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# CARING FOR CREATION: FAITH, SCIENCE, AND CHANGE

HOSTED BY WESTMINSTER PRESBYTERIAN CHURCH

28 JULY 2019

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# How to Improve Your Home & Fight Climate Change



# It Is Part of Our Faith

## Part III Presbytery Eco Resolution:

- “Encourages its churches and the presbytery to examine energy consumption, reduction of energy usage and implementation of carbon-free energy strategies for their facilities as matter of moral imperatives.”

# Buildings...Use a lot of Energy

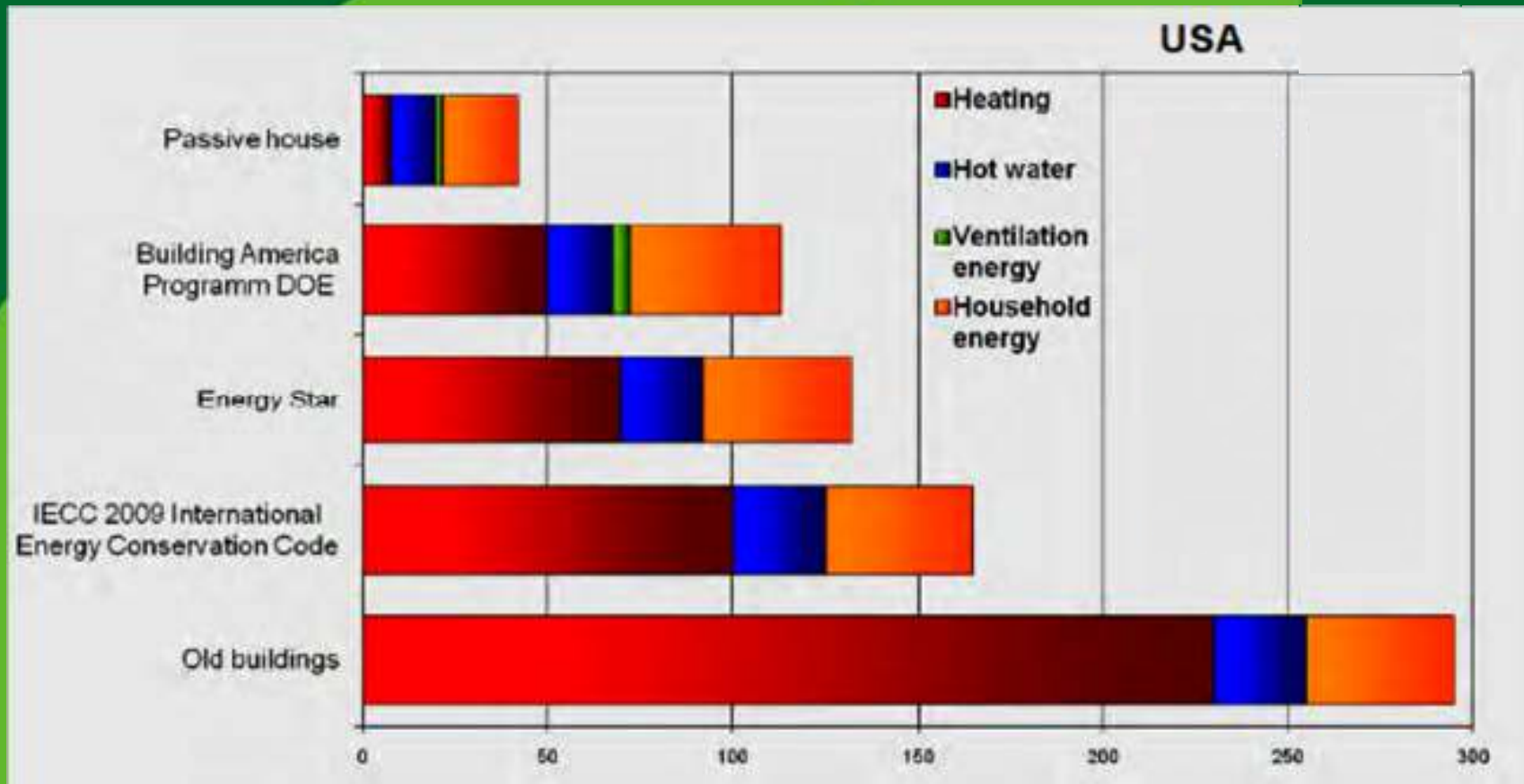
- Buildings worldwide contribute around one third of energy-related greenhouse gas emissions (36% percent in the U.S\*), even though investing in thicker insulation, better windows and doors, and other cost-effective efficiency measures can save money in the long run.

\*source: Energy Information Agency



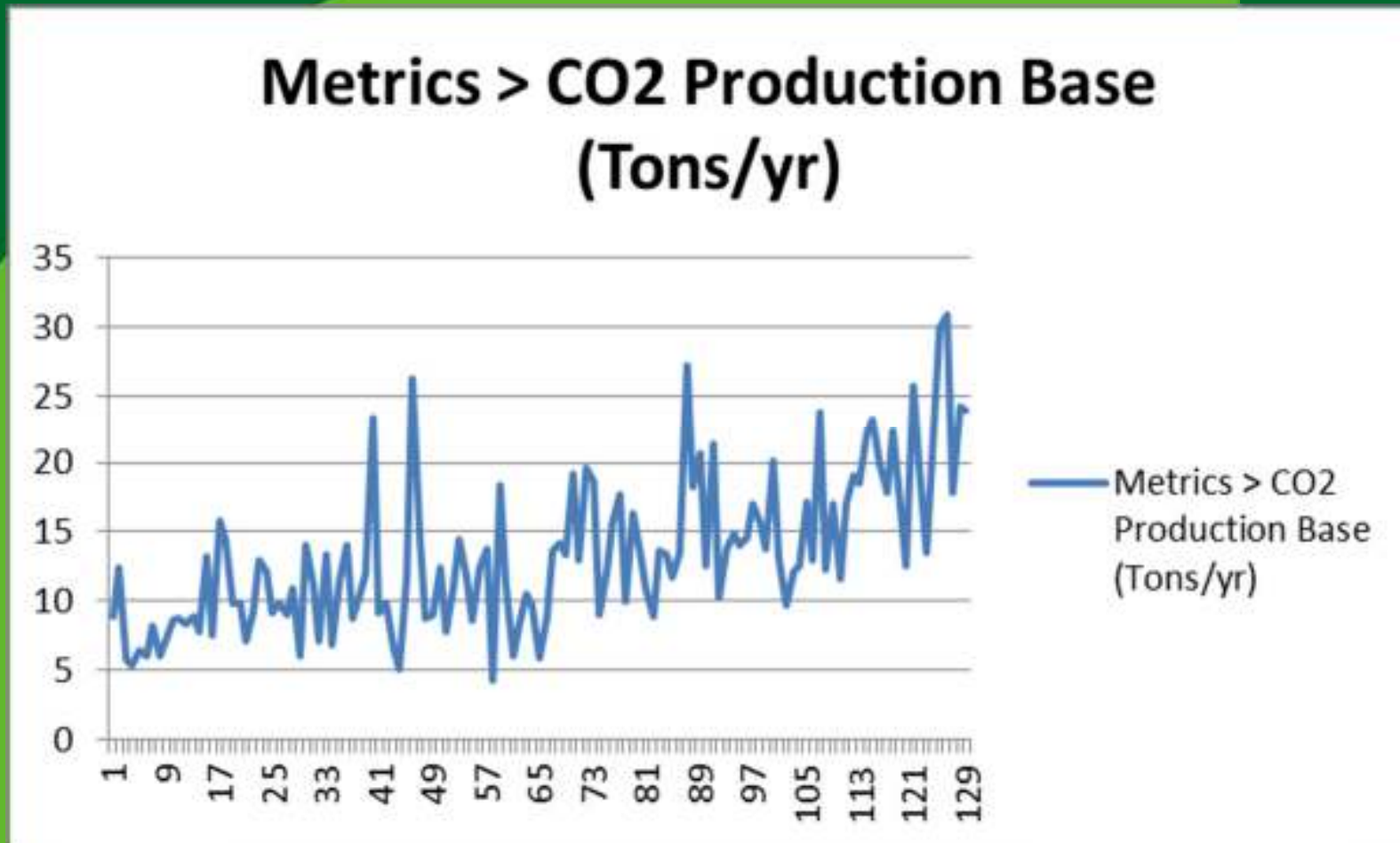
# How do buildings compare?

Different building standards with respect to annual energy use





# CO<sub>2</sub> emissions from homes CCI worked on; what's your home CO<sub>2</sub>?



# Whole House Energy Assessment, or Audit

- Uses blower door air infiltration analysis
- Infrared camera to “x-ray” the walls
- Visual inspection of the home
- Software modeling to predict energy savings
- Produces a thorough assessment of home’s systems and prioritized recommendations to reduce energy use and therefore the environmental impact

# Technology Used During Audits



Infrared image  
reveals things  
you don't see  
with naked eye



E.g., insulation in the wall that settled down



# Air Leakage Measurements using Blower Door



A blower door consists of a large fan coupled with a sensitive pressure measurement system. The door develops a partial vacuum to:

- Find where your home is leaking air
- Measure the number of air changes home sees in one hour
- Ensure sufficient ventilation

# Where do homes leak air?



Unsealed, oversized access holes used to route gas and electric utility services

# Where do homes leak air?



Around unsealed recessed light fixtures

# Where do homes leak air?



Insulation alone does not prevent air leaks



Unsealed rim joists in the basement: notice presence of cobwebs



# Opportunity for Improvement with Mechanical Systems

- Air Conditioner with Seasonal Energy Efficiency Rating (SEER) of 10 is 50% less efficient than that with SEER of 16
- Older furnaces with Annual Heat Output (AFUE) of 64 use 40% more gas than those with AFUE of 92
- Tankless (1 gallon tank\*) gas Hot Water Heater can save 20-30% of energy compared to conventional storage tank HWH
- \*recommended option

# Appliances

- Replacing an old refrigerator can cut its energy use by more than half; 650 kWh/year are saved; that's approximately 8% of total electricity use in a typical home
- **A second fridge is a big energy hog. Power it off when not in use, or give it up...**
- Select as efficient an Energy Star appliance as you can afford, each time you upgrade.

