

# The Skeptical Environmentalist after Copenhagen

*Getting smart about global warming*

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# Making a better world

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- Rational, not fashionable
  - Doing good vs. feeling good
- Remove our myths
  - Panic is unlikely to be a good guide to making smart choices
- Spend our money best
  - Overworrying about some things mean underworrying about other things

# Global warming

What to do?



1

Global warming is real  
and man-made

# Climate change is real

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- On the agenda, thanks to Al Gore
- The best information from the UN Climate Panel, IPCC
- Likely temperature rise by 2100
  - 2.6°C (1.6-3.8°C)
- Cost of global warming \$15 trillion
  - 0.5% of 21<sup>st</sup> century \$3,000 trillion
- Need *smart* strategy

2

Consequences vastly exaggerated  
and one-sided,  
leading to bad judgment

# Al Gore and the standard story

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- Gore and many others tell us
  - Planetary emergency
    - “we have just ten years to avert a major catastrophe that could send our entire planet into a tail-spin of epic destruction involving extreme weather, floods, droughts, epidemics and killer heat waves beyond anything we have ever experienced.”
- Four central issues
  - Heat deaths
  - Sea level rise
  - Hurricanes
  - Malaria

# 1 Higher mortality with heat?

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- Absolutely more heat deaths
- Number of deaths
  - Dying from increased heat in the UK by 2050
    - 2,000 more
  - But cold deaths in the UK by 2050
    - 20,000 fewer
  - This also holds true globally
    - Net more than 1.4 million *fewer* deaths by 2050

# 1 Better policies against heat

## Policy innovation

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- Almost no heat deaths in the US
  - Because of air conditioning
- Cities much warmer than countryside
  - Lack of water, more black surfaces
  - Take London:
    - Add more water and greenery
      - 8°C reduction in heat waves
    - Make more light surfaces – paint the tarmac
      - 10°C reduction in heat waves

## 2 Sea level rise

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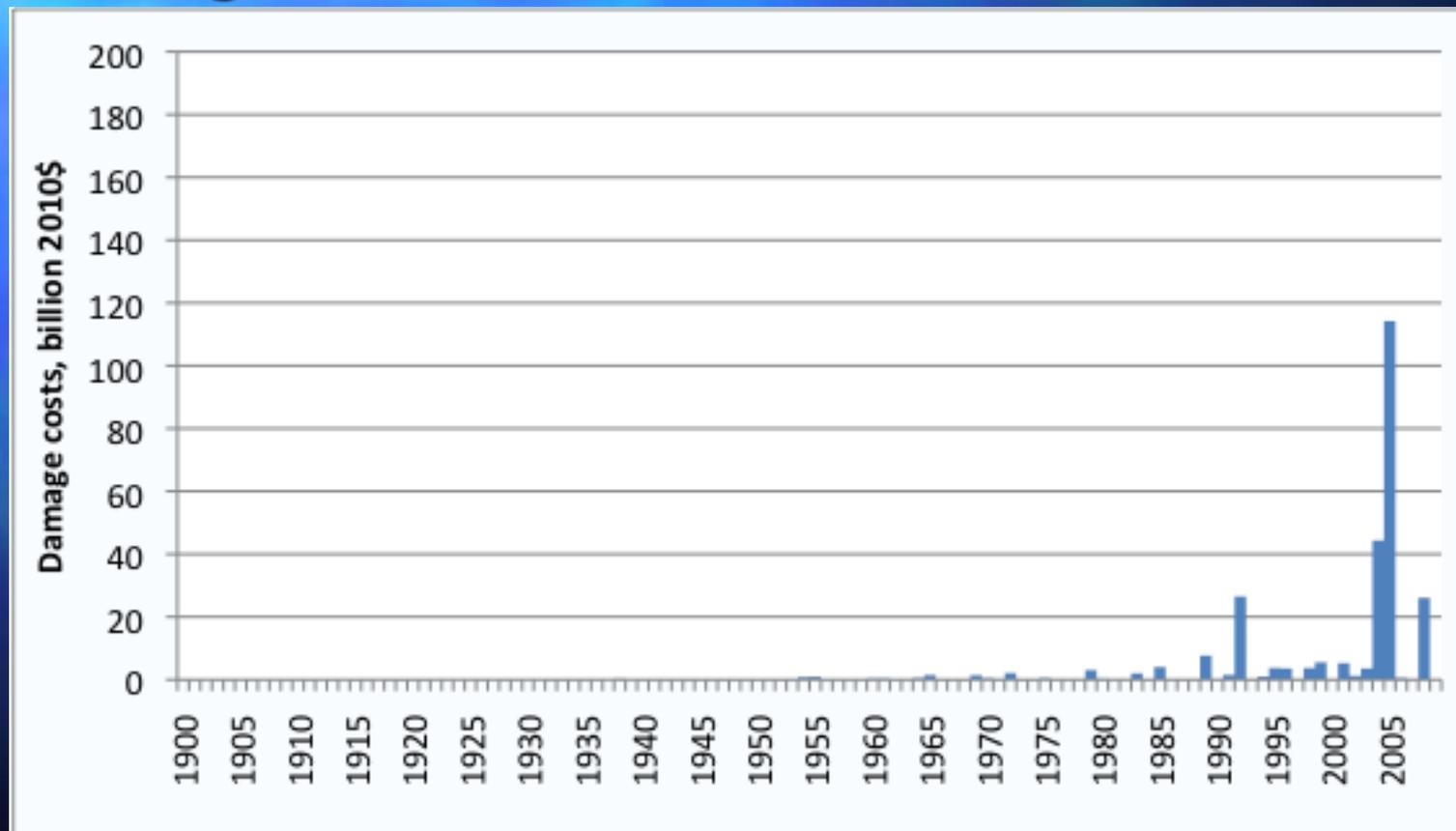
- Sea levels will rise
- But not a catastrophe
  - 30cm (18-59cm) over the next 100 years
    - Not Al Gore's 20 feet (6 meters)
  - 30cm the last 150 years
    - Did anyone notice?

