Forest Carbon Offsets Market Comes of Age:

Lessons from California's Landmark Climate Action Program

Evolution of the Public Policy Framework

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Pacific Forest Trust:
Advocating for the Climate Benefits of America's Forests

- Aligning ecological needs with economic realities
- Co-evolving market and policy to recognize and value climate benefits of forests
- EPA Climate Leadership Award

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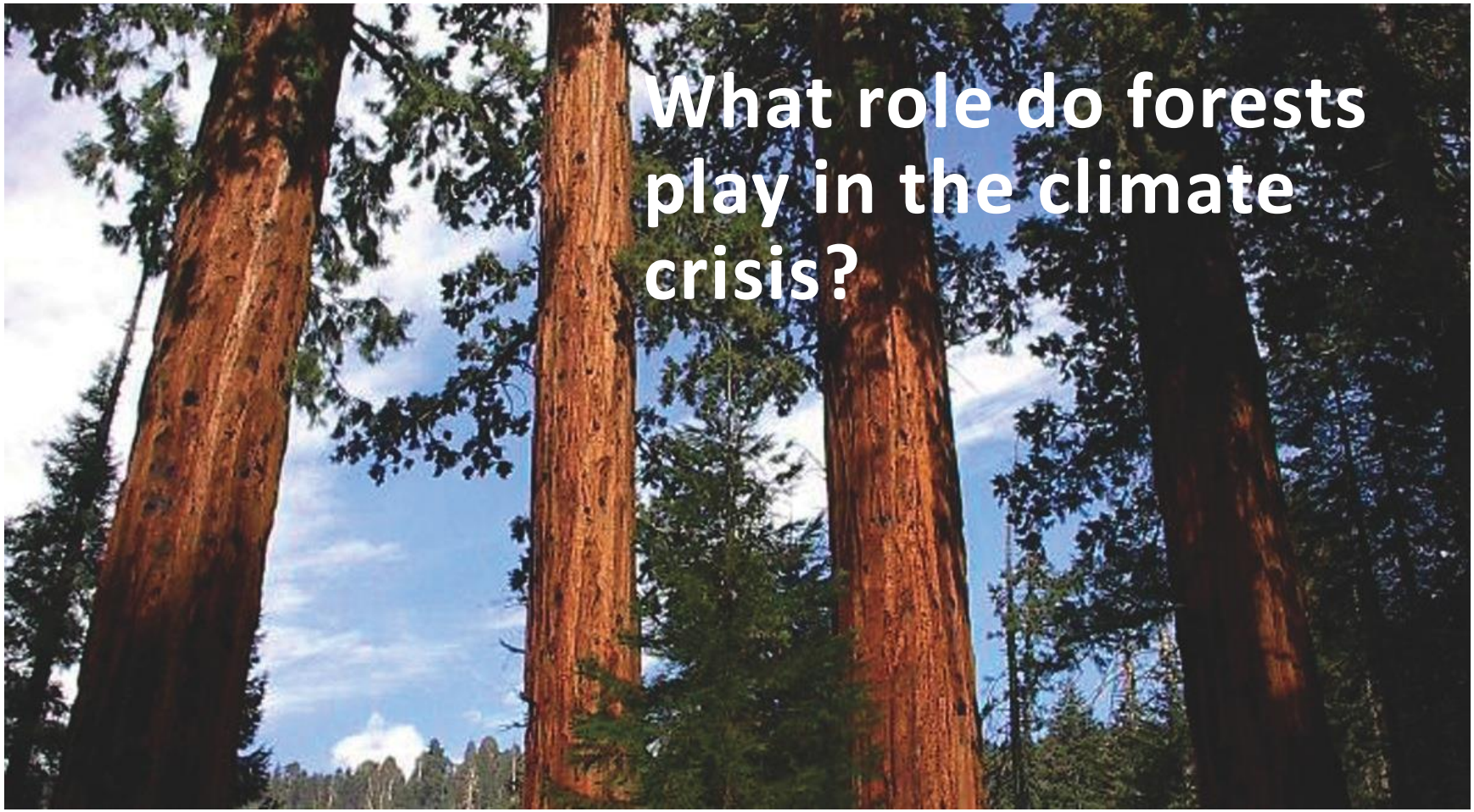
Climate change isn't going away
Public policy slowly responding