# Best behavioral reduction comes from using thermostat setbacks

- It is far less efficient to run HVAC at constant temperature than to bring it up to desired comfort when needed;
- **10-15% energy saving opportunity on the biggest energy bill in the house**
- Set thermostat back 10F when away or at night. Set blower fan to “auto”
- Each degree the thermostat is turned down in cold weather saves 1% energy

# Sound Home Plan

- As part of this Home Performance with ENERGY STAR® Program, CCI helps homeowners identify and make cost-effective upgrades to make their homes healthier and to use less energy.



- CCI connects homeowners to pre-screened, reliable contractors to get upgrades done, and offers quality assurance after project completion.

# Sound Home Plan





# Most Common Improvements:

- Air-sealed attic and rim joists
- Insulation in the attic to R-49 level (many homes have less than R-10)
- Sealed ductwork
- Insulated walls
- HVAC upgrades
- Bathroom fans, kitchen hood for air quality
- New doors and, sometimes, windows

# Average Pittsburgh Home Upgrade

Through Sound Home Plan:

- Saves 3.5 tons of CO<sub>2</sub> emissions a year
- Costs \$4,900
- Reduces energy use by 20%
- Is pretty easy and hassle-free: one contractor who can do most of the improvements

30% improvement  
would be desirable

Sound Home Plan project costs range from \$2,000-\$30,000. The energy audit: \$399\*

\*for homes less than 3,000 s.f. and with 1 furnace



# Energy Efficiency may not be as trendy as solar panels...

- But it is necessary to
  - Tackle climate change
  - Improve public health and clean air
  - Lower your energy bills
  - Create jobs
- Cutting nationwide energy consumption by 15% could help **save 6 lives a day** and **avoid \$20 billion** in health-related costs.

## Slide 21

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**TL9**

This and the next slide may fit better before talking about insulation and air sealing, somewhere in slides 8-10? The focus here is on the greater good of energy efficiency which generally fits more with beginning of the presentation

Tammy Lee, 9/17/2018

# Conservation Consultants, Inc.

CCI is a Pittsburgh-based nonprofit organization founded in 1978 to help families create healthier homes and "get energy smarter."



**Trusted nonprofit advisor**  
for healthy, efficient homes & businesses







## Embracing Solar Here and Now!

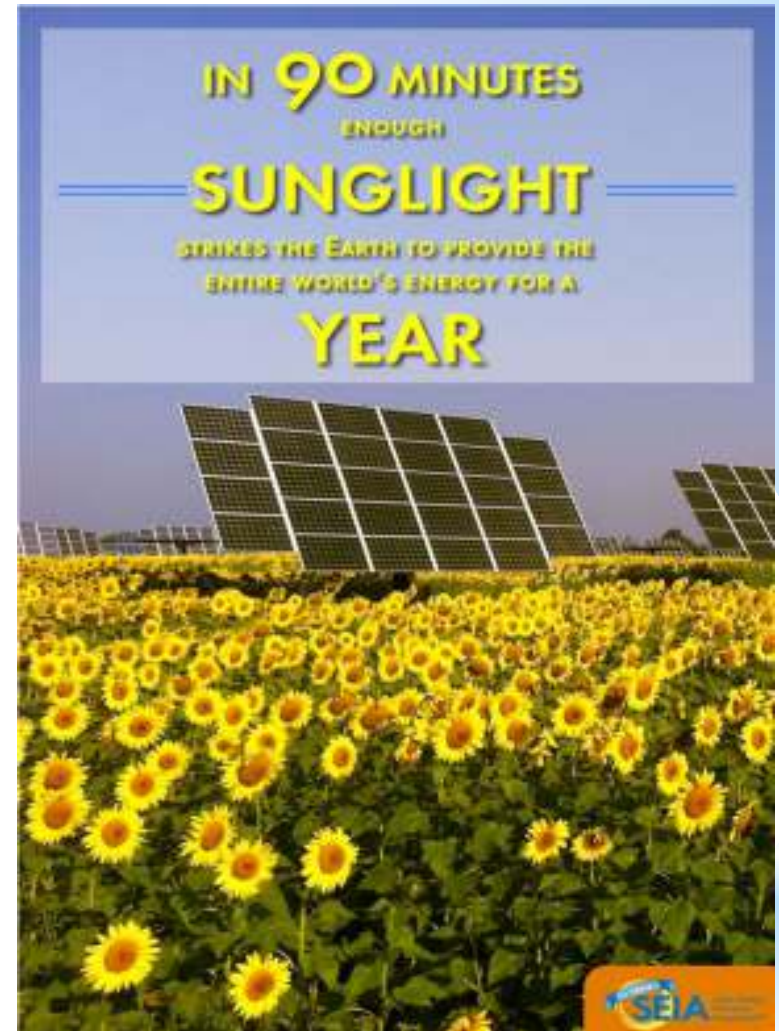
Presented by  
Greg Winks

Solbridge Energy Advisors  
Solar Consultants/Project Brokers  
Representing the Solar Consumer

# Does Solar Work in Pennsylvania?

**YES!**

Solar is a perfectly viable strategy that works **anywhere** in the United States.





# Solar Growth Nationwide

- Over 1.9 million solar installations in the U.S.
  - Enough energy to power 12 million homes
- Nearly 250,000 people employed in the solar industry
- Cost of solar now equal to or less than traditional sources



SEIA: Solar Energy Industries Association



# Solar Growth in Pennsylvania

- Pennsylvania has installed over 420 MW of solar
  - Enough energy to power over 51,000 homes
- 4,200 people are employed in the solar industry in PA
- Prices in PA have fallen 53% in the last 5 years



SEIA: Solar Energy Industries Association  
\* The Solar Foundation





**QUESTION:**

**What Pennsylvania County Has  
The Most Solar Systems?**

**ANSWER:**

**With 2,206 Registered Solar Systems...**

**Allegheny County Is #1!**

**Solbridge**  
ENERGY SERVICES, LLC

PJM-EIS-GATS

# The Ways You Can Go Solar



**Solbridge**  
ENERGY ADVISORS, LLC

## Residential





# The Ways You Can Go Solar



## Commercial



# The Ways You Can Go Solar



**Large Scale &  
Specialized**



# The Ways You Can Go Solar

## Municipalities & Churches



### Pittsburgh Post-Gazette



Bishop Donley McConell, of the Episcopal Diocese of Pittsburgh, and Rev. Noah Evans, of St. Paul Episcopal Church, sprinkle holy water on solar panels during a ceremony on June 8. The church is the first in southwestern Pennsylvania to install its own solar panels. (AP/Wide World Photo)

# MANY Benefits of Going Solar

## Fiscal & Economic

- Cost Savings
- Price Protection
- Economic Development

## Safety, Health & Social

- Energy Security/Independence
- Cleaner Air, Water & Environment
- Educational Opportunities

It is not a question of *if*, but rather *when* individuals and communities will go solar and realize these benefits.



# Financing Solar

- Cash
- Home Equity/Business Line of Credit
- Solar Loan
- Power Purchase Agreement (PPA)

Utilizing Third Party Financing





# Financing Solar - Incentives

Energy Savings From Utility

Net-Metering

Federal Investment Tax **Credit** – 30% of project cost

Solar Renewable Energy Credits (SRECs)

Accelerated Depreciation – Businesses Only





**Embracing Solar Here and Now!**

Presented by  
Greg Winks

Solbridge Energy Advisors

[greg@solbridgeea.com](mailto:greg@solbridgeea.com)

412-901-6766



# **Climate Change Action Carbon Pricing**

**Westminster PCUSA**

**July 28, 2019**

**Perry Recker**

# Questions of responsibility

- Who is responsible for climate change?
- What is the nature and dynamics of that irresponsibility?
- If it is varied, differentiated, multi-sectoral, Carbon Pricing, how should 'we' as humans act.
- What kinds of actions should we take as Presbyterian Christians (in the traditions of the reformation?)

# Who?

- IF the primary cause of climate disruption and accelerated warming with all its violent, lethal, costly, and unjust consequences – is the burning of fossil fuels and emission of GHGs, THEN those human agencies that do most of the burning and emitting, should be held accountable, that is called to acknowledge their ir-responsibility and re-turn to more responsible behavior and action.