## 2 Saving the Maldives

- If we just look at 30cm increase
  - Flood 77% of the Maldives at 121% GDP
  - Yet at 0.04% of GDP the Maldives can safeguard everything but 0.0015% of dry land
- How do we best avoid flooding?
  - Cut CO<sub>2</sub> or make countries richer?

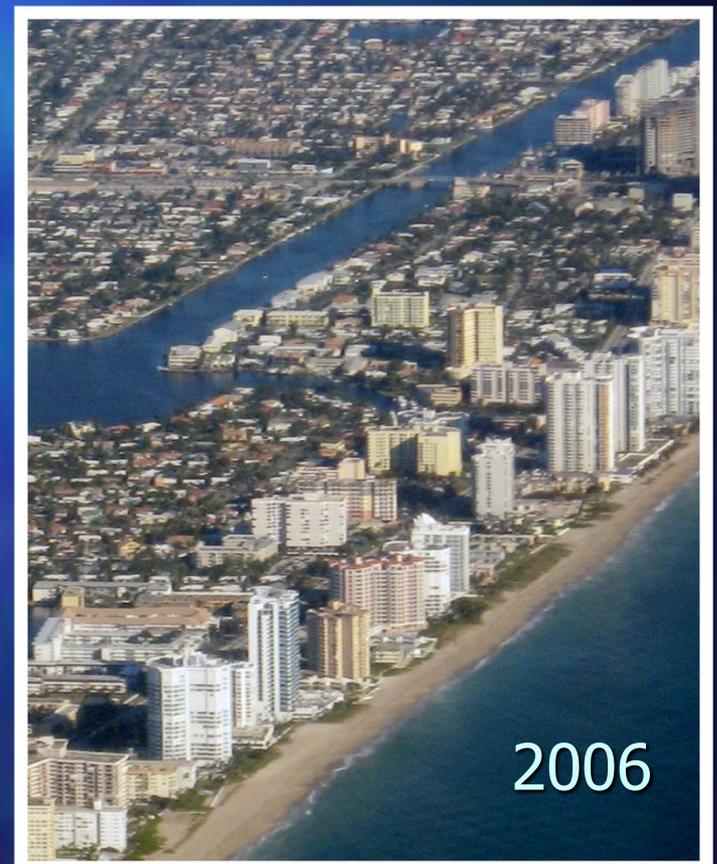
# 3 Hurricanes: ever costlier in the US

- Damage costs from hurricanes in the US



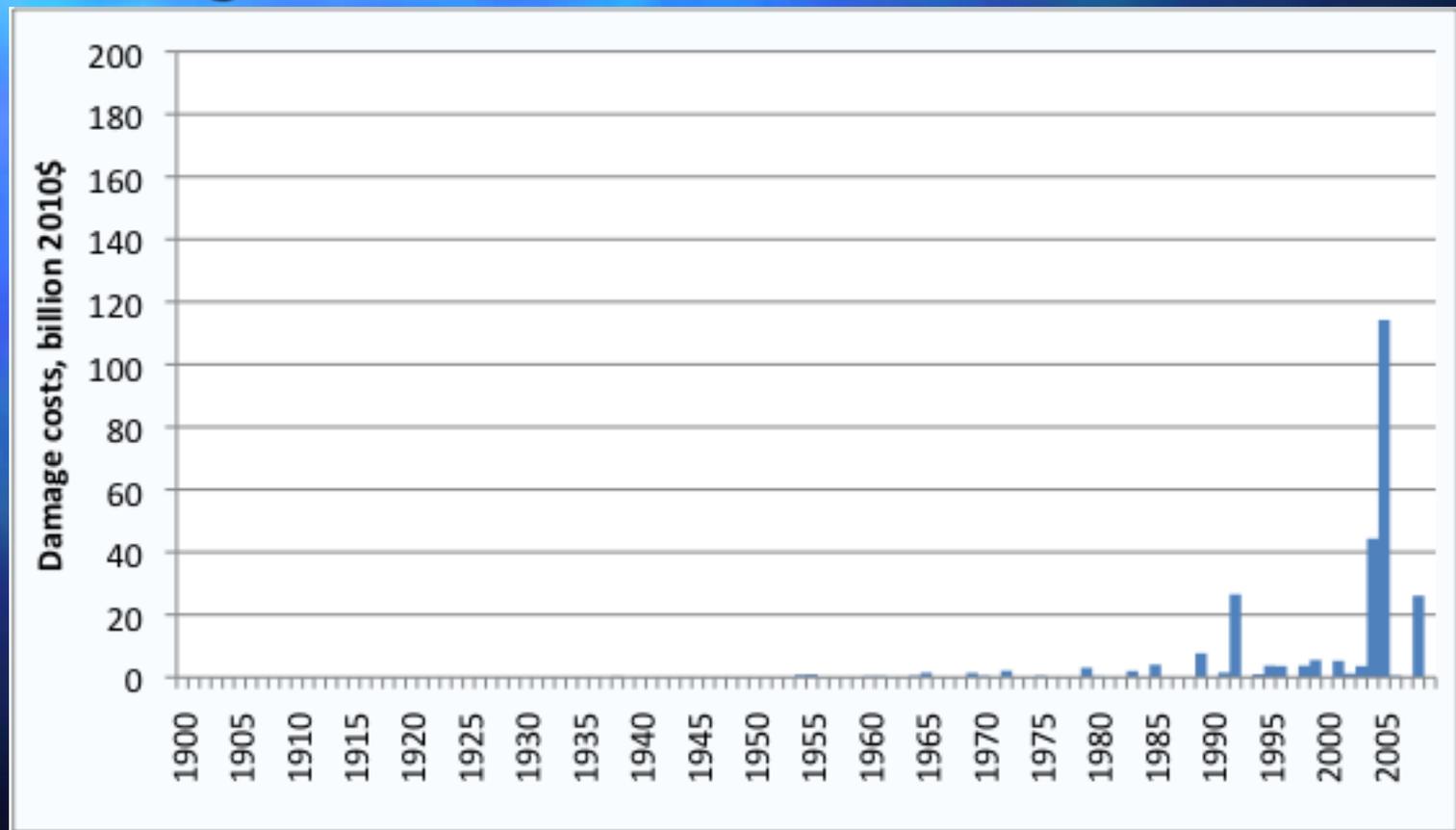
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- Miami Beach



