

Biomass Energy Emissions & the