- Kyoto or bust!? Busted
- While international agreement has been stalled, national and sub-national action is increasing
- California became the refugia for greenhouse gas reduction programs

U.S. finally taking action – piecemeal but with growing momentum

- Supreme Court confirms EPA authority to limit dangerous GHG pollution
- California auto emissions standards adopted by Congress
- New power plants now required to reduce GHG
- Existing power plant rules in formulation
  - States being asked to develop own strategies to achieve GHG reduction goals



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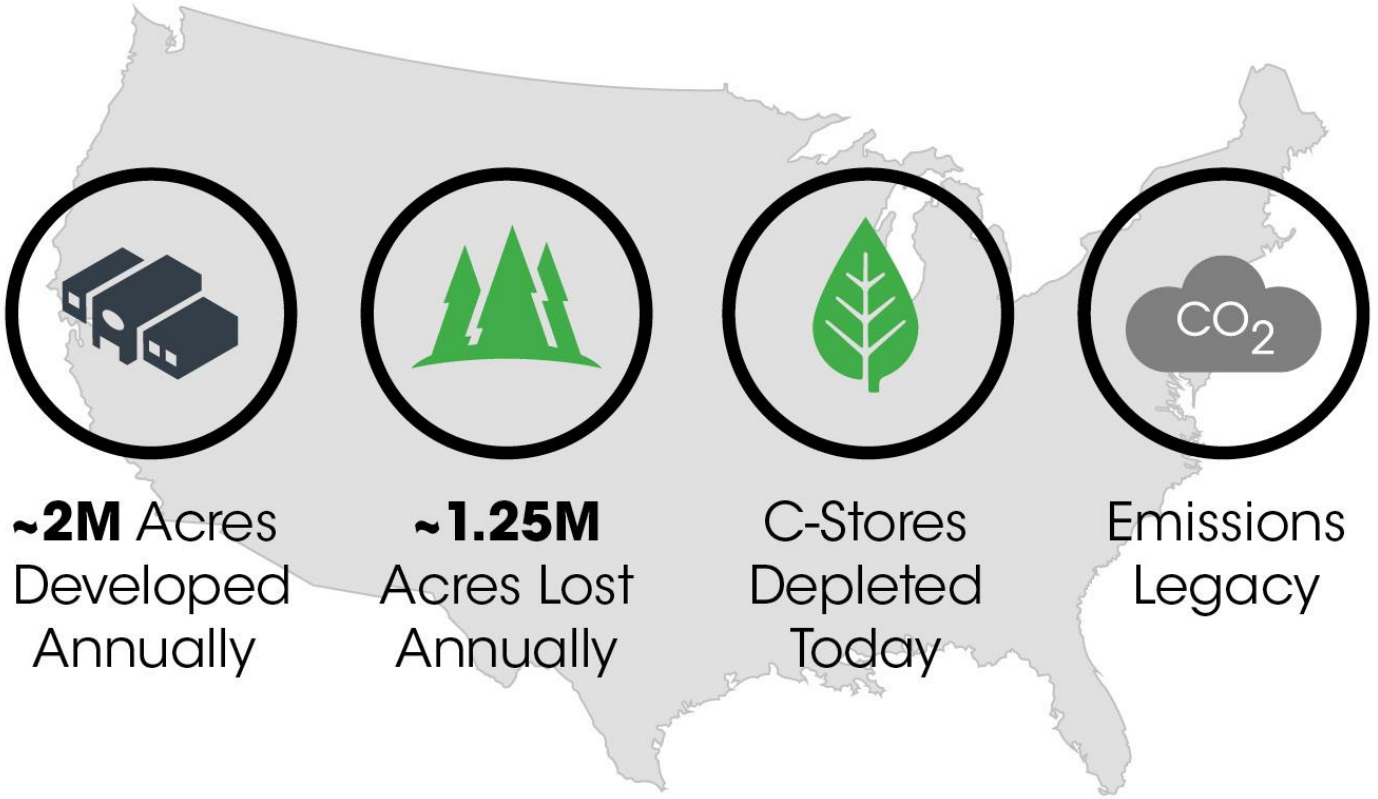
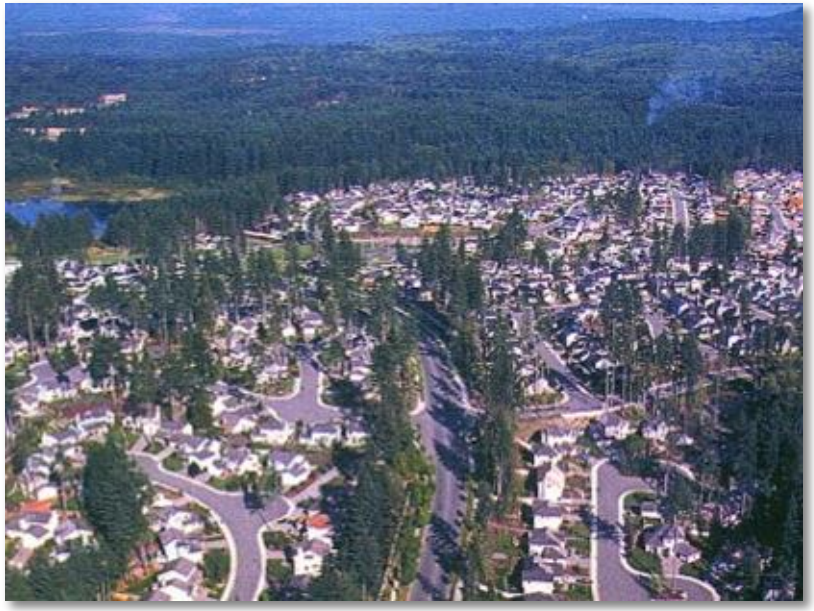
U.S. LOST ACRES AND VOLUME



