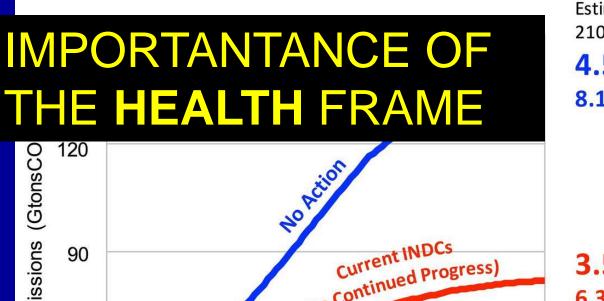


#### **Projections for COP21**

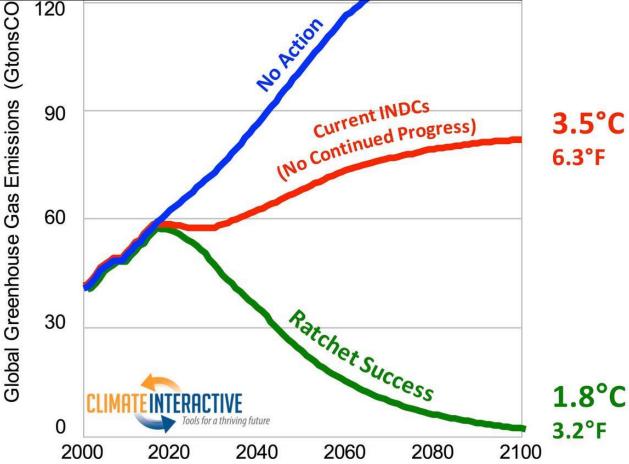
 Need for immediate and substantial actions



**Estimated** 2100 temp:

4.5°C

8.1°F



## Opportunities for Health

1. Energy Sector



2. Food Systems



3. Transportation/ Urban Planning



## Current health impacts of fossil fuel combustion (main cause of climate change)

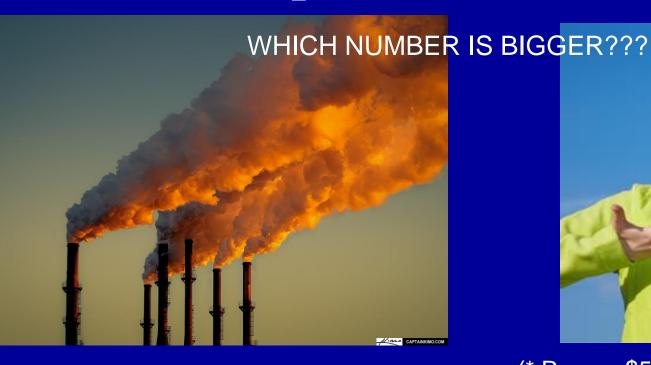
- Outdoor air pollution → 3.7 million deaths/yr mostly from urban exposures
- Indoor air pollution → 4.3 million deaths/yr mostly from inefficient biomass and coal cookstoves





- Cost of cleaner energy:
  - < \$30/ tCO<sub>2</sub>

- Benefits of cleaner energy:
- \$200\*/tCO<sub>2</sub>



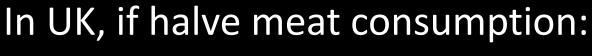


(\* Range: \$50 to \$380)