# The nature of human responsibility

- It aggregate and collective as well as individual
- It is human, global, and differentiated
- The heart of the matter is irresponsible or inadequate creation-care stewardship
- If humans are not just brains with hands and legs on a stick, but are creatures with emotions and habits that affect our willing and doing, then matters of addiction and strong habits of wastefulness and short-term solutions need to be taken into account

# Accepting consumer & user responsibility for GHG emissions

- There is reliable data showing the distribution of CO2 and other GHGs by economic sector (of action)
- Modern culture often tempts us to attribute ir/responsibility to abstract entities from which we can take distance or disassociate ourselves
- The Christian gospel exhorts us to be self-critical and acknowledge our errors of thought and action (heart, soul, mind, and strength)

## Correcting habits of irresponsible consumer behavior

- If self-correction works best (esp. when based on appropriate self-criticism and accurate diagnosis...)
- And if we recognize that bad habits, developed over many years...
  - require self-discipline
  - will take time (and delayed gratification/reward)
  - may seem painful at first
- Then, what might be one of best ways to reduce and drive down GHG emissions based on the burning of fossil fuels?

## Some Whys & Hows of 'Carbon Pricing'

- Carbon Pricing most efficient method of reducing consumption of fossil fuels & increasing investment in alternatives
- Carbon Tax is the more efficient than Cap & Trade
- Carbon pricing alone can be regressive but the per household dividend makes pricing much more progressively just
- Carbon Fee & Dividend designed and promoted by Citizens' Climate lobby and a growing number of groups

# Carbon Fee and Dividend – Basic hows

The best **first step**

1

Place a fee on fossil fuels at the source (mine, well or port).

2

Return all of the revenue to households equally.

3

A border adjustment on goods imported from or exported to countries without an equivalent price on carbon.





# C. F. and D. – key beneficial results

National and regional study from REMI

## Under Carbon Fee and Dividend



Emissions



Economy (jobs and GDP)