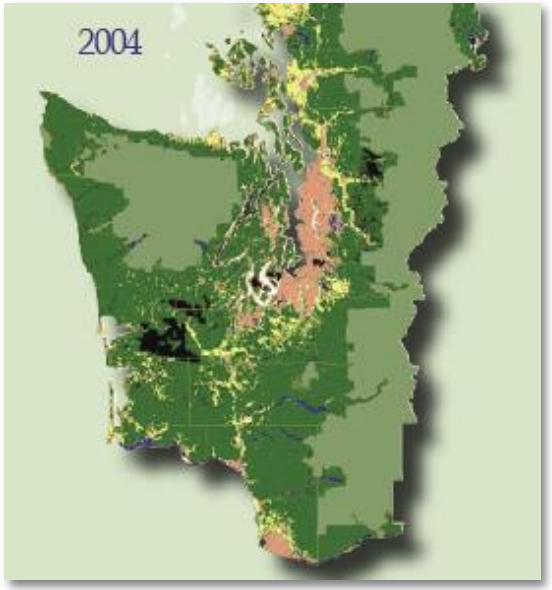
Forest loss is not limited to the tropics

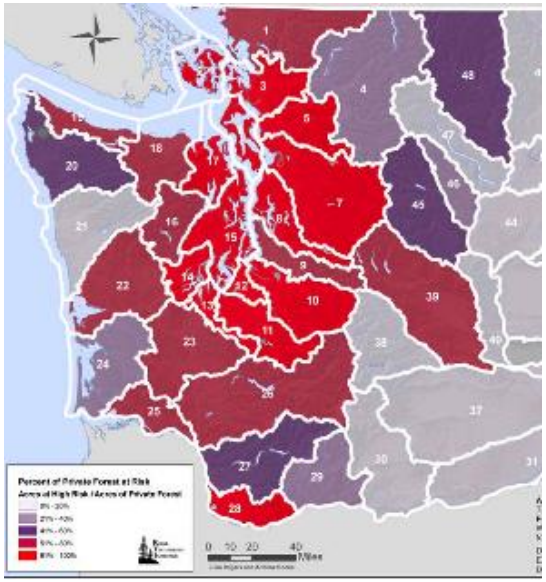


USDA finds our forests are a leaky sink.
1.5 million acres lost annually to development 1990 - 2005.
Additional loss of projected 34 million acres by 2060 would lead to emissions of 2 billion mtCO2e.

