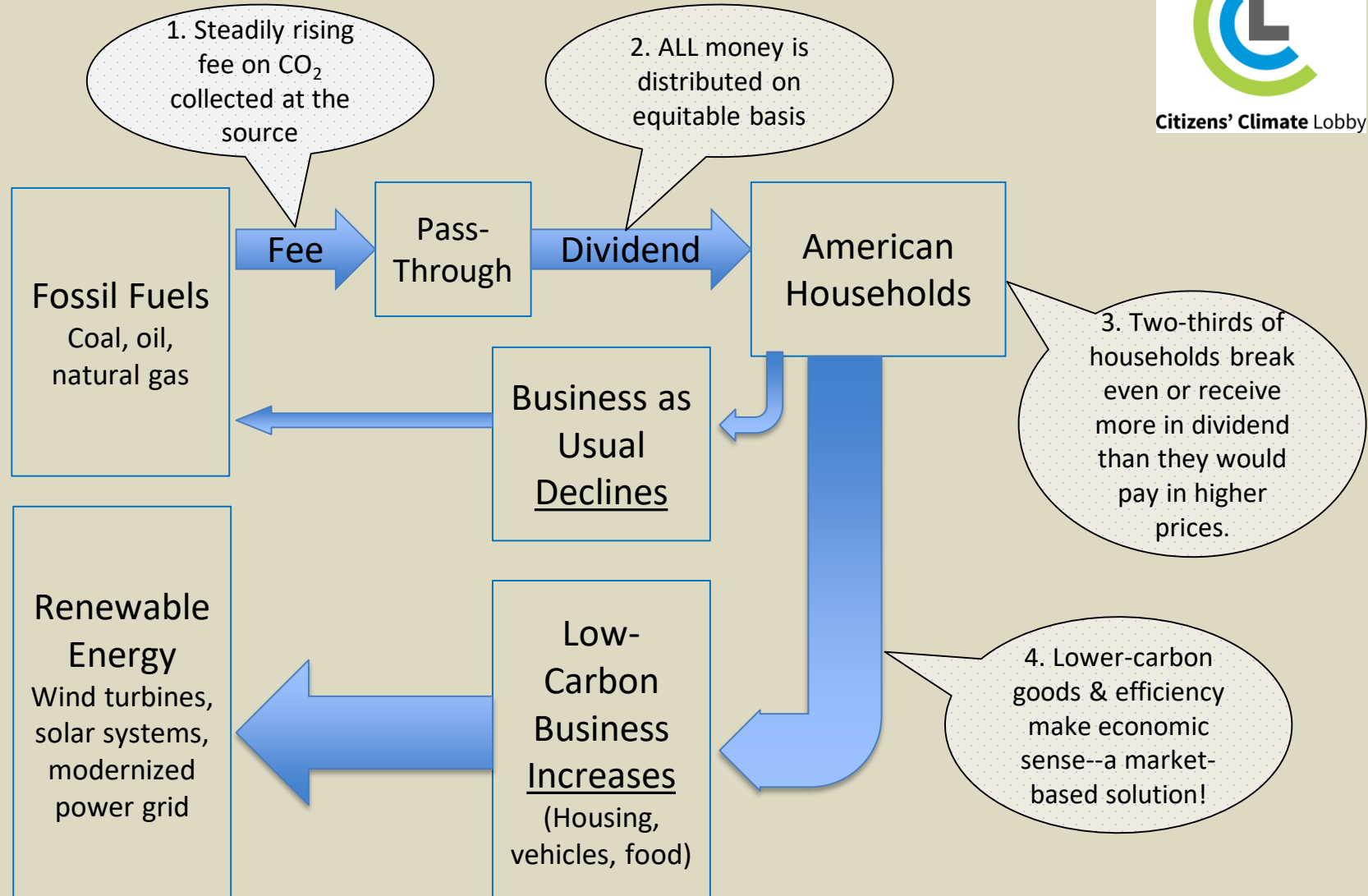
Citizens Climate Lobby, June 2015



What we have now



With Fee and Dividend



BENEFITS (20 years):

CO₂ ↓52%

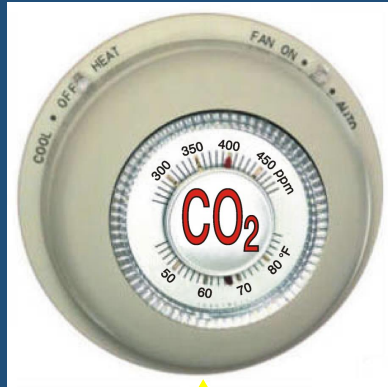
GDP + \$ 1.375 trillion

✚ Lives Saved 227,000

Jobs ↑2.8 million

Attributes of a good policy

- ✓ Significant reductions in greenhouse gas emissions
- ✓ Economic efficiency
- ✓ Reasonable total cost
- ✓ Transparency
- ✓ Compatibility with both Democratic and Republican philosophies



