

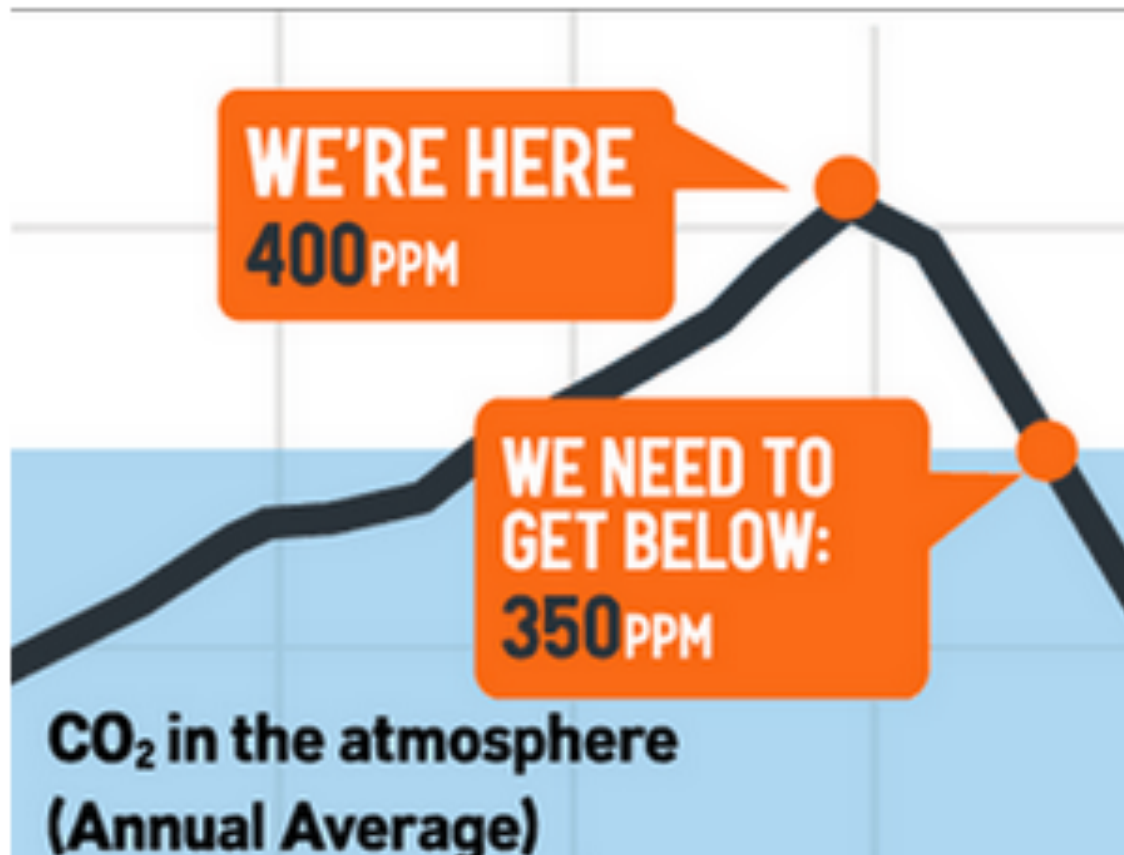
Calculating Your Carbon Footprint

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We've Got a Problem

A complex, severe, and urgent problem...



What's a local climate action group to do?

But We Can Help Individually and as a Community



GETTING TO
ZERO
ONE PERSON
AT A TIME.

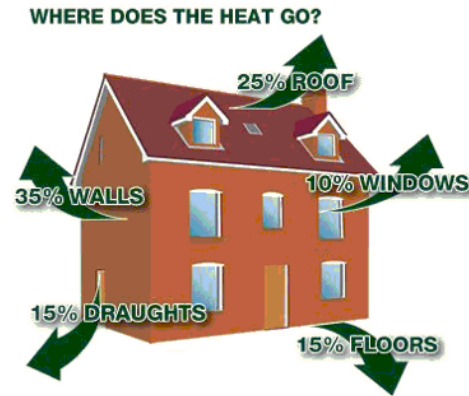
Fixing GHG emissions is like stamping out a disease--we know how to do it, but it must be done with everyone.