Forest Loss and Urban Growth

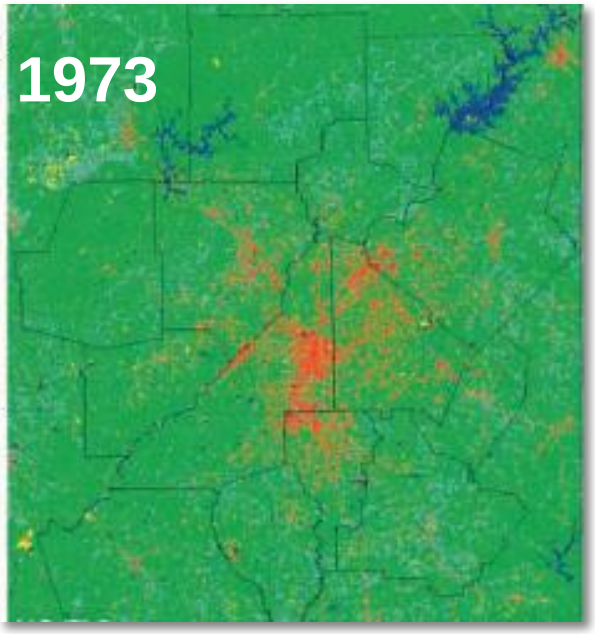
Puget Sound, Washington

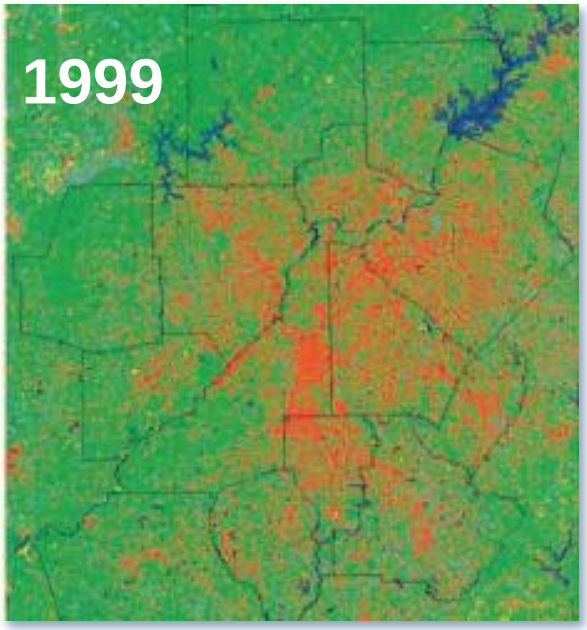


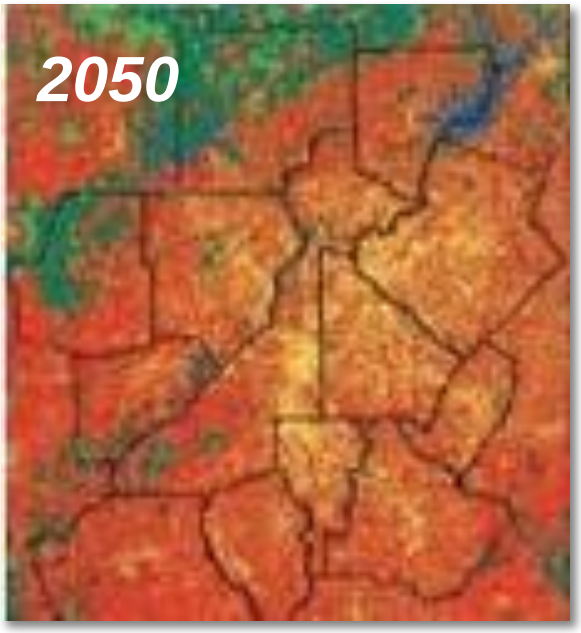


Forest Loss and Urban Growth

Atlanta







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- The climate crisis cannot be solved without increasing forest sequestration
- Great opportunities in temperate forests to leverage under utilized biological capacity

