

## Philanthropy for the Climate-Change Challenge

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### **The essence of the challenge**

A vast scientific literature makes clear that...

- Earth's climate is changing in ways inconsistent with natural variability and forcings.
- The principal cause is the buildup of atmospheric CO<sub>2</sub> and other heat-trapping substances emitted mainly by fossil-fuel use and land-use change.
- Harmful impacts are already being experienced around the world and across the United States.
- The impacts will continue to grow unless and until the offending emissions are drastically reduced.

## The essence of the challenge

There are only three options:

- Mitigation, i.e., taking action to reduce the pace and magnitude of the changes in global climate being caused by human activities.
- Adaptation, i.e., taking action measures to reduce the adverse impacts on human well-being resulting from the changes in climate that do occur.
- Suffering and societal disruption from the adverse impacts that are not avoided by either mitigation or adaptation.

## Concerning the three options...

- We're already doing some of each.
- What's in question is the future mix.
- Minimizing the amount of suffering will require a lot of mitigation and a lot of adaptation.
  - Mitigation alone won't work because climate change is already occurring & can't be stopped quickly.
  - Adaptation alone won't work because adaptation gets costlier & less effective as climate change grows.
  - We need enough mitigation to avoid the unmanageable, enough adaptation to manage the unavoidable.
- Mitigation must be global, adaptation mostly local.

### **Mitigation possibilities include...**

(CERTAINLY)

- Reduce emissions of greenhouse gases & soot from the energy sector
- Reduce deforestation; increase reforestation & afforestation
- Modify agricultural practices to reduce emissions of greenhouse gases & build up soil carbon

(POSSIBLY)

- “Scrub” greenhouse gases from the atmosphere technologically
- “Geo-engineering” to create cooling effects offsetting greenhouse heating

### **Adaptation possibilities include...**

(CERTAINLY)

- Develop heat-, drought-, and salt-resistant crops
- Increase water-use efficiency
- Build preparedness and resilience against extreme weather, storm surges, & wildfires
- Strengthen public-health & environmental-engineering defenses against tropical diseases
- Limit development near sea level and in flood zones

(POSSIBLY)

- Build more dikes, dams, & storm-surge barriers

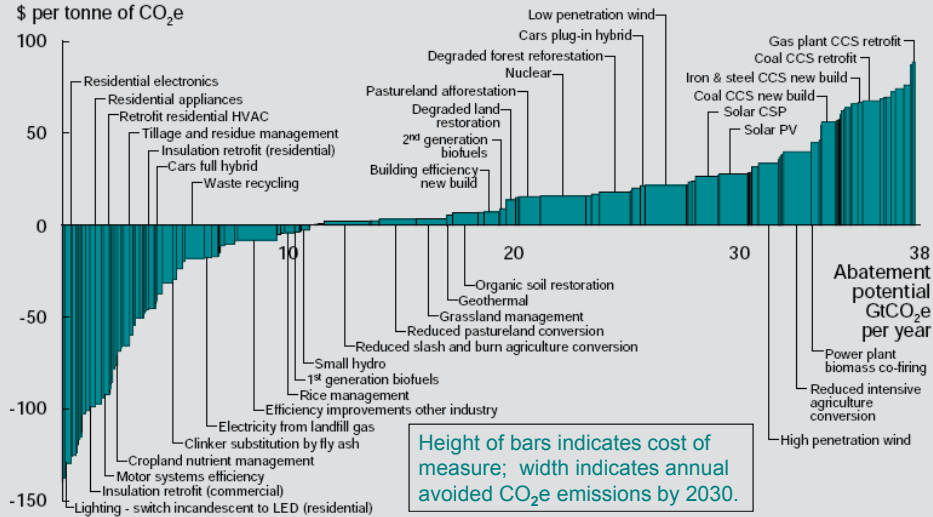
## How much mitigation, how soon?

- Limiting  $\Delta T_{avg}$  to  $\leq 2^\circ\text{C}$  is now considered by many the most prudent target that still may be attainable.
  - EU embraced this target in 2002, G-8 & G-20 in 2009
- Just to have a 50% chance of staying below  $2^\circ\text{C}$ :
  - atmospheric concentration of heat-trapping substances must stabilize at 450 ppm  $\text{CO}_2$  equivalent ( $\text{CO}_2\text{e}$ );
  - to get there, developed-country emissions must peak no later than 2015 and decline rapidly thereafter, and
  - developing-country emissions must peak no later than 2025 and decline rapidly thereafter.