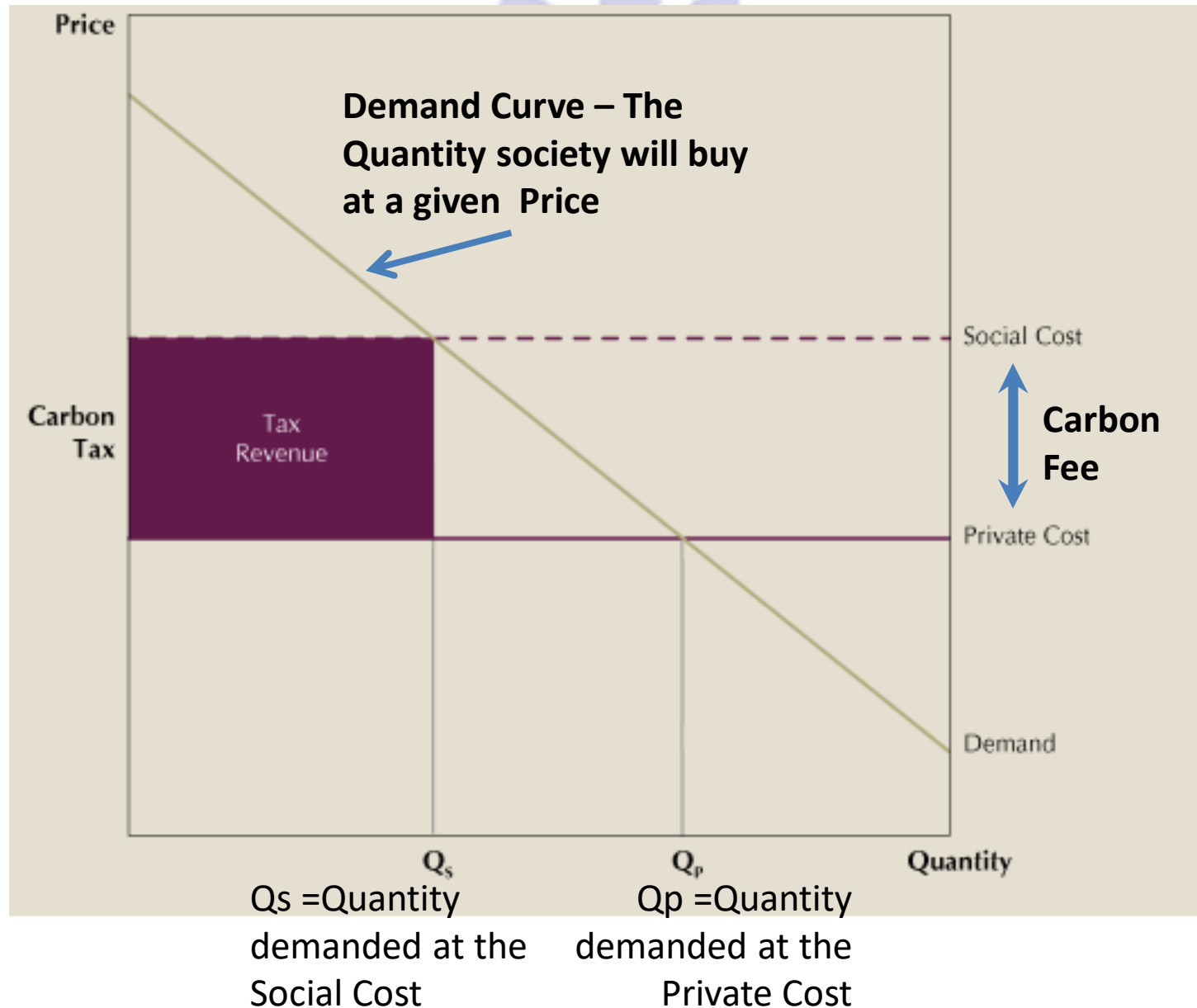
Health



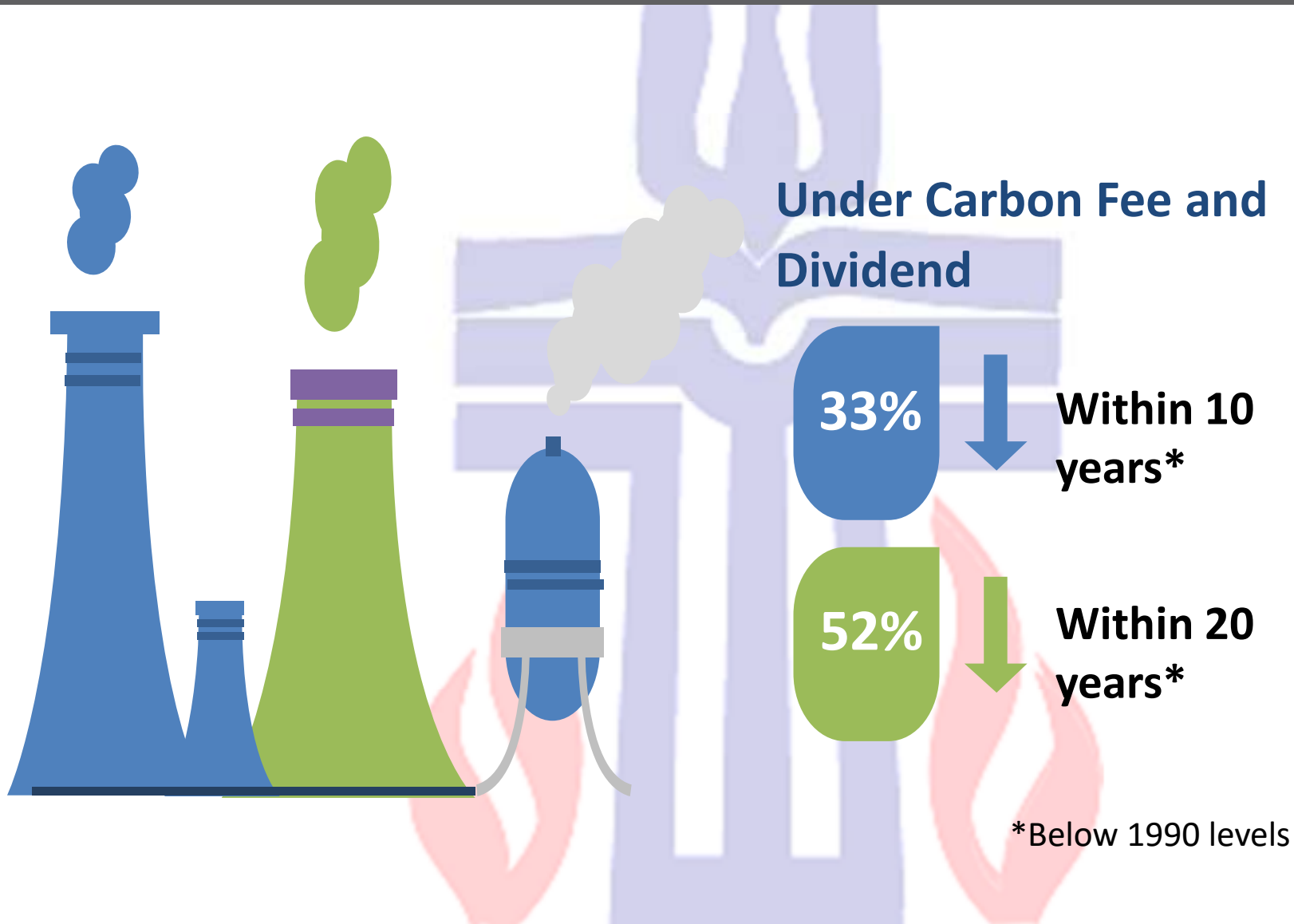
Incomes

<https://citizensclimatelobby.org/remi-report/>

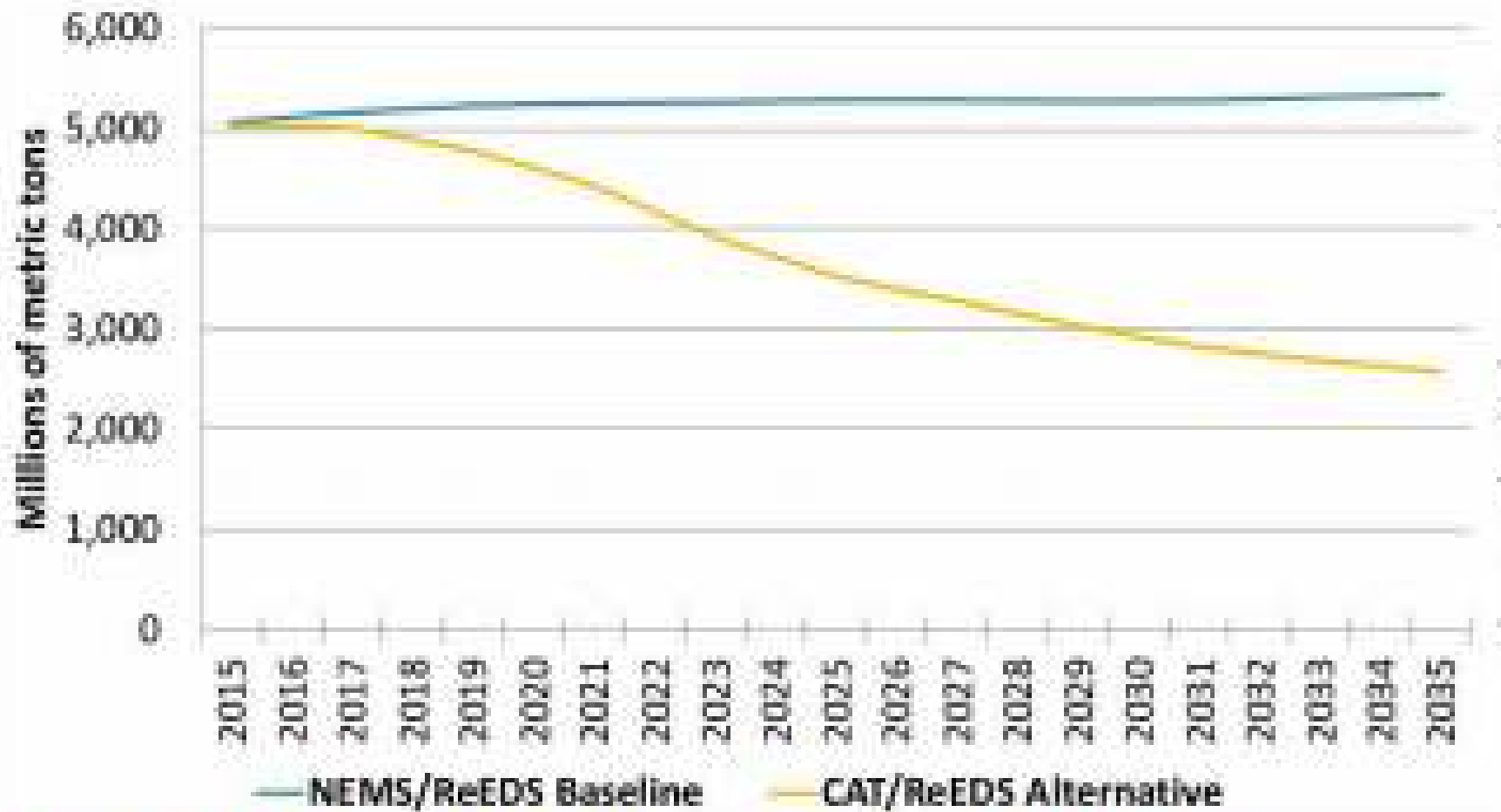
# What is a Carbon Fee?



# Emissions reductions



# Effectiveness



**Figure 1: U.S. CO2 emissions under F&D (yellow) and without a carbon tax (blue). F&D reduces US emissions to 69% of 1990 levels by 2025, and to 50% by 2035.**