For E. Asia, co-benefits are **10 to 70 times** greater

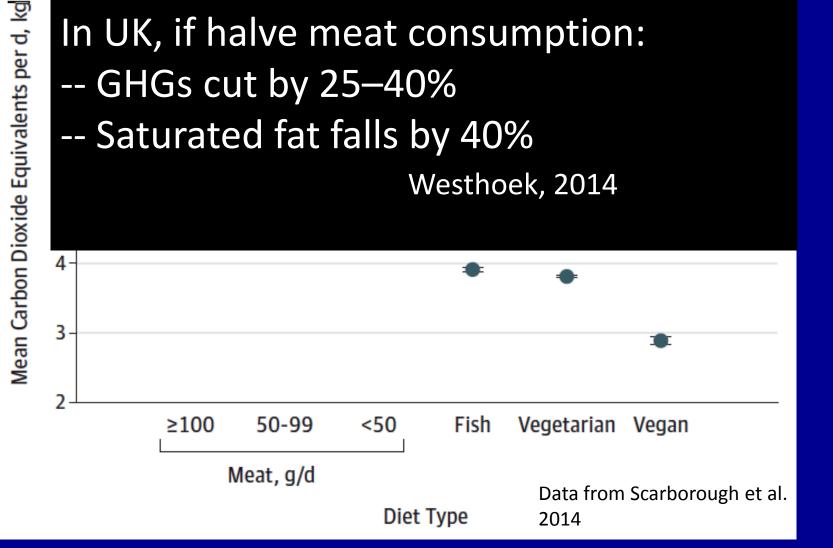
West et al. 2013

#### Diet and GHG Emissions

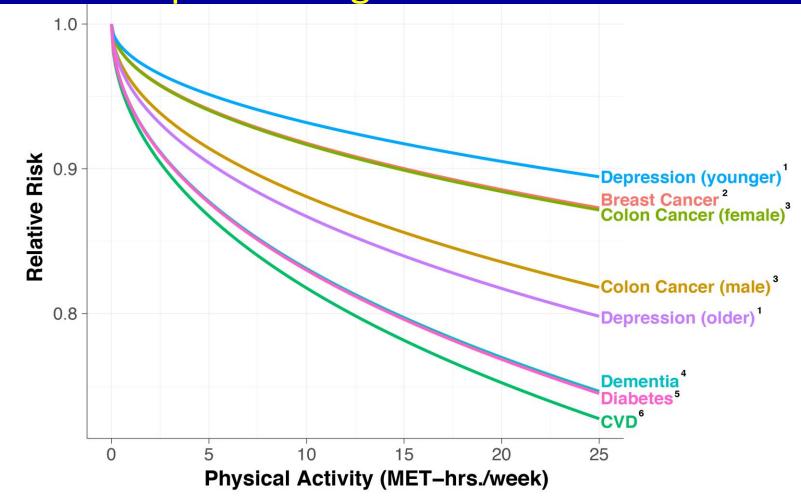


- -- GHGs cut by 25–40%
- -- Saturated fat falls by 40%

Westhoek, 2014



#### Based on Epidemiological Studies on Exercise



<sup>1</sup> Woodcock J, Edwards P, Tonne C, Armstrong BG, Ashiru O, Banister D, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. Supplemenary webappendix. The Lancet. 2009;374:1930-1943.

<sup>2</sup> Monninkhof EM, Elias SG, Vlems FA, et al. Physical activity and breast cancer: a systematic review. Epidemiology. 2007;18:137-157.

<sup>3</sup> Harriss DJ, Atkinson G, Batterham A, et al. Lifestyle factors and colorectal cancer risk (2): a systematic review and meta-analysis of associations with leisure-time physical activity. Colorectal Disease. 2009;11:689-701.

<sup>4</sup> Hamer M, Chida Y. Physical activity and risk of neurodegenerative disease: a systematic review of prospective evidence. Psycholical Medicine. 2009;39:3-11.

<sup>5</sup> Jeon CY, Lokken RP, Hu FB, van Dam RM. Physical activity of moderate intensity and risk of type 2 diabetes: a systematic review. Diabetes Care, 2007:30:744-752.

<sup>6</sup> Hamer M, Chida Y. Walking and primary prevention: a meta-analysis of prospective cohort studies. British Journal of Sports Medicine. 2008;42:238–243.

Announcement of U.S. withdrawing from

## PARIS CLIMATE ACCORD

## US Mayors urge Trump to recognise 'urgent' climate threat to cities



C40 city leaders insist they 'will not be slowed down' if new president fails to support climate change policy

#### WE ARE STILL IN

- Climate Declaration Represents 120 Million Americans and \$6.2 Trillion of the U.S.
   Economy
- As of June 5, 1,219 governors, mayors, businesses, investors, and colleges and universities from across the U.S
- 125 cities, 9 states, 902 businesses and investors, and 183 colleges and universities.



# Jonathan Patz @jonathanpatz 2h China stepping up to defend the #ParisAgreement on #climatechange

World Economic Forum @wef
Best of Davos: President Xi Jinping
on globalization and climate change.
wef.ch/2jPQazT

The Paris Agreement is a hard-won chievement... All ignatories should tick to it rather than walk away.