More Water Vapor
and Clouds

Warmer Air,
Warmer Water
(Global Warming)

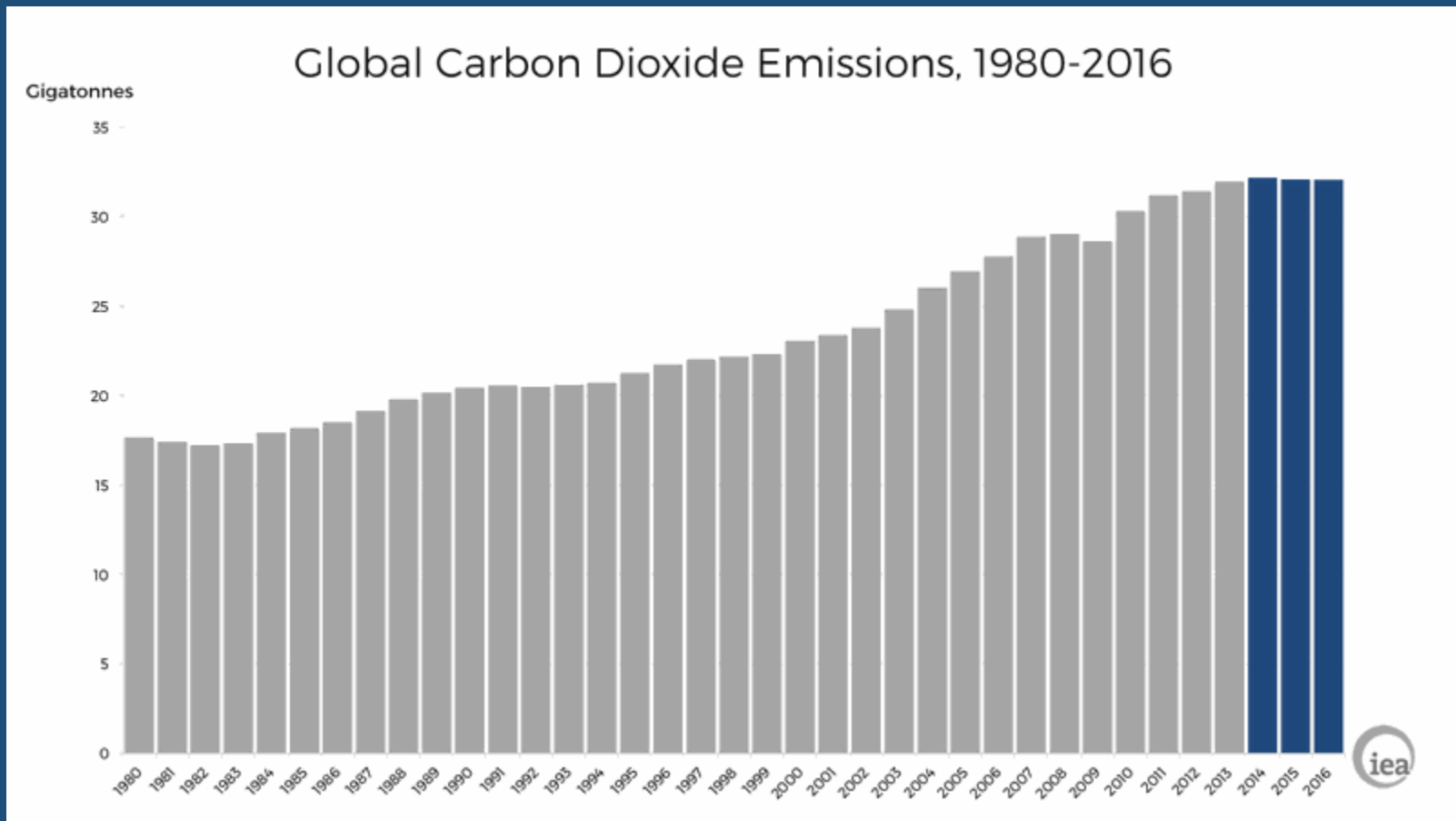
Atmosphere
Biosphere
Cryosphere
(Climate Change)