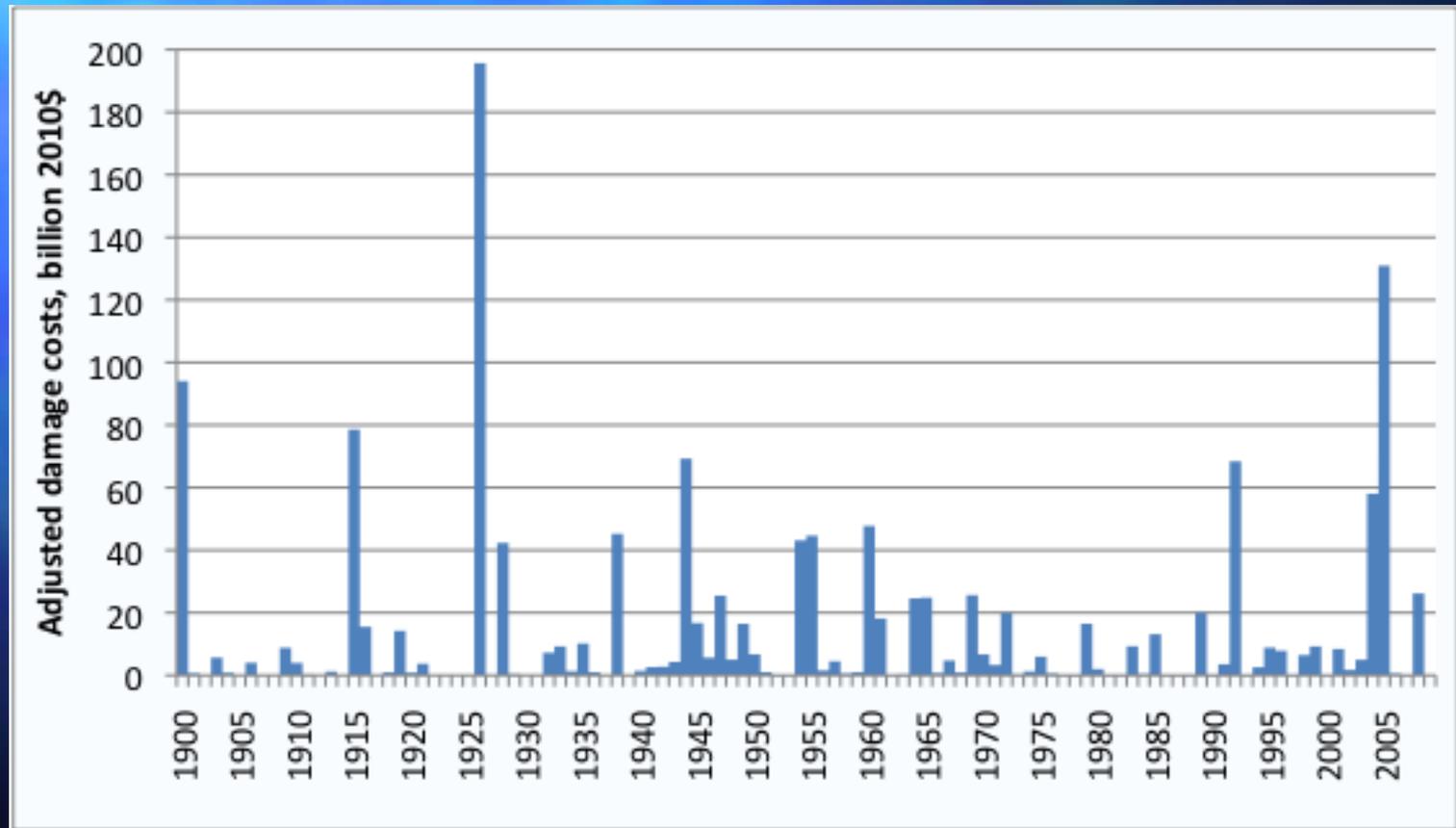
# 3 Hurricanes: ever costlier in the US

- Damage costs from hurricanes in the US



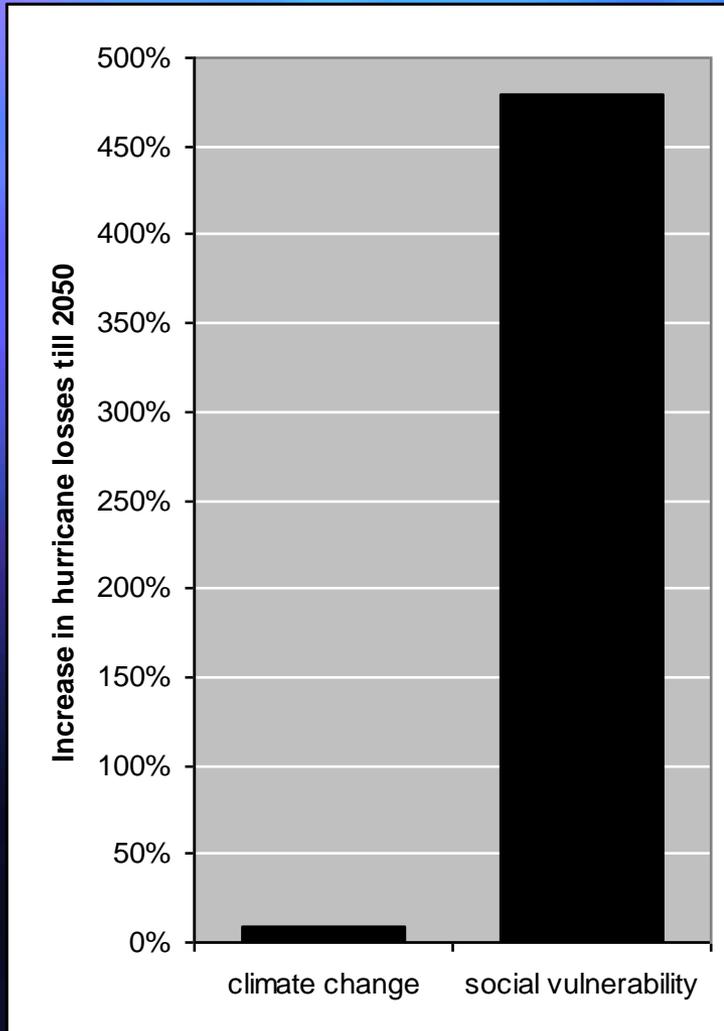
# More people with more goods in exposed areas

- Costs if all hurricanes had hit the US in 2010