- one house at a time,
- one car at a time,
- one household at a time,
- one utility at a time,
- one airline at a time...

The ultimate way to disable the fossil fuel empire is to stop buying their products!

I. Reduce Personal and Community Carbon Footprints

- Calculate our C footprints, reduce, track
- Blaze the trail—cost/performance benefits, too!
- First 10%: just stop doing careless things
- 20%: change your habits
- 30-40%: change your efficiencies
- 50-70%: change your infrastructure
- 80-100+%: change societal infrastructure, including fossil fuel divestments



“Be the change you wish to see in the world.” -M. Gandhi

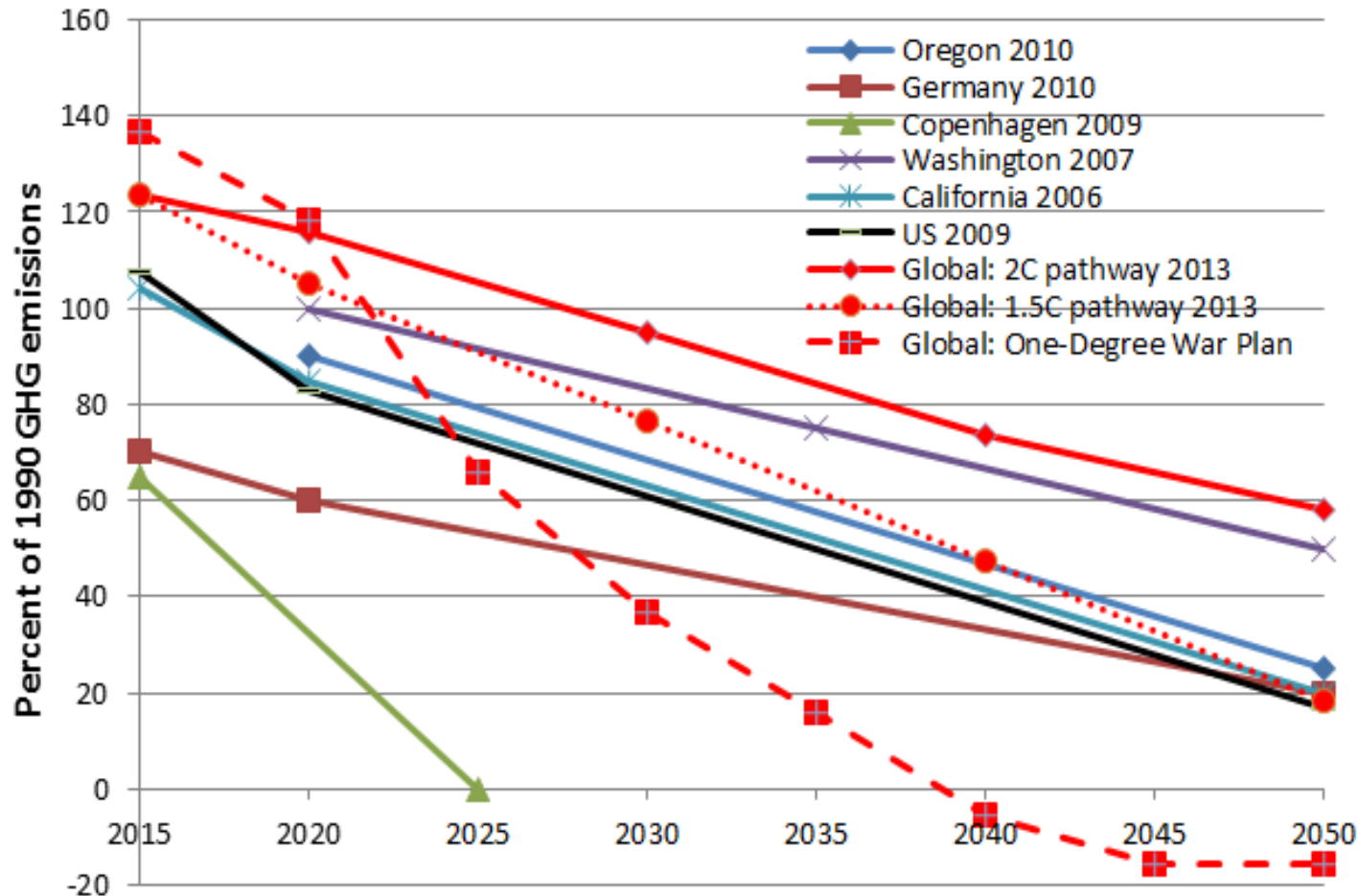
II. Drive Climate-Repairing Policies at All Levels of Government