# Jobs created



**Under Carbon Fee and  
Dividend**

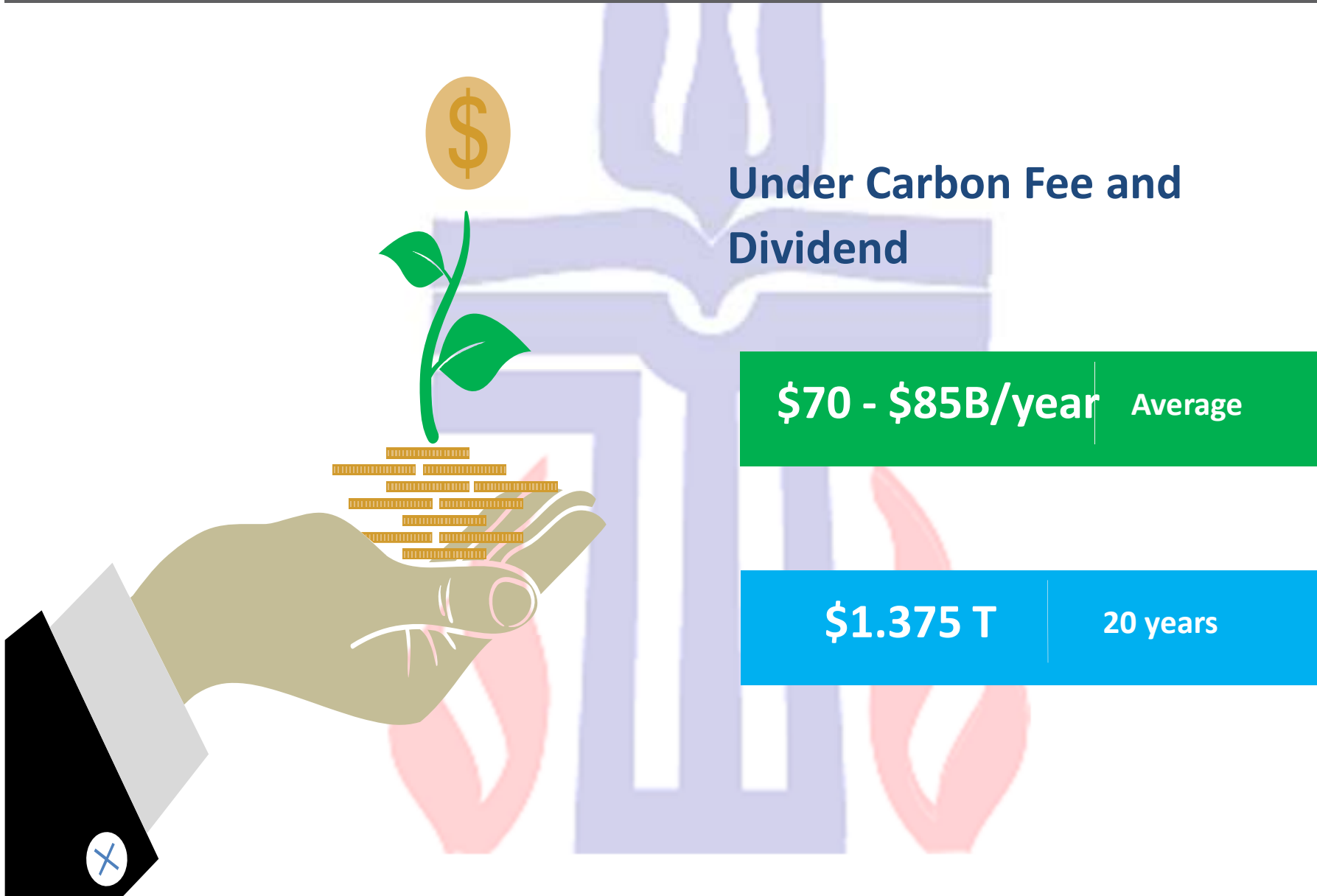
**2.1M New Jobs**

10 years

**2.8M New Jobs**

20 years

# GDP Growth



# Lives Saved

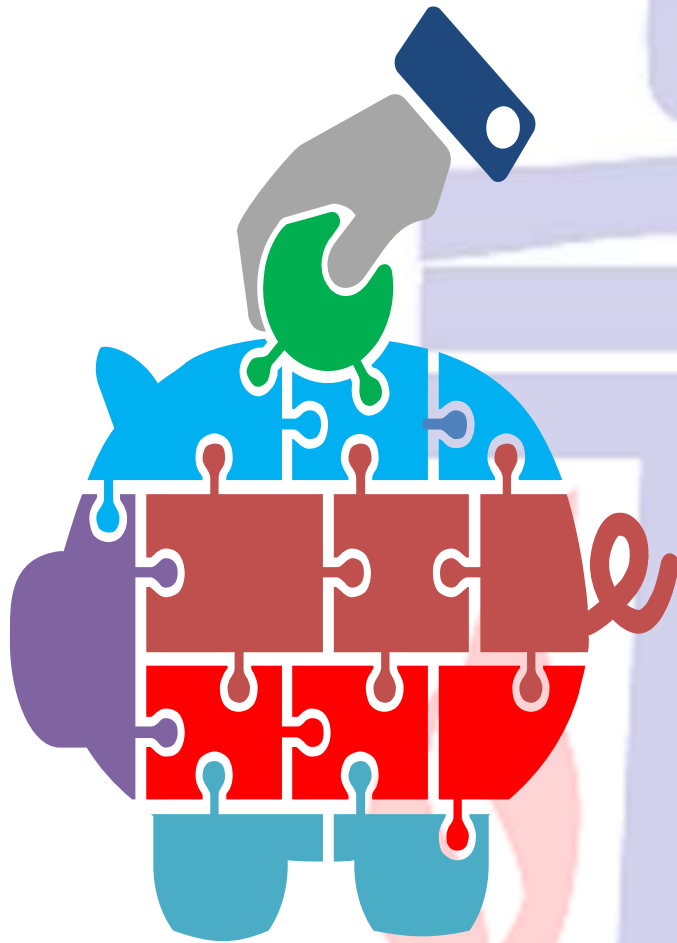
Under Carbon Fee and  
Dividend

227,000 lives

Over 20 years



# Household Dividend



**Under Carbon Fee and  
Dividend**

**\$288/month\***

**10 years**

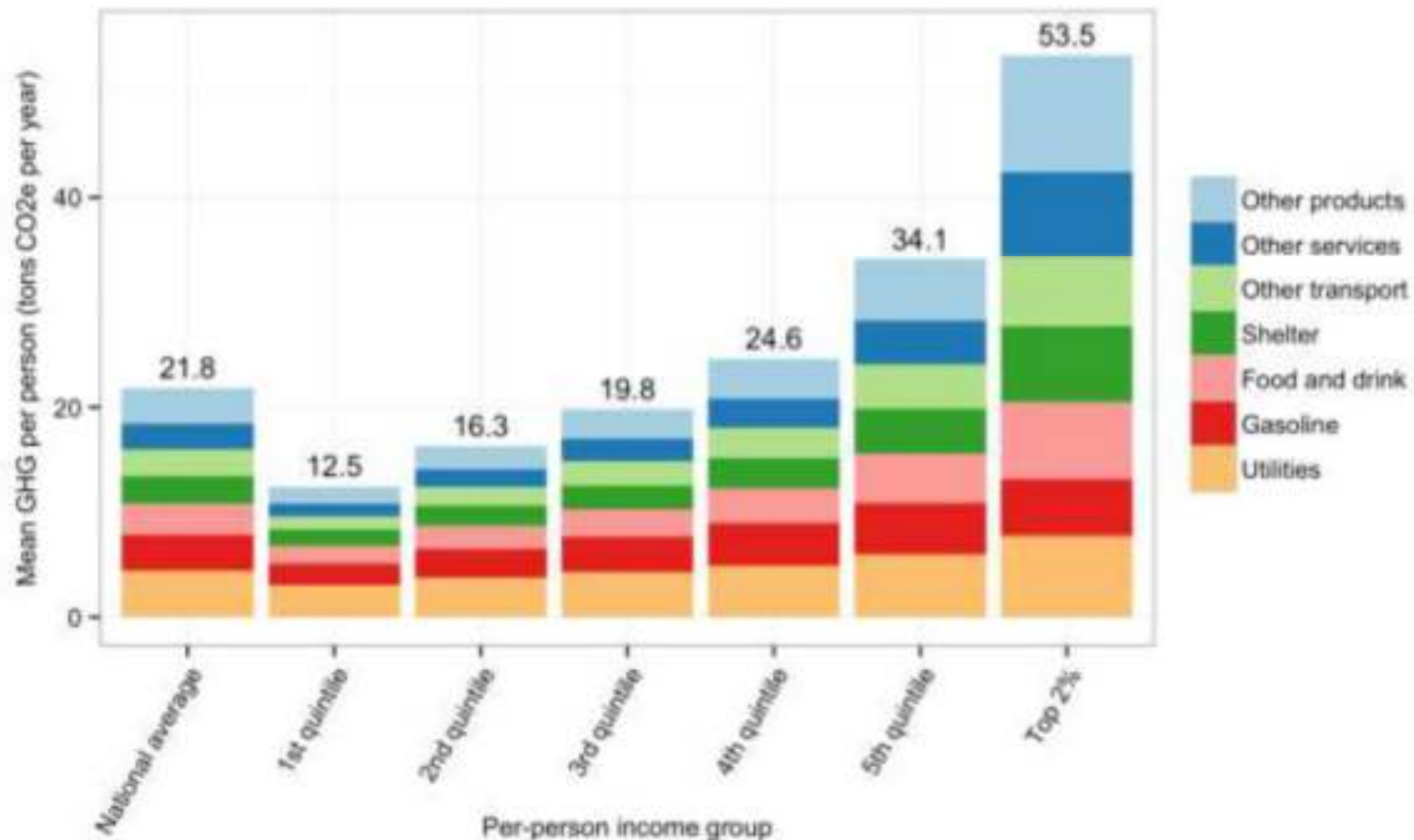
**\$396/month\***

**20 years**

\*For a family of four

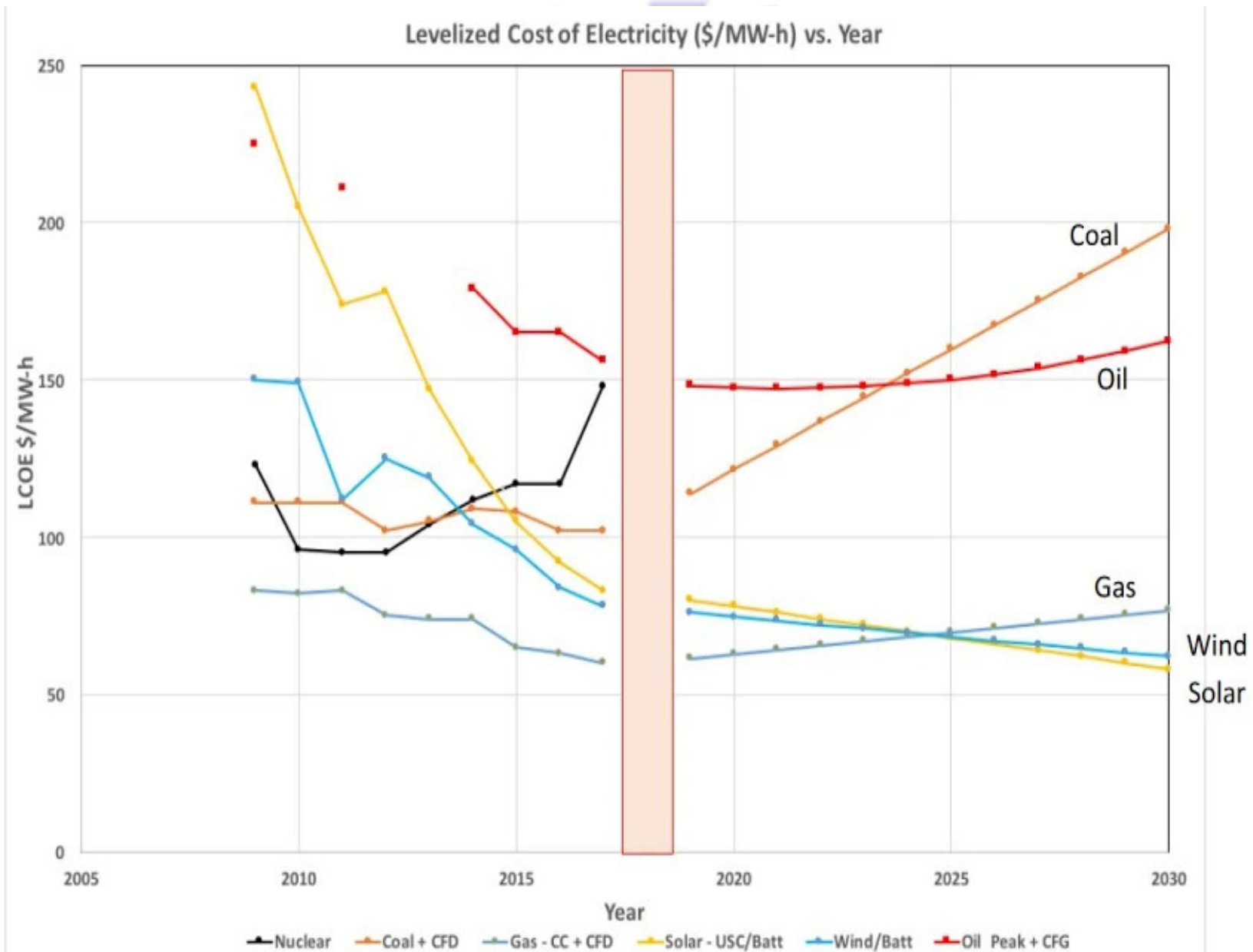


# Avg per person GHG emissions by sectors & Income (Quintile)



[“Who Pollutes? A Household-Level Database of America’s Greenhouse Gas Footprint”, Kevin Ummel](#)

# Increasing Carbon Fee makes Alts more Attractive



# ***Intergovernmental Panel on Climate Change (IPCC)***

**Est. 1988 by the World Meteorological Organization to study scientific basis and risk of climate change**



**Authors are world experts (volunteers); reports are peer reviewed**

**Latest Report (13 Oct 2018): 6,000 scientific refs; 91 authors, 40 countries**

- Catastrophic impacts loom if carbon emissions are not cut in half by 2030
- Unprecedented changes to global energy infrastructure needed to limit global warming to a “moderate” level of 1.5°C (2.4°F)
- Consequences greatly increase between “moderate” 1.5°C warming and 2°C (5.4°F)
- Government coordination is needed – piecemeal approach is inadequate
- Rising sea levels, more devastating droughts and storms . . . the report is brutally clear that warming will drastically increase famine, disease, economic tolls, and refugee crises.