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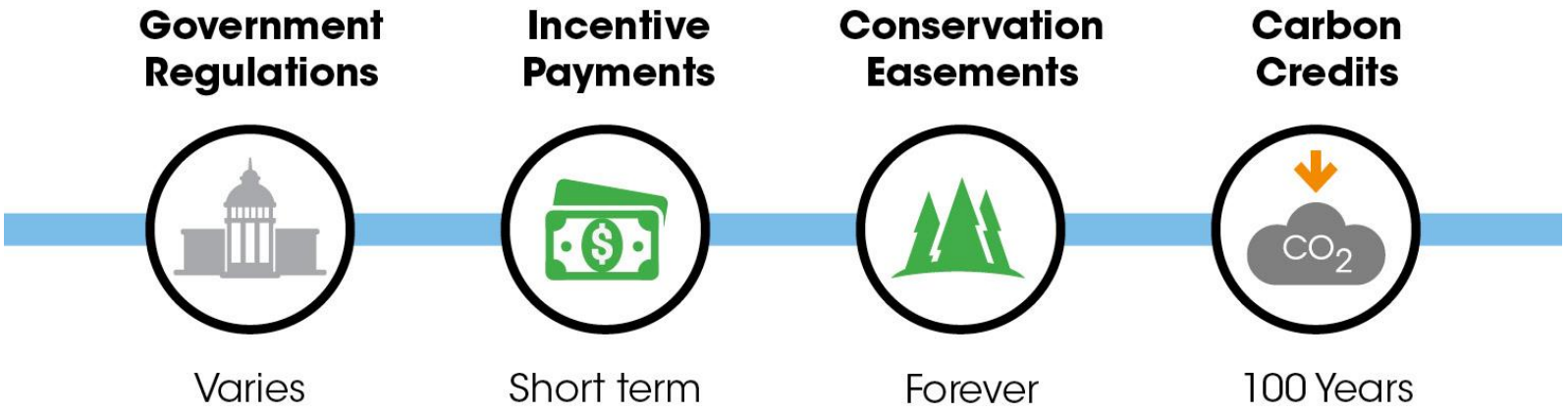
FOREST SECTOR CLIMATE GAINS



So just what happened in California?

California Global Warming Solutions Act of 2006 – *AB32*

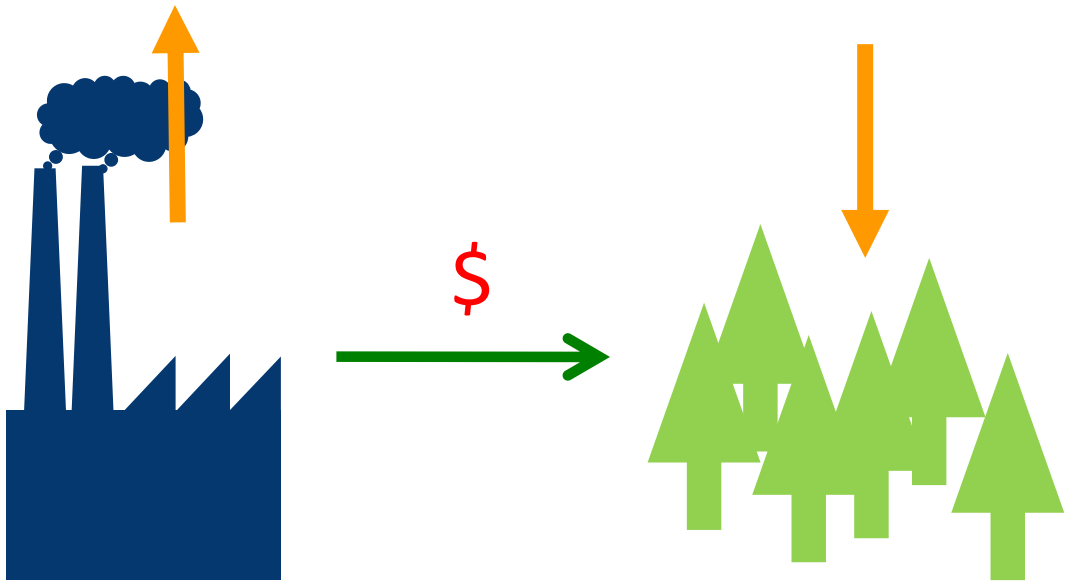
- Requires reduction of GHG emissions of 15% from 2012 levels by 2020 – *80% by 2050*
- California Air Resources Board is lead agency
- Various methods: regulation of auto emissions, energy efficiency, renewable energy, etc.
- Uses cap and trade with offsets for large sources
  - Phasing in - by 2015 includes 85% of emissions
- Allows forest offset projects from anywhere in the lower 48 states (private, non-federal lands)