# Hurricanes:

## Fix climate or social vulnerability



- If we stop climate change
  - Prevent 10% damage increase
- If we end social vulnerability
  - Prevent 480% damage increase
- Which knob should we focus on?

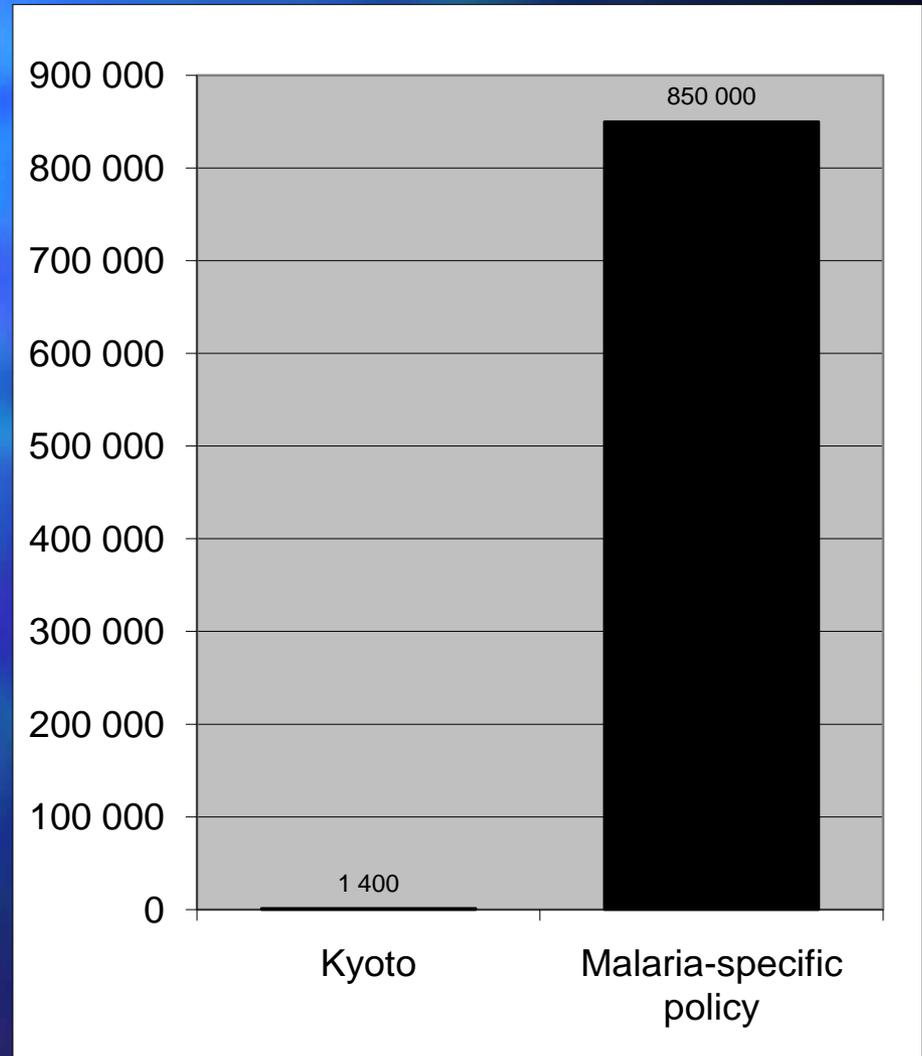
# 4 More malaria from heat?