# Testimonies of Economists

- William Nordhaus Nobel Laureate 2018
  - ✓ Nordhaus has been writing for four decades about climate change and the value of using prices to reduce carbon emissions.
  - ✓ His research shows that raising prices through a carbon tax, is a more effective and efficient way to lower carbon emissions than through direct imposition of limits on the quantity of emissions produced by cars and power plants, by government regulations.
- Citi Group Report 2015

- ✓ Why a Low Carbon Future Doesn't Have to Cost the Earth





# CCE & CCL

## 1 Grass Roots Education & Lobbying

100,000 + Members  
Double or Triple In Size Every Years

## 2 Nonpartisan

We build relationships with everyone, even those who oppose us.

## 3 Nonprofit

Volunteer driven organization with 501c(3) and 501c(4) status.

## 4 Solution focus

We are for a solution: Carbon Fee and Dividend.

## 5 Respect, appreciation and gratitude

We treat everyone, even those who oppose us, with respect, appreciation and gratitude.



**Citizens' Climate Education**



**Citizens' Climate Lobby**

# PCUSA & Climate Change

- Advocating for decades for Climate Change Action
- 2014 General Assembly
  - 12 presbyteries Overtures - divest from fossil fuel
- Synod of the Sun's Fossil Fuel Planning Team
  - Response to Divestment
  - Faithful Alternatives
  - Carbon Pricing
  - Developed Consultation Document
    - Consultation Document in **Introduction** at <http://www.faithfulactioncc.org>
  - Symposium
    - Videos at <http://www.faithfulactioncc.org/>
  - 3 Overtures

# General Assembly 2016 & 2018

- 222 General Assembly 2016
  - Overture Advocate in Portland, Or
  - Near Unanimous support in Committee
  - Never got voted on
- 223 General Assembly 2018
  - 2 Overture Advocates Plus
    - Minnesota Overture
  - Approved in Committee >80%
  - Consent agenda
  - Vote in Full Body >80%

# Faithful Response to Climate Change

## ‘Carbon Pricing’ Overture

- Express Concern and Recognize Gospel’s call
- Work with citizens/voters, legislators, and other organizations with parallel goals on Carbon Pricing
- Protect the poor by addressing potentially regressive effects of a fee or tax that is passed on without adequate rebate compensations
- Directs the Presbyterian Mission Agency and Stated Clerk of the PC(USA) to specific kinds of action that are appropriate to their traditional roles and mandates.
- Instructs MRTI to continue that engagement, especially in support of carbon pricing – with managers and directors of all investment firms and funds.

# Why should Presbyterians get engaged?

## THE LEAST OF US

- Harvey Example
  - Recovery of the poor
- Coastal Cities – poor sections
- Food Challenged regions
- Water challenged communities



# A few Consultation Document points of detail

- Developing the Document
  - Excellent vehicle to coalesce the Team's (sometimes conflicting) views
  - Concluded Divestment not a Faithful Alternative
  - Primary focus would be on offering faithful alternatives to divestment
- Why divestment alone is not adequately 'faithful'
  - "divestment is not a just response to climate change" because it transfers too much responsibility and blame from the agents of consumption and use to the agencies of production
  - Divestment is not faithful when we as consumers continue to use fossil fuels in multiple ways everyday, to satisfy our habitual wants and desires
  - Divestment alone will not significantly effect CO2 and other GHG emissions -- while pricing alternatives have proven to be effective with other negative impact resources in the past.
  - Divestment is appropriate when used an ultimate option after engagement, and continued willful misconduct by corporate offenders
- Complexity of climate change in a more just economic world order: as long as global CO2 emissions are reduced without denying the benefits of fossil fuel for developing nations

# What did the G. A. 223 (2018) Approve?

- 3 Work with citizens/voters, legislators, other decision-makers, and other organizations that have parallel goals<sup>[1]</sup> to bring into effect national and international policies that create a consistent, rational, and escalating price for emissions of CO<sub>2</sub> and other greenhouse gases, which will reduce consumption and support investment in sustainable alternative energy sources.
- 7 Direct the Stated Clerk of the PC(USA) to inform the denomination and the larger public of the passage and implementation of this overture.
- 8 Direct the Presbyterian Mission Agency to support congregations' advocacy with elected officials on climate action including just carbon pricing such as carbon fee and dividend.

1 Citizens' Climate Lobby is one such organization and their proposed Carbon Fee and Dividend is one effective method of Carbon Pricing

**[O.P.W. – P.M.A endorsement]**

- **Energy Innovation & Carbon Dividend Act**
  - HR7173 introduced Nov 2018
  - Basically CCL's Carbon Fee and Dividend Proposal
  - HR763 January 2019
- **Action Alert**
  - Encourage Action by 8000+ Presbyterians
- **Stated Clerks Statement**
- **Ecumenical Advocacy Days**
- **Advise Ecumenical & Interfaith Groups**

# [O.P.W. – P.M.A endorsement]



OFFICE OF PUBLIC WITNESS • PRESBYTERIAN MISSION AGENCY  
PRESBYTERIAN CHURCH (U.S.A.)

December, 18, 2018

## ● In Support of the Energy Innovation and Carbon Dividend Act of 2018

In June 2018, the 223<sup>rd</sup> General Assembly of the Presbyterian Church (U.S.A.) “expressed profound concern about the destructive effects of climate change on all God’s creation, including a disproportionate impact on those living in poverty and in the least developed countries, the elderly and children, and those least responsible for the emissions of greenhouse gases.” The Assembly went on to express its conviction in a *“moral mandate for humanity to shift to a sustainable energy regime”* and *urged the implementation of “national and international policies that create a consistent, rational, and escalating price for emissions of CO2 and other greenhouse gases, which will reduce consumption and support investment in sustainable alternative energy sources.”*

● On Nov. 27, 2018, Representatives Ted Deutch (D-FL), Brian Fitzpatrick (R-PA), John Delaney (D-MD), Francis Rooney (R-FL), and Charlie Crist (D-FL) introduced **H.R. 7173, the Energy Innovation and Carbon Dividend Act of 2018 (EICDA)**. This is the first bipartisan carbon pricing bill of its kind and is an exciting advancement of Congressional efforts to control U.S. carbon emissions and reduce greenhouse gases. *The Presbyterian Church (U.S.A.) applauds this bipartisan effort to care for a suffering creation and supports passage of this bill.*

● To the public good, the EICDA outlines an economic mechanism that will curb U.S. carbon emissions by removing the financial burden of emitting greenhouse gases from society at-large and placing it on fossil fuel companies, while holding harmless most U.S. residents (citizens and lawful residents). By focusing the costs on large energy companies, the EICDA will impose financial incentives on those actors to change their business models and reduce greenhouse gas emissions that cause global climate change. By taking effect soon after enactment and escalating the carbon fees quickly, this bill will require the market to take corrective action for choices that, for over a century, have been reckless and damaging to the environment. [Proponents of the bill](#) project that it will reduce U.S. emissions by at least 40 percent over 12 years and create 2.1 million additional jobs over 10 years as the clean energy economy grows.



This is a particularly good place to start

Home · Uncategorized · General Assembly policy on Carbon Pricing

## General Assembly policy on Carbon Pricing

July 27, 2018

### G.A. and Carbon Pricing, 101

By Bill Bray, Ron Spross, and Tamie Evans, Ruling Elders, Rev Bob Taylor, Teaching Elder (retired)-overtures advocates to the 2018 General Assembly that passed the overtures.

The General Assembly is inviting us, all 9000+ PC(USA) congregations and 1.5 million members, to a call to action. A prayer-full calling for us to build bridges of trust with our neighbors and Congress (yes, Congress!), supporting their actions on climate.

By over 80% the full Plenary of the General Assembly voted to approve the *New Covenant 08-12* [<https://www.pc-biz.org/#/search/3000325>] overture and by "answering 9 with 12", approved the *Twin Cities 08-05* [[www.pc-biz.org/#/search/3000320](http://www.pc-biz.org/#/search/3000320)] overture.

This action, like the entire agenda of the GA, started with Congregations sending prayers-as-overtures. Climate action prayers to the 223<sup>rd</sup> General Assembly, as 10 Environmental Issues overtures, were supported by the Teaching and Ruling Elders of the sixty one Presbyteries and Synods all across the country and the world voting for approvals and concurrences, showing broad support for PC(USA) action on climate change.

The GA approval affirms and invites us to learn about an idea called the carbon dividend. They also direct the Presbytery Mission Agency to support our actions on advocacy with Congress, for the *Carbon Dividend* idea, and to build partnerships with organizations such as *Citizens' Climate Lobby*.

We need lower-carbon choices. All business, not just energy utilities, needs to shift. Since it's a core business behavior to avoid costs, by adding a fee to fossil fuels at the wellhead, mine, and border, businesses will pick suppliers avoiding the cost, become more efficient, and constantly innovate to offer lower-carbon lower-cost products, energy, food, and transportation.

Setting a fee at the source by Congress assures it's universally applied to business and consumers (businesses can't trade for an exception), making it fair and effective.

By returning all of the fee each month to every family across the entire USA as a dividend, it is also socially

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### About this blog

Eco-justice means working to heal, defend, and work toward justice for all God's creation and all people. This blog from the Presbyterian Hunger Program (PHP) offers environmental and sustainable living education, advocacy, and action opportunities to accompany you on your own journey.