GHG polluter pays: a new source of finance for climate solutions

- Revenue from sale of emissions allowances
- New funding for conservation easements, forest resilience and “climate friendly” forestry
- Development and sale of offsets pay landowners to manage for increased stores

What is a Carbon Offset?

A reduction in CO_2 emissions (or increase in sequestration) achieved to compensate for emissions allowed somewhere else



What is a Carbon Offset Project?

- A carbon project has site-specific activities that produce quantifiable climate benefits
- ARB approved: Forestry, Urban Forestry, ODS, Livestock Methane, Coal Mine Methane + more
- A forest project either increases sequestration or decreases emissions

ARB Forest Offset Project Types

Improved Forest Management

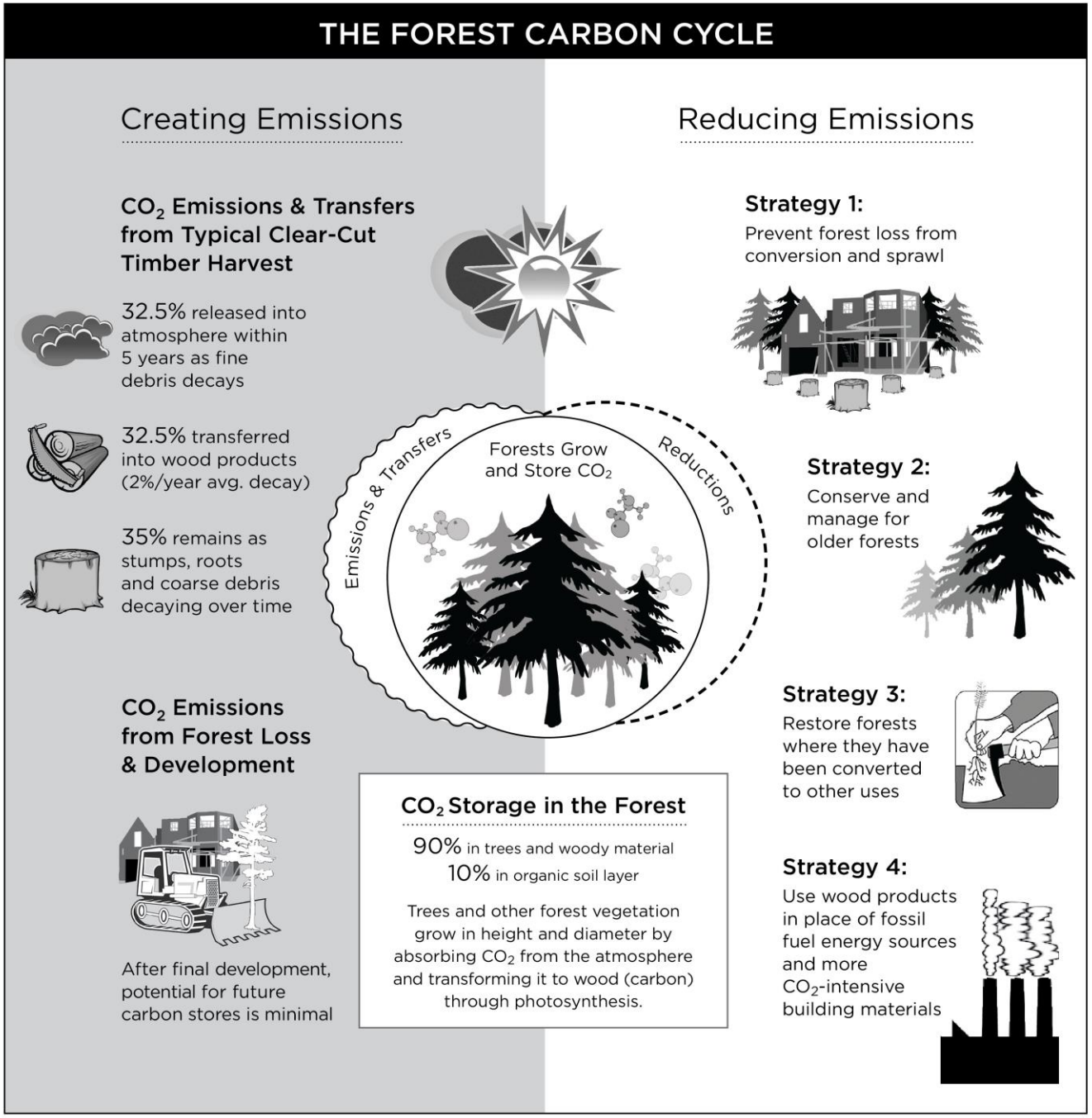
Conserving or growing older forests, increasing productivity