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- Malaria is weakly correlated to *heat*
- But strongly correlated to *wealth*
  - So what should we focus on?
    - Temperature?
    - Treatment?

# Which knob to tackle malaria?

- Deaths avoided per year
  - Kyoto \$180b
  - Malaria \$3b



3

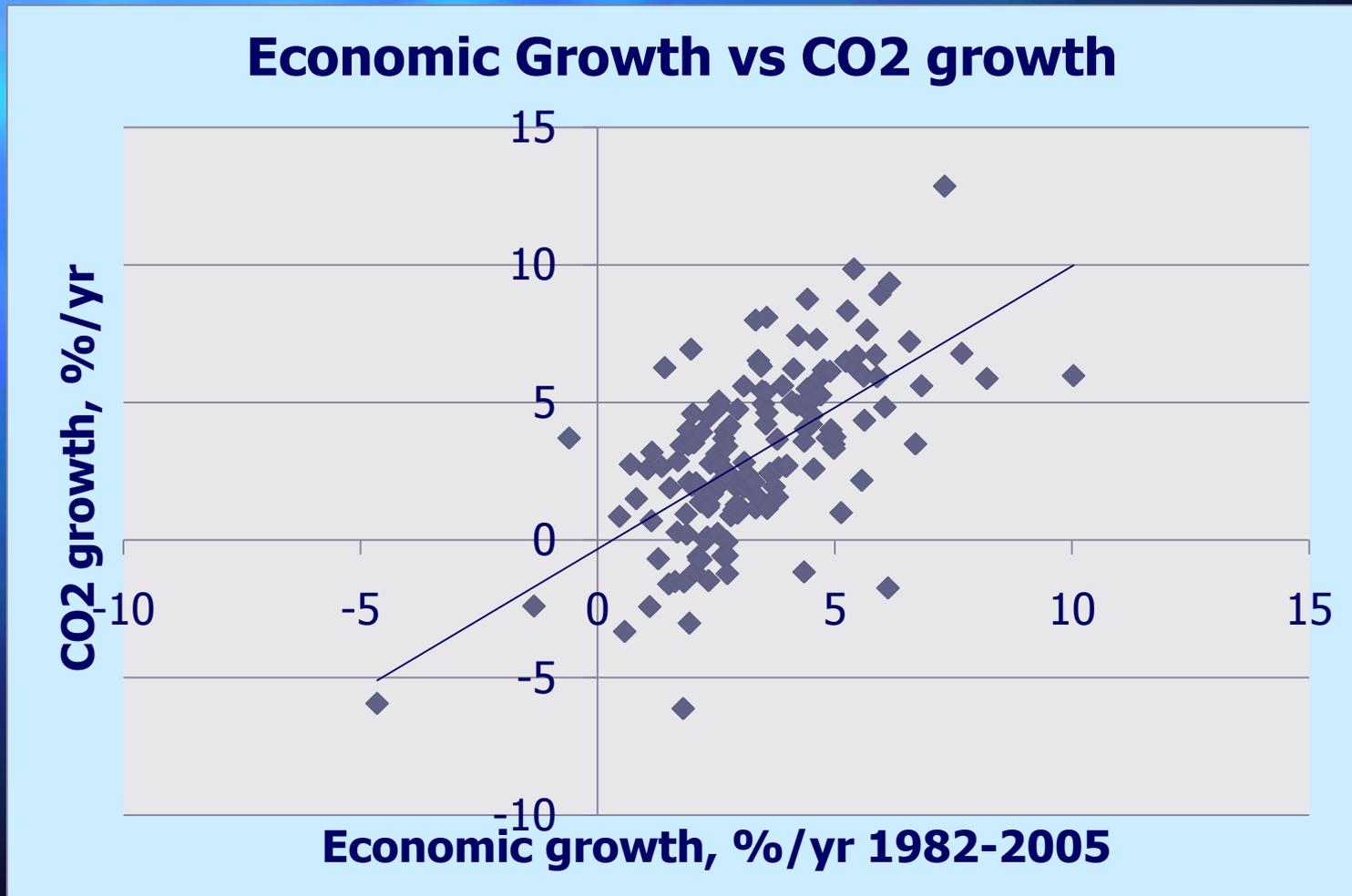
Copenhagen failure predictable:  
Smarter options needed

