Climate change law and governance that also creates jobs and builds the economy

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World in 2050

- Two billion more people (from 7 billion to 9 billion)
- Global GDP will likely increase by factor of four
- Energy use will likely increase by 80%
- Atmospheric concentration of greenhouse gases could reach 685 ppm
- There is already considerable environmental degradation, poverty, inequality, and human-caused climate change

OECD Environmental Outlook to 2050 (2012)
Three options, only one real choice

- Development but not environment
- Environment but not development
- Environment and development (a/k/a sustainable development)
Conventional Development

PROGRESS:
--Peace & security
--Economic Development
--Social Development/ Human Rights
--Supportive National Governance

PRICE OF PROGRESS:
--Environment & Natural Resources
Sustainable Development

PROGRESS:
--Peace & security
--Economic development
--Social development/human rights
--Environmental protection/restoration
--Supportive national governance

The most effective actions to address climate change will occur within this frame.
If you don’t think this is progressive, consider the opposition.
How to accelerate progress on climate change (and create opportunities)
1. More and better choices

- From low-carbon to zero-carbon to negative-carbon development
  - More credible and demanding standards
  - Broader availability of lower-carbon options
  - Better decision-making tools
  - More use of behavioral tools
Or, put differently:

• Better Defaults

(thanks to Jake Reynolds, Director, Business and Policy Leaders Groups, Cambridge Program for Sustainability Leadership)
"I'm also issuing a new goal for America: *Let's cut in half the energy wasted by our homes and businesses over the next 20 years.*

We'll work with the states to do it. Those states with the best ideas to create jobs and lower energy bills by constructing more efficient buildings will receive federal support to help make that happen."

President Obama—State of Union Message, Feb. 12, 2013
Example: fuel economy/greenhouse gas limits for vehicles

- **Light duty motor vehicles** (cars, sport utility vehicles, minivans, and pickup trucks)
  - 2010—35.5 mpg (250 grams of carbon dioxide per mile) by 2016.
  - 2012—54.5 mpg (163 grams of carbon dioxide per mile) by 2025.

- **Heavy duty trucks and buses**:
  - 2011—first-ever limits to improve fuel efficiency and reduce greenhouse gas emissions
2. Climate change law

- Address climate change in a manner that corresponds to its seriousness
- Direct and indirect reduction of greenhouse gas emissions
- Climate change adaptation
- All levels
  - International
  - National
  - State
  - Local
• Requires 18% of the electricity sold to retail electric customers to come from eligible alternative energy sources by 2021

• Tier I – 8%
  – Eligible Sources: Solar photovoltaic energy, wind power, low-impact hydropower, geothermal energy, biologically derived methane gas, fuel cells, biomass energy, coal-mine methane
  – Includes a .5% Solar Share
Act 129 of 2008 - Energy Efficiency and Demand Response

- By July 1, 2009, each electric utility must file with the PUC an energy efficiency and conservation plan.
- Under the plan, the utility must reduce total annual electricity consumption by at least 1% by May 31, 2011; and by 3% by May 31, 2013.
- Utilities that do not meet the reduction requirements can be fined up to $20 million.
Act 129 -- Smart Meters and Real Time Pricing

- Each utility also must file plans to replace all of its meters over the next 15 years (or sooner upon an individual customer’s request and on all new construction).
- The new meters must be capable of allowing utilities to measure customer usage on an hourly basis and to communicate energy price information to consumers in real time.
- Utilities must offer optional time of use and real time rates to all customers on a voluntary basis.

- Act establishes $650 million grant and loan program for renewable energy and energy efficiency.

- The act provides $500 million for loans and grants for renewable energy and energy efficiency for businesses, local governments, and homeowners.

- Law also establishes a $150 million consumer energy program for individuals and small businesses that will support projects that conserve energy and use it more efficiently.
Act 70 of 2008, the Pennsylvania Climate Change Act

- Requires DEP to publish report on potential effect of climate change on Pennsylvania and economic opportunities.
- Requires DEP to compile annual inventory of greenhouse gas emissions.
- Establishes climate change advisory committee.
- Requires DEP to establish voluntary greenhouse gas registry.
Climate Change Action Plan—finalized in 2009

- DEP recommends: 30 percent reduction in GHG emissions below year 2000 levels by 2020.
- Plan contains 52 specific work plans (recommendations).
- Recommendations of this report are expected to result in the net creation of 65,000 new full-time jobs and add more than $6 billion to the Commonwealth’s gross state product in 2020.
Build law of low-carbon or zero-carbon economic development

- Require an increase in low-carbon activity (recycling, renewable energy)
- Create a legal structure (for example, mixed use zoning) in which low-carbon activity (livable/walkable communities) can flourish
- Remove legal impediments to low-carbon development (energy efficiency)
- Apply traditional economic development laws to attract and maintain low-carbon businesses
- Overcome market barriers to low-carbon activities
- Foster low-carbon economic development in ways that also have job creation and environmental benefits
- Support the development of low-carbon infrastructure.
3. Visionary and pragmatic governance

- Bipartisan narrative and strategy
- Improved public education and engagement
- Prioritize transformational technological research
- Willingness to discuss and act on hard issues
Nine more presidential elections before 2050

“If Congress doesn’t act soon to protect future generations, I will.”
President Obama, Feb. 12, 2013

“I'm not in this race to slow the rise of the oceans or to heal the planet.”
- Mitt Romney
Meet the Press, 9/9/12
4. An American movement for action on climate change

- Emerging sustainability movement already exists
- Should include middle 60-80% of public
- Include all sectors, all groups, that are supportive
- Why participate?
  - Higher quality of life
  - Action on climate change is economically attractive
  - Action on climate change is right thing to do
To participate in this movement—

- In our personal lives, reduce our carbon footprint over time (by, for example, purchasing locally grown food; walking, biking, or taking the bus instead of driving whenever possible; or using a more fuel-efficient car).

- At our place of employment, find ways to directly or indirectly reduce greenhouse gas emissions, or adapt to climate change.

- Vote for candidates only if they are serious about climate change, and urge existing leaders to take action.

- Recognize that we have an ethical, moral, and even religious duty to live our lives in a way that respects the world in which our grandchildren will live, and act accordingly.
Conclusion: who are we?
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