Reforestation

From converted farmland or after a fire

Avoided Conversion

Stopping the bull dozer in its tracks



Forest Carbon Accounting is complex

Accounting must capture full cycle – Gains, Transfers, Losses

Key Offset Characteristics

Additional

Climate benefits are above and beyond "business as usual" baseline of reductions that would have happened anyway

Real, Measurable and Standardized

A project must be able to rigorously measure and carefully calculate climate benefits using consistent standards

Verifiable

Accuracy can be confirmed by independent 3rd party

Permanent

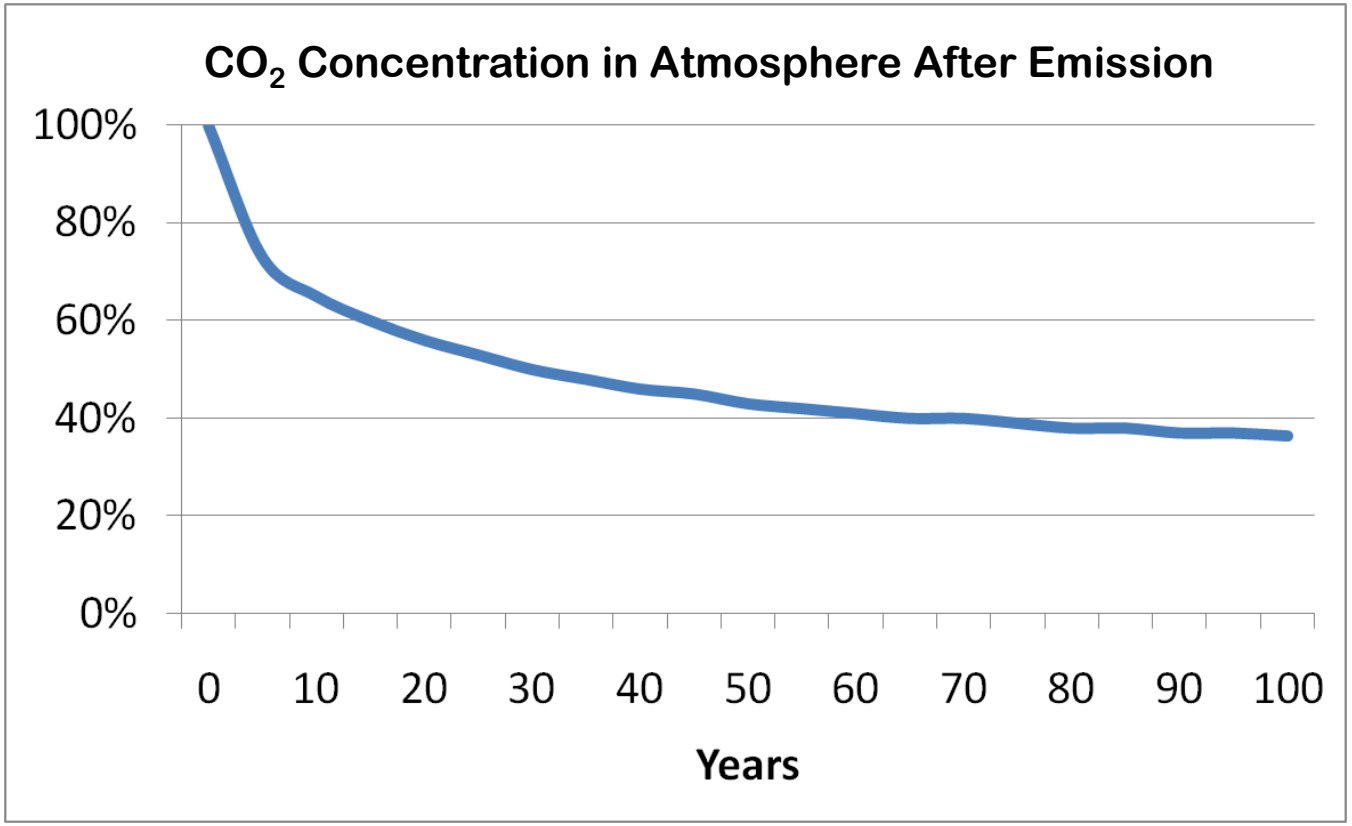
The project reductions must be enduring and equivalent (to the atmosphere) to the emissions the project is offsetting