- Increase awareness
 - Teach-ins, marches, protests, direct actions
- Lobby for the right policies
 - No coal or oil terminals; RPS; RFS; vehicle feebates; PUC policies; organic farming; fossil fuel divestments;...
- Campaign for and fund the right candidates
- Lobby to get Big Money out of elections

***“We know we have a problem and we know what to do about it, but we have a political problem”—
Tom Steyer***

GHG Reduction Targets

- Red lines are the global recommendations of scientists
- Implies 50% reductions by 2025 (1C), 2035 (1.5C), 2045 (2C)



Online Footprint Calculator

- <http://coolclimate.berkeley.edu/carboncalculator>
- Easily compare to averages
- Displays all the calculated and estimated contributors



Calculator Example

- White Salmon averages



- Travel higher, home lower than US average

Calculator Example

What if our average household did half the driving?

Cuts total by 7 tons/yr

What else could we do?

- Carpool
- Higher mileage cars
- PHEV or EV



Calculator Example

What if our average household made their house 5 times as energy-efficient with better sealing and a heat pump?

Cuts another 6 tons/yr

What else could we do?

- Better sealing
- Add PV
- Water catchment
- Lobby for a clean energy program at PUD

The screenshot shows a web-based calculator with a navigation bar at the top containing icons and labels for Intro, Travel, Housing (highlighted in green), Food, Shopping, and Take Action. The main section is titled "How do you use your home?" and has two tabs: "Regular Analysis" and "Advanced Audit".

Input fields include:

- Electricity:** A text box with "6200" and a dropdown menu set to "kWh/year". A yellow arrow points from the text "5 times as energy-efficient" to this field.
- Electricity % purchased from a clean energy program:** A dropdown menu set to "0%".
- Utility Provider:** A dropdown menu set to "PUD No 1 of Klickitat County".
- Natural Gas:** A text box with "0" and a dropdown menu set to "Therms/yr".
- Heating Oil or Other Fuels:** A text box with "0" and a dropdown menu set to "\$/year".
- Square feet in your living space:** A text box with "1850".
- Water:** A slider control with "Average" in the center, ranging from 0 to 3x.

Below the input fields is a bar chart titled "White Salmon, Washington 98672" showing "Metric tons CO₂/year" on the y-axis (0 to 30). The chart has five bars: Travel (blue, ~9.5), Home (red, ~4.9), Food (green, ~6.5), Goods (yellow, ~4.5), and Services (yellow, ~4.5). The "Home" bar is circled in yellow, and a yellow arrow points from the text "Cuts another 6 tons/yr" to it.

On the right side, the text "Total Housing" is followed by a large "4.9" and "tons CO₂/year". Below this is a cartoon character with a halo. Further down, it says "54.8% Better than the average household in White Salmon, Washington 98672 with average size and similar income."

Calculator Example

What if our average household went vegan?
(with same total calories)

Cuts another 2 tons/yr

What else could we do?

- Buy more local
- Plant a garden



Calculator Example

The screenshot shows a web-based carbon footprint calculator. At the top is a navigation bar with icons and labels for Intro, Travel, Housing, Food, Shopping, and Take Action. The 'Shopping' tab is active. The main heading is 'How much do you spend on each of the following?'. Below this are two sections: 'Goods' and 'Services', each with 'Simple' and 'Advanced' toggle buttons. In the 'Goods' section, 'Clothing' is set to \$139/month and 'Furniture & Appliances' is set to \$139/month. In the 'Services' section, 'Total Other Goods' is set to \$233/month. A slider for 'Services Total' is positioned at the 'Average' mark. Below the input fields is a bar chart titled 'White Salmon, Washington 98672' showing carbon footprint components in 'Metric tons CO₂/year'. The components are Travel (approx. 9.5), Home (Construction and Electricity, approx. 4.5 each), Food (Other Food and Produce, approx. 3.5 each), Goods (approx. 2.5), and Services (approx. 4.5). A yellow circle highlights the 'Goods' bar, with an arrow pointing from the text 'Cuts another 3 tons/yr' to it. To the right of the chart, a summary box shows 'Total Shopping 8.5 tons CO₂/year' with a smiley face icon and the text '26.5% Better than the average household in White Salmon, Washington 98672 with average size and similar income.' Another arrow points from the text 'What if our average household shopped half as much and lived more?' to the 'Clothing' input field.