HUMAN RESPONSES

Personal
Family, Friends, Neighbors
Town and City
State
National
International

A Slowdown in Global Carbon Emissions

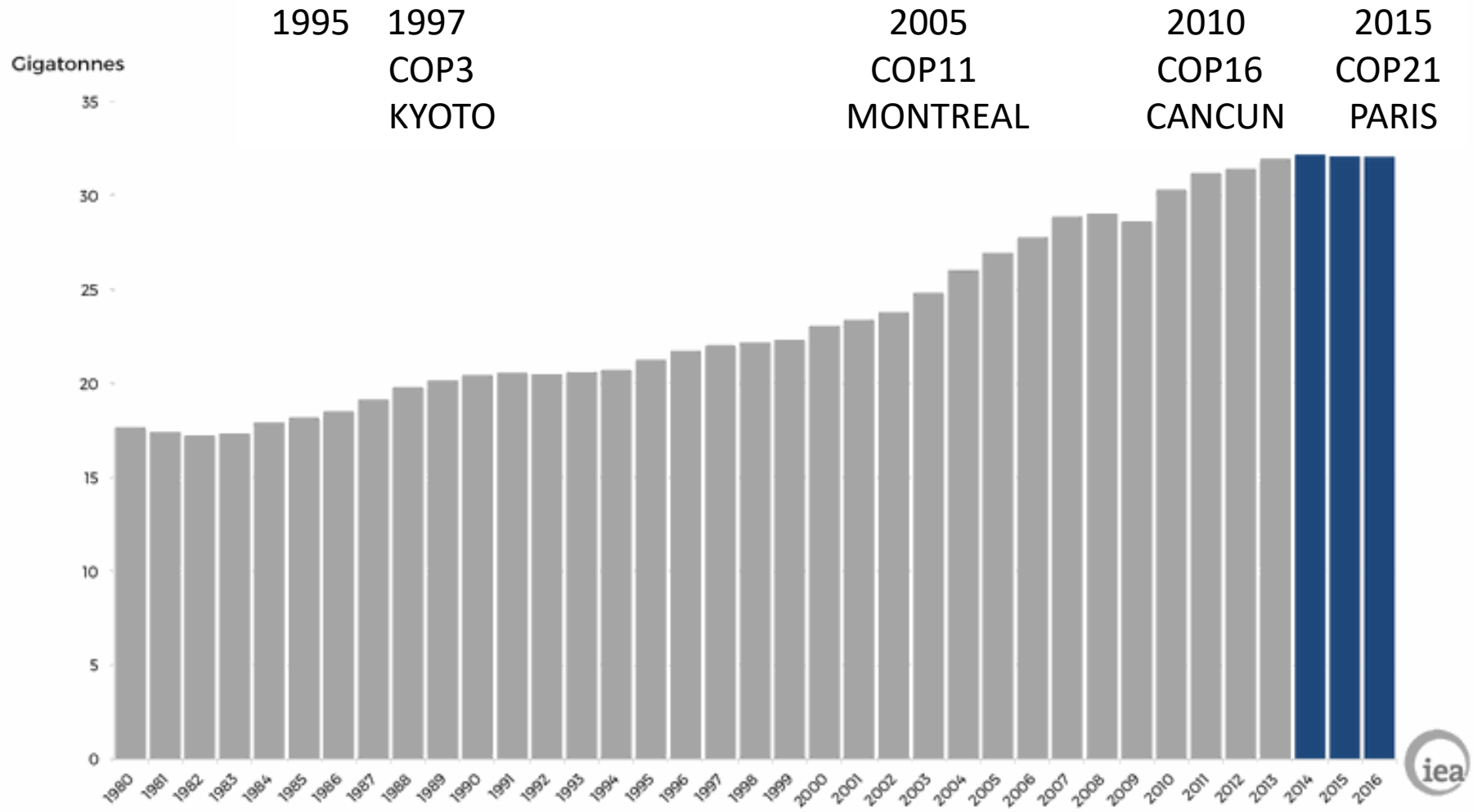
Vox, 21 March 2017



International Energy Agency

Over the past three years, something genuinely shocking has been happened. Global CO₂ emissions from energy have stayed flat, even as the world economy has kept chugging along.

Global Carbon Emissions and the UN Conference of Parties



Nations Unies
Conférence sur les Changements Climatiques 2015

COP21/CMIP1

Paris France



#ParisAgreement

**"Long live the planet.
Long live Humanity. Long live life itself."**



COP 21 Paris, France Dec 2015



U.S. climate action commitments are the overwhelming will of the people. Nation will follow through and lead global transition. John Kerry at COP22 in Marrakech, 16 Nov 2016

He quoted Winston Churchill who said “Sometimes doing your best is not enough; you have to do what is required.” This anecdote was woven through the speech. His voice broke when he remembered signing the Paris Agreement with his granddaughter on his lap in the UN General Assembly.



John Kerry signing the Paris Agreement with his granddaughter on his lap at the UN, April 2016.

Paris Climate Agreement to Take Effect Nov. 4, 2016

The landmark Paris agreement on climate change will enter into force on Nov. 4, after a coalition of the world's largest polluters and small island nations threatened by rising seas pushed it past a key threshold on Wednesday.

President Barack Obama hailed the news as "a turning point for our planet," and U.N. Secretary-General Ban Ki-moon called the agreement's strong international support a "testament for the urgency of action."

U.N. deputy spokesman Farhan Haq said late Wednesday that the European Union and 10 countries deposited their instruments of ratification on Wednesday. The percentage of emissions they account for topped the 55 percent threshold needed for the treaty to take effect, he said.



blhd.musirawaskab.go.id

While the targets in the agreement are not legally binding, the treaty does require countries to report on emissions and their progress on reaching the goals in the national climate plans they submitted to the U.N. The countries are also required to maintain those plans, update them every five years and to pursue measures to implement their stated goals.