Gi Jinping resident of the People's Republic of China









#### World's largest floating solar array, China



#### Paris Climate Accord: U.S. stands alone

- The earliest possible date for the US to withdraw: November 4, 2020 ... So still time to make some noise!
- At last month's G7 leading industrial economies, the six non-US members Canada, France, Germany, Italy, Japan, and the UK publicly reaffirmed their "strong commitment to swiftly implement the Paris Agreement." At last week's G20, US stood alone.
- Wind and solar power are projected to become a \$7 trillion market by 2040; China announce a \$360 billion investment in renewables over the next 3 years, creating 13 million new jobs.
- 70% of Americans support the Paris Agreement, and 65% feel that the nation should prioritize clean energy, according to Pew Research Ctr.

### Former President of Ireland, Mary Robinson says,









# U.S. Energy and Employment Report





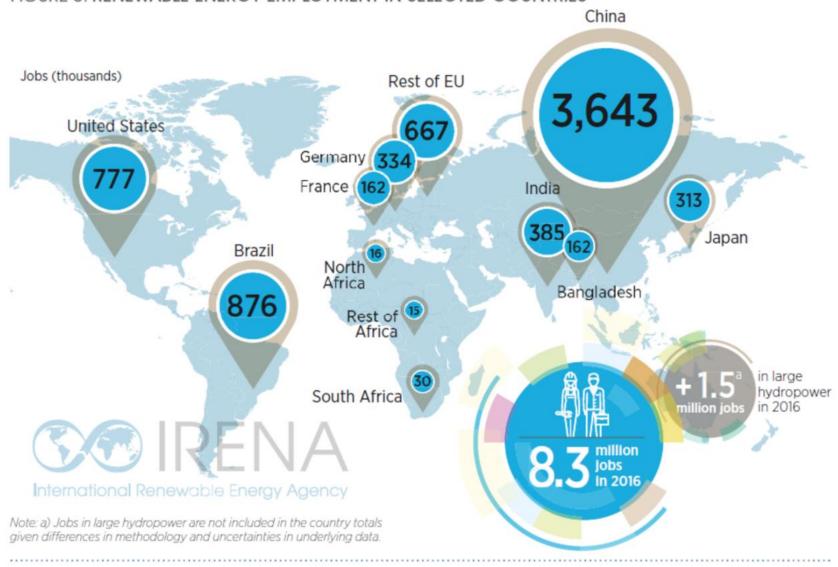
January 2017



#### Jobs and income => Health

- 1 million Americans are working near- or full-time in the energy efficiency, solar, wind, and alternative vehicles sectors, or ~5X current employment in the fossil fuel electric industry, which includes coal, gas, and oil workers.
- If add part-time worker, the number jumps to 3
  million American workers in the energy efficiency,
  solar, and wind sectors. That's 14 times the current
  employment in the fossil fuel electric industry.

#### FIGURE 5: RENEWABLE ENERGY EMPLOYMENT IN SELECTED COUNTRIES



<sup>10</sup> Primary data are collected through correspondence with government entities and industry representatives. Secondary data are referenced from a review of a wide range of national, regional and global studies.

Draft U.S. Federal Budget

# CUTS TO E.P.A. AND TO H.H.S.

#### Proposed Budget Cuts: U.S.

- US EPA (31% cut overall, including 25% of workforce)
  - 80% cut, "Diesel Emissions Reduction" program
  - 86% cut, "Greenhouse Gas Reporting" (formerly "Climate Protection Program")
    - i.e., ENERGY STAR & Ctr. Corporate Climate Leadership
  - 61% cut to research on, "Sustainable and Healthy Communities"
- Eliminate Cross-Agency "Global Change Research Program"

#### Proposed Budget Cuts: U.S. (cont)

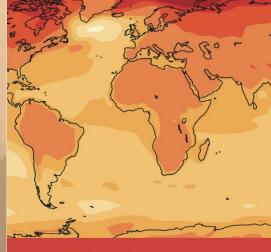
- Dept. Health & Human Services (HHS) 18% overall cut
  - Elimination of the Fogarty International Center
  - 23% cut to National Institute of Environmental Health (NIEHS)
  - Centers for Disease Control and Prevention (CDC)
    - Elimination of "Climate and Health" program;
       Impact Wisconsin's BRACE efforts
    - 28% cut in **Environmental Health** activities (health threats similar to Flint, MI)
    - 41% cut to Global Health collaboration
    - \$222.3 million cut in Chronic Disease Prevention and Health Promotion

# Anyone against healthy places and people?



Therefore, assigning a price on carbon is the right choice, whether or not someone understands the science of climate change.

## Thank you very much!



**Climate Change** and Public Health

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