Intro Travel Housing Food Shopping Take Action

How much do you spend on each of the following?

Goods \$/month **Simple** **Advanced**

Clothing \$ 139

Furniture & Appliances \$ 139

Other Goods **Simple** **Advanced**

Total Other Goods \$ 233

Services \$/month **Simple** **Advanced**

Services Total 0 Average 2x 3x

White Salmon, Washington 98672

Metric tons CO₂/year

Car Fuel Construction Electricity Other Food Produce Goods Services

Travel Home Food Goods Services

Total Shopping
8.5
tons CO₂/year

26.5% Better
than the average
household in White
Salmon,
Washington 98672
with average size
and similar income.

What if our average household shopped half as much and lived more?

Cuts another 3 tons/yr

What else could we do?

- Buy more local
- Buy less stuff
- Buy stuff that lasts longer

Calculator Example

What if our average household only bicycled or drove EVs?

Cuts another 7 tons/yr for 20.6 tons total

Their list of what else one could do (Note that these don't all add together.)

Everything left would be reduced by a price on carbon.



Roll Your Own to Track Progress

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	CARBON BUDGET	Example			2012		2013		2014 Budget		2015					
2	<i>Does not include embodied energy in food or other products purchased or consumed.</i>	Annual usage	multiply by	kg of CO2	Annual usage	kg of CO2	Annual usage	kg of CO2	Annual usage	kg of CO2						
3	HOUSE HEATING															
4	GAS HEATING	Enter data only in green cells														
5	Enter a figure for just one of these two															
6	New style units (Cubic metres) of mains gas	2	2.2	4.4		0		0		0						
7	Old style units (100's cubic feet) of mains gas		6.2	0	1000	6200	514	3187	0	Unhooked!			0			
8	ELECTRICITY															
9	Kilowatt hours (kWh) of conventional electricity		0.5	0	7250	3625	15530	7765	1000	500						
10	Kilowatt hours (kWh) of green tariff electricity		0	0		0		0		PV up Feb. 1			0	net-zero!		
11	CARS															
12	Van odometer 12/31				84800		86100		87500		TBD					
13	miles				800		1300		1400	BAU						
14	avg mpg				13		13		13							
15	Gasoline (gal)				62		100		108							
16																
17	Hybrid odometer 12/31				148500		164372		180000		Buy a 200-mile EV in 2015					
18	miles				15600		15872		15628	BAU						
19	avg mpg				38		38		38							
20	Gasoline				411		418		411		0					
21																
22	Leaf odometer 12/31				8000		13126		20000							
23	miles				6000		5126		6874							
24	avg miles/kWh				3.4		3.4		3.4							
25	kWh used				1765		1508		2022							
26																
27	Gallons gasoline	10	11.36	114	472	5363	518	5881	519	5895	100	1136				
28																
29	PUBLIC TRANSPORT (bus, train, etc)															
30	Miles		0.11	0		0		0		0						
31																
32	PLANE															
33	Miles (air travel is ~ a single occupancy car at 57 mpg!)		0.2	0	33000	6600	40000	8000	17200	3440	Find some real offsets or don't fly					
34	TOTAL PERSONAL CO2 EMISSIONS FROM HOME AND TRANSPORT															
35																
36	SO WHAT															
37	Sustainable level: ~400 kg/person/year (sort of)															
38	UK average in 2010: 7900 kg/yr															
39	US 2010 average: 17600 kg/yr															
40	http://data.worldbank.org/indicator/EN.ATM.CO2E.PC															
41	So our 2013 would say we're 8300 kg/person															
42	but this doesn't count food or other purchases															
43																
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