Additionality – *As compared to what?*

- All forests store carbon
- But not all forest carbon is "additional" to atmosphere
- Baseline establishes point of comparison
- Considers average stocks in area and over time under "business as usual" management

- Above-average stocks = credit
- Growth above starting stocks = credit

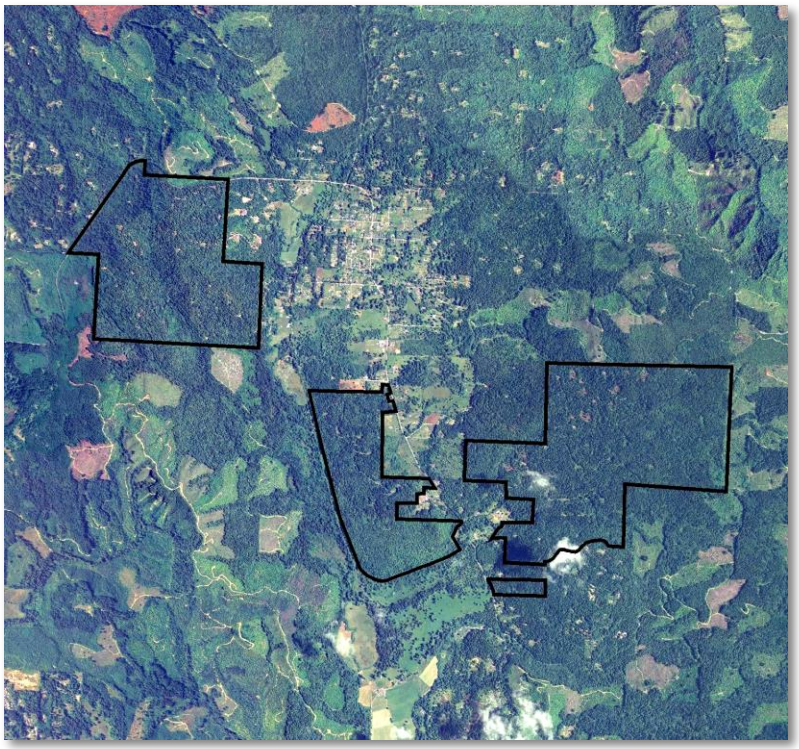
Why *Permanent*?



Some of the CO_2 being offset remains in our atmosphere for thousands of years

The Van Eck Forest Project: The pioneer

- 2,200 acres of working redwood forest in Humboldt County, CA
- Will reduce 500,000 tons of CO_2 over 100 years
- Prevents over harvest of carbon rich forest and assures harvest is always less than growth



- Secured with working forest conservation easement

Van Eck "carbon forestry" benefits whole ecosystem

Wood, water and wildlife

Forest carbon credits have evolved to become real climate solutions

- Creating a new product out of thin air isn't easy
- Emerging from experimental, wild west stages
- More rigorous quantification standards to meet regulatory needs for GHG reductions
- The Holy Grail for valuing forest ecosystem services?

Questions?

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