# Standard solutions: High costs, no benefits

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- Kyoto
  - \$180 billion per year
  - 0.004°C reduction by 2100 (now: 0.0002°C)
- EU 20-20 decision
  - Cost about \$250 billion annually
    - 0.05°C lower by 2100
    - Each dollar spent will avoid ½ cent of climate damage
- 2°C target
  - \$40,000 billion *per year*
  - Each dollar avoids less than 2 cents climate damage

# Cutting CO2 is costly



# Lack of smart solutions

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- Take polar bears
  - Yes, less Arctic ice means fewer polar bears
    - Global population *increasing*
    - 1960: about 5,000
    - Now: about 22,000
- But what can we do?
  - If we implement the Kyoto Protocol
    - Save 1 polar bear each year
  - But each year we shoot polar bears
    - 300-500 each year

# What should we all do?

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- Right now, solar panels are much more expensive than fossil fuels
  - So is solution
    - Force everyone to buy many, many more of these inefficient panels? Or
    - Innovate the price down, so these panels eventually become cheaper than fossil fuels?

# Smarter way forward

## The new global accord

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- Invest 0.2% of GDP in RD&D of non-carbon emitting energy technologies
- \$100 billion/year
  - 2 times cheaper than Kyoto
  - 50 times more R&D than today
- Let each country focus on its own visions
  - renewables, fission, fusion, conservation, carbon storage, 2<sup>nd</sup> generation biofuels
- Solves global warming in medium term
- Avoids \$11 climate damage for each dollar

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Many other problems where we can  
do much more good

# Gore: our generational mission

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- How do we want to be remembered?
  - Spending \$180 billion/year doing virtually no good a hundred years from now? (Kyoto etc.)
- Compare this to
  - For \$75 billion/year the UN estimate we can solve all major basic problems
    - Clean drinking water
    - Sanitation
    - Basic healthcare
    - Education

# Copenhagen Consensus 2008

Top economists: Most bang for the buck

*Very good  
investments*

- 1 Micronutrients
- 2 Free trade
- 3 Immunization
- 4 Agricultural R&D

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- 14 Energy R&D

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- 30 Cut CO<sub>2</sub>

# Conclusion

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- Generational mission
  - Focus on best solutions
    - Maldives rich, not slightly lower sea level
    - All the top Copenhagen Consensus solutions
  - Weigh benefits *and* costs
    - Saving one polar bear at \$180 billion?
  - For global warming, do the smart policies
    - Stop shooting polar bears
    - Invest in energy R&D
- Rational, not fashionable

