The Northwest Biocarbon Initiative: The role of forests in climate stabilization

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Patrick Mazza, Climate Solutions
Today’s Presentation

• Northwest Biocarbon Initiative
• The role of forests
Climate Solutions

• Climate Solutions works to accelerate practical and profitable solutions to global warming by galvanizing leadership, growing investment and bridging divides.
What is biocarbon?

• The carbon stored in the world’s trees, plants and soils
• Plants naturally draw CO$_2$ out of the atmosphere thru photosynthesis, storing the carbon in growing tissues
What is the biocarbon imperative?

Atmospheric CO$_2$ levels are now over 390 parts per million. Scientists suggest 350 ppm as the target to restore a “safe operating space for humanity.” To get there we must quickly:

1) Phase out the burning of fossil fuels
2) Scale up carbon storage capacity
Hansen’s Warning

“If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO$_2$ will need to be reduced from its current 385 ppm to at most 350 ppm.”
CO₂ LEVELS & THE SECOND SOLUTION

WHERE WE'REヘADED
WHERE WE ARE
WHERE WE NEED TO BE

KEY
recorded + projected levels of CO₂
projected CO₂ levels using the 1st solution only
projected CO₂ levels using the 1st + 2nd solutions

YEAR
1900 1950 2000 2050 2100

ATMOSPHERIC CO₂ (PPM)
350 400 450


ClimateSolutions
PRACTICAL SOLUTIONS TO GLOBAL WARMING

THE 1ST SOLUTION
THE 2ND SOLUTION

Healthy Forests
Healthy Soils
Urban Areas

Climate
Cycles
The 1ST & 2ND Solution
Northwest Biocarbon Initiative

Galvanize the region’s top biocarbon innovators – farmers, foresters, community leaders, and thinkers – and demonstrate the essential role that natural systems play in reducing atmospheric CO₂ to levels that ensure climate stability.
Who is NBI?
What does NBI do?

Communicate the biocarbon imperative and opportunity, and catalyze world-class initiatives that build the biocarbon economy:

- pioneer model projects
- develop best practices
- create new revenue streams
- advocate policies to fuel biocarbon innovation
Why the Northwest?

- State and local governments in the forefront of climate policy and action planning
- Rich natural resources
- Emerging as a center of biocarbon innovation
  - land conservation programs
  - green infrastructure, recycling
  - bioeconomy entrepreneurship, from biochar to ecological services markets
The Role of Forests
West Coast Forest Carbon

- USFS Study - Oregon, Washington, California forests:
  - 20.5 billion metric tons/carbon
  - Close to two percent of world forest carbon
  - 39 percent of US forest carbon
Forest Carbon Potentials

- 2.1 GT = 1 ppm CO₂
- West Coast forests equivalent to 9.76 ppm atmospheric CO₂
- Westside forests - 20-25% C remains
- 10% increase = 1 ppm
- Theoretical potential – +100%
  - 330 MTCO₂e/acre current average
  - 671 MTCO₂e/acre potential
Key Steps: Preservation

- Preserve existing carbon sinks
- USFS NW average 500 MTCO$_2$e per acre
- Nine of the top 10 carbon-storing national forests in the U.S.
- BLM NW average 460 MTCO$_2$e/acre
- Monument? Eco-Services Mission?
Key Steps: Timber Lands

- Longer rotations
- Selective cutting
- Ecosystems services markets – carbon, water, biodiversity
- High-quality wood products
Forest Science Needs

- Forest soils carbon accumulation profiles
- Forest health thinning
  - Drive to consensus on C profile
  - Optimum use for CO2 reduction
    - Bioenergy?
    - Biochar?
    - Bury?
Stay in Touch

- [www.nwbiocarbon.org](http://www.nwbiocarbon.org)
- Facebook – Northwest Biocarbon Initiative
- E-Bulletin – [jeannette@climatesolutions.org](mailto:jeannette@climatesolutions.org)
- [Patrick@climatesolutions.org](mailto:Patrick@climatesolutions.org)