#### Authors include:

Rebecca Barnes, Coordinator of PHP, can be reached at [rebecca.barnes@pcusa.org](mailto:rebecca.barnes@pcusa.org). Jessica Maudlin, PHP Associate of Sustainable Living and Earth Care Concerns, can be reached at [jessica.maudlin@pcusa.org](mailto:jessica.maudlin@pcusa.org).

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Home > Climate Change and the PC(USA)

# Climate Change and the PC(USA)

When we work to protect creation, we are answering God's call to till and keep the garden (Genesis 2:15). In the face of deepening ecological crises caused by climate change, our call to act as earth's caretakers takes on more meaning.

## Actions:

- Urge your members of Congress to **support legislation which embodies Carbon Pricing** as adopted by the 223 General Assembly. Read more background at our [carbon pricing page](#). The bipartisan [Energy Innovation and Carbon Dividend Act](#) is one current piece of legislation that needs support.
- **Examine environmental justice concerns in your own zip code**
- **Embrace your Power as a Shareholder.** Do you or your congregation hold investments in companies through stocks? This resource will help you leverage your power as an investor: [Activating your Power as a Shareholder](#). MRTI makes recommendations for Presbyterian shareholders based on the mission goals and policies of the General Assembly. Contact [mrti@pcusa.org](mailto:mrti@pcusa.org) for more information.
- Learn about other congregations' projects to install [solar panels](#)
- Invest in [Environmental Investments](#) with the Presbyterian Foundation
- Consider a loan for energy efficiency upgrades with the [Presbyterian Investment and Loan Program's Restoring Creation loan](#).
- Read from international mission partners how [Climate Change Exacerbates the Impacts of Extractive Industries in Peru](#)
- Connect with the Presbyterian Hunger Program's [environmental work](#)
- Take the [Climate Care Challenge](#)

## Resources:

### General Assembly Policies

- [Restoring Creation for Ecology and Justice](#)
- [On Responding to Environmental Racism and to Promote Environmental Justice](#)
- [Carbon Pricing](#)
- [The Power to Change: U.S. Energy Policy and Global Warming](#)

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[Carbon Pricing](#)  
[Native American Land Rights](#)  
[Papal Encyclical](#)

# Climate Care Challenge page

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## Climate Care Challenge

June 20, 2019

*As people of faith, we believe that God created this world, called it good and told humans to care for it. We are blessed to have this sacred task.*

### Take the Climate Care Challenge!

Our daily experience confirms that these extreme climate events keep taking place with greater frequency and intensity each year. This is threatening our food and energy security. . . . Climate change represents an imminent threat to balanced and well-adjusted development in our country. . . ultimately, we are seeking to motivate the search for new paths, both of theory and practice, for new opportunities and strategies. We seek to facilitate the development of individual lifestyles and comprehensive government policies that provide protection, care, and access for all of creation.

**Conrado Olivera, RED Uniendo Manos, Joining Hands Peru**

children and grandchildren.

We have the knowledge, skills, and resources to reduce our energy consumption and switch to alternative energy sources that are less harmful to the environment. Prompt action and leadership can keep global climate change from causing its worst impacts.

Burning carbon-based fossil fuels—like coal, oil and natural gas—for our energy produces greenhouse gases which warm the planet. This causes an increase in devastating fires, floods, droughts, and storms. These effects often impact impoverished and vulnerable communities first and most deeply. While not all Presbyterians have the same passion around climate change, we all want a healthy world with clean air and clean water for everyone.

In 2009 the General Assembly passed a [policy](#) calling Presbyterians to take the results of our energy consumption seriously, to pray asking for God's forgiveness and guidance, to reduce energy consumption, and to calculate carbon emissions and offset their negative impact. As we follow this policy, we can help make this earth a safer place for our



### Decarbonize Your Life

Calculate your carbon emissions using an online tool like the one at <https://coolclimate.berkeley.edu/calculator>

Reduce your carbon emissions as low as

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[f](#) [t](#) [v](#)

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Rebecca Barnes, Coordinator of PHP, can be reached at [rebecca.barnes@pcusa.org](mailto:rebecca.barnes@pcusa.org). Jessica Maudlin, PHP Associate of Sustainable Living and Earth Care Concerns, can be reached at [jessica.maudlin@pcusa.org](mailto:jessica.maudlin@pcusa.org)

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### Learn More

- Beyond Tomorrow partnership
- Climate Change and the PC(USA)
- Carbon Pricing
- Native American Land Rights
- Papal Encyclical
- Stories about Earth Care Congregations

### Categories

Categories

## Action plans and options for Presbyterians and congregations

- Consult the matrix on your handout, find your sweet spot to start, or figure out your next step up, reaching out, or making lateral connections...
- Consider joining or following the CCL's Presbyterian Action team (in the Citizens' Climate Lobby).
- Commit to working together as congregations in the Pittsburgh Presbytery.

# CCL's Presbyterian Action Team

- 41 members and growing
  - Calls twice/month
  - 1<sup>st</sup> & 3<sup>rd</sup> Thursdays at 3 pm ET
- Connecting with PCUSA National Organizations
  - Presbyterian Mission Agency / Hunger / Rev Rebecca Barnes
  - Advisory Committee on Social Witness Policy
  - Office of Public Witness, DC
  - Earth Care Congregations – PEC & Conference
  - MRTI / Board of Pensions
  - Fossil Free PCUSA
  - Faithful Actions Team
- Providing Information & Education
  - Blogs
  - Newsletter articles
  - Web pages
  - Sunday School Classes

## Lobbying and building political will

- Write to your Members of Congress
  - Share your views on this issue: with friends and colleagues
  - Support Carbon Pricing to the extent you agree
  - CCL has several different kinds of endorsement letters for people to sign, which we collect and deliver to our MOCs
  - Write LTEs (and submit Op Eds, if that is an interest or skill you have) – here's a recent example submitted by a CCL member who lives near Butler, PA.





## LTE example

We need an 'Earthshot', not another 'Moonshot'

An opinion piece in the July 26<sup>th</sup> edition of the *Post-Gazette* calls for the U.S. to begin another 'moonshot', like getting to the moon 50 years ago, to take on the climate crisis that's been building over the last several decades. A 'moonshot' isn't big enough!

The heating of our planet is now causing almost daily weather calamities, including heat waves scorching most of the world, both devastating droughts and floods in different parts of Southeast Asia, and numerous wildfires across the Arctic. The climate crisis affects all of us here on earth; and governments of most countries are taking action to combat it.

In the U.S., our federal government has known that climate conditions would worsen but has chosen to do very little about them. The Green New Deal, and now a competing plan from mainstream Democrats, have finally raised awareness in the public. Most Americans realize that there's a problem and that humans are the main cause.

The politics inside the Beltway won't catch up to the climate crisis. Waiting for something like the Green New Deal to be fleshed out and implemented will take more time than we have to do something. Congress can take action tomorrow to begin reducing greenhouse gas emissions by passing the Energy Innovation and Carbon Dividend Act (EICDA, H.R.763, [www.energyinnovationact.org](http://www.energyinnovationact.org)). This legislation cuts emissions, creates millions of jobs, saves countless lives, and puts money in the pockets of most Americans. Learn more about EICDA and tell Congress to act now.<sup>71</sup>

**Supplemental Slides Follow**



# CCL PC(USA) Action Team Call

1<sup>st</sup> & 3<sup>rd</sup> Thursdays Each Month

Std Time: **3ET, 2CT, 1MT, & 12PT**

**6 MT**

Zoom: <https://citizensclimate.zoom.us/j/7237228489>

Or Telephone: Dial: +1 646 558 8656  
(US Toll) Meeting ID: 723-722-8489

# Regional Economic Models, Inc. (REMI)

- **Jobs.** Go from negative to **positive**.
  - **2025.** 2.1 million extra jobs in 10 years.
  - **2035.** 2.8 million extra jobs in 20 years. The tax adds over 1% to jobs.
- **GDP.** The effect on GDP goes from negative to **positive**.
  - **2020.** GDP Increases \$70-\$85 billion annually after 2020.
  - **2035.** Cumulative GDP increase is \$1.375 trillion by 2035.