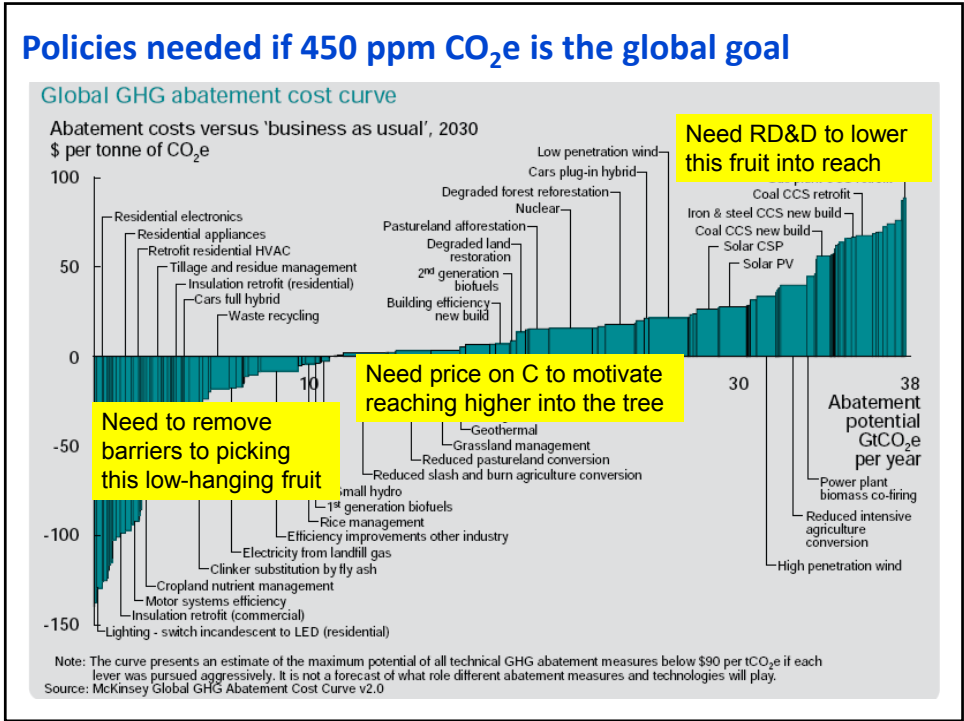
## Mitigation supply curve for 2030: aiming for 450 ppm $\text{CO}_2\text{e}$

### Global GHG abatement cost curve

Abatement costs versus 'business as usual', 2030  
\$ per tonne of  $\text{CO}_2\text{e}$



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below \$90 per  $\text{tCO}_2\text{e}$  if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.  
Source: McKinsey Global GHG Abatement Cost Curve v2.0



- ### The President's Climate Action Plan (June 2013)
- Cutting carbon pollution in America
    - cutting CO<sub>2</sub> from power plants; promoting renewable energy & other cleaner energy options; increasing fuel-economy standards; cutting energy waste in buildings & industry; reducing emissions of HFCs and methane; managing forests for C sequestration
  - Preparing the USA for the impacts of climate change
    - directing agencies to support climate-resilient investment; establishing task force of state, local, & tribal leaders on climate preparedness; managing flood, drought, & wildfire risks; mobilizing science & data for climate resilience/preparedness
  - Leading international efforts on global climate change
    - enhancing bilateral & multilateral engagement on mitigation & adaptation; mobilizing clean-energy & preparedness finance

## **The niche for philanthropic funding**

### Criteria

- High potential impact
- Plausible path to success
- Inadequate funding by gov't and others
- \$10-100M/yr can make a dent
- Possible leverage through partnerships
- Availability of relevant talent & leadership
- Symbioses with other Foundation programs

## **The niche for philanthropic funding** (continued)

### Some candidate foci

- Adaptation: tools, training, best practices
- Mitigation+adaptation: smart cities, natural capital
- Underpinnings of policy: social cost of carbon
- Motivating the public: climate communication
- Environmental monitoring: innovative approaches
- International: building capacity, measuring effectiveness, scaling success
- Ocean science: ecosystem impacts of combined stresses—acidification, warming, dead zones...

## **The niche for philanthropic funding** (concluded)

### Modes of foundation engagement

- Prizes for individuals, teams, and organizations
- Project grants to same
- Pass-through support to trusted intermediaries
- Institutional support to effective actors
- Program-related investments
- Program-inspired portfolio management



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