# 9 Census Regions



*Figure 1.2 – This map shows the nine regions in the PI+ model simulations for this work.<sup>26</sup> The colors above are consistent with the coloration of the results tables and appendices. The states of Alaska and Hawaii are part of the PAC region with California, Oregon, and Washington. Each region has its own reaction to the FAD carbon tax before becoming part of the national whole through simple addition. For instance, the heavy concentration of coal-fired power plants in ENC and WNC (the Great Lakes and Great Plains states, respectively) make their economies more susceptible to switching from coal power to nuclear power than NE or PAC, neither of which have comparably much in terms of coal. On the other hand, ENC and WNC have potential for wind power given all their cheap, open land. **These regions have their idiosyncrasies—these models specifically exist to take account of them.***



# Economic Advisors Supporting a Carbon Tax

**Jimmy Carter**

**Paul Voelker**

**Ronald Reagan**

**Arthur Laffer, Martin Feldstein, Paul Voelker**

**George H. W. Bush**

**Michael Boskin**

**Bill Clinton**

**Joseph Stiglitz, Rob Shapiro**

**George W. Bush**

**Greg Mankiw, Douglas Holtz-Eakin, Larry Lindsey**

**(Candidate) John McCain**

**Douglas Holtz-Eakin**

**(Candidate) Mitt Romney**

**Glenn Hubbard, Greg Mankiw**

**Barack Obama**

**Larry Summers, Peter Orzag, Paul Voelker**

# Global Warming Progress



1824 Jean-Baptiste Joseph Fourier -- “On the Temperature of the Terrestrial Sphere and Interplanetary Space”



1861 John Tyndall -- “On the Absorption and Radiation of Heat by Gases and Vapours, and on the Physical Connexion of Radiation, Absorption, and Conduction”



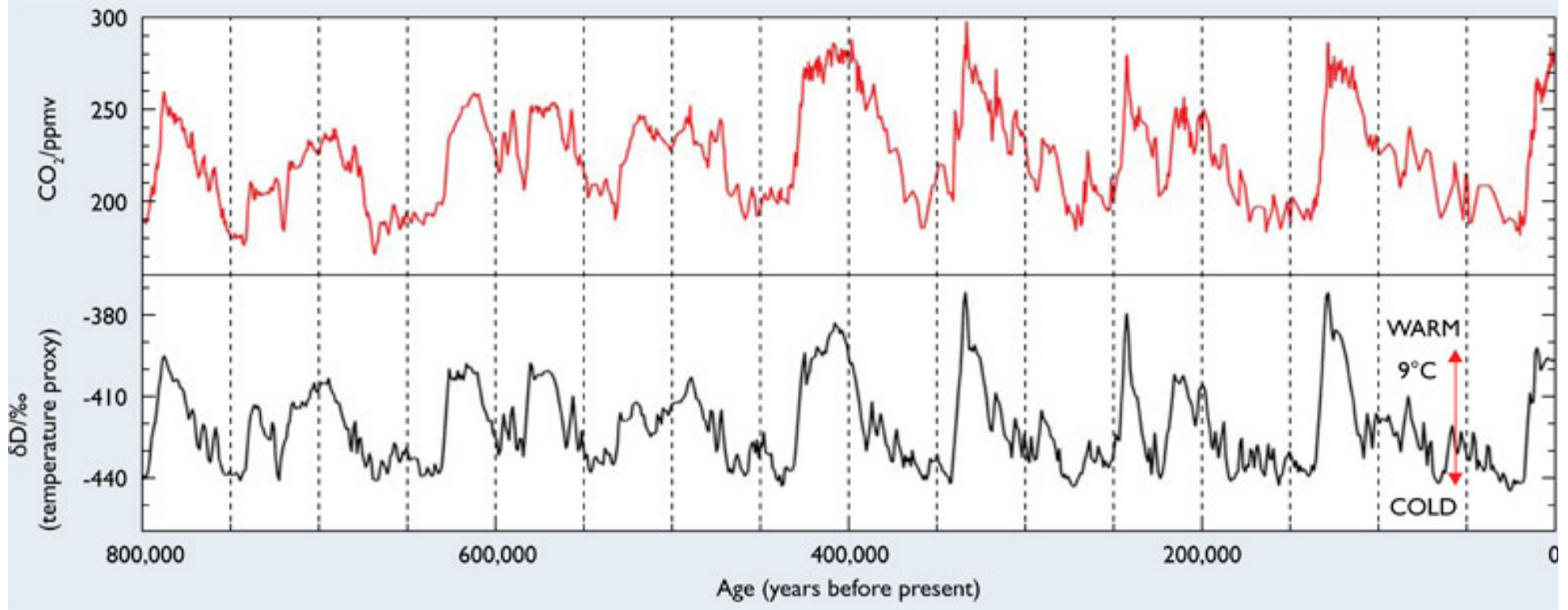
1896 Svente Arrhenius – “On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground”

1938 G. S. Callendar – “The Artificial Production of Carbon Dioxide and its Influence on Temperature”



# Ice Core Showing Multiple Ice Ages

Fig. 3: Ice core data from the EPICA Dome C (Antarctica) ice core: deuterium ( $\delta D$ ) is a proxy for local temperature;  $CO_2$  from the ice core air<sup>(5,6)</sup>



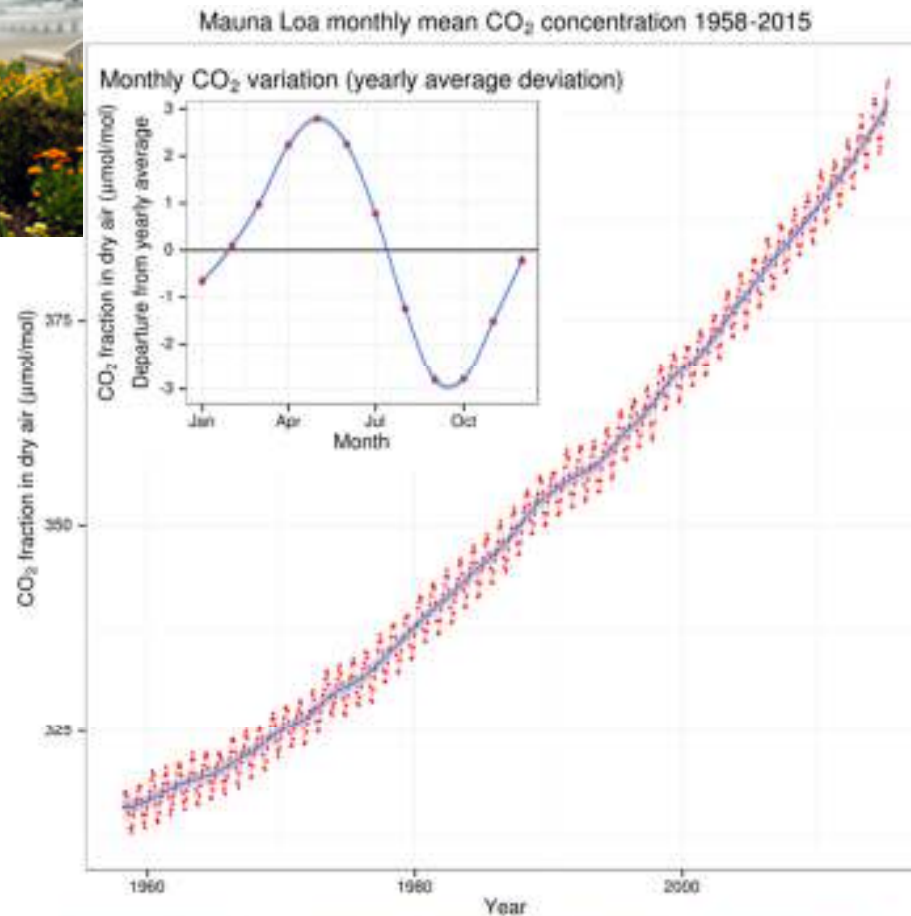
British Antarctic Survey

<https://www.bas.ac.uk/data/our-data/publication/ice-cores-and-climate-change/>

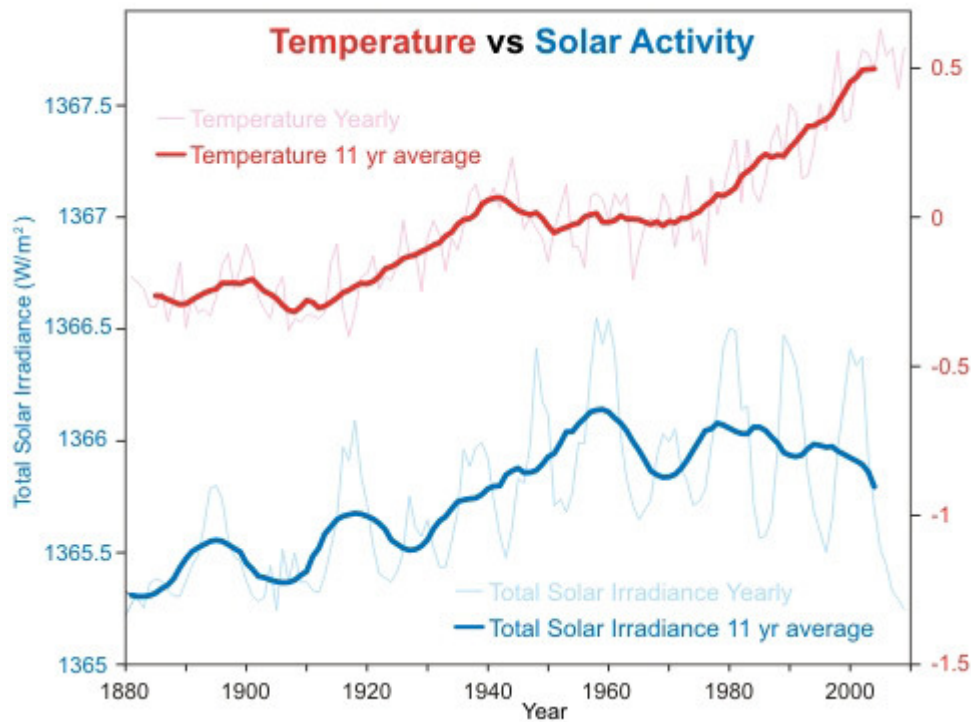
Charles D. Keeling



"The Concentration and Isotopic Abundances of Carbon Dioxide in the Atmosphere." (1960)  
"Is Carbon Dioxide from Fossil Fuel Changing Man's Environment?" (1970)



# Influence of the Sun



- Maximum change in average solar energy flux =  $1/1365$
- Maximum  $\Delta T \sim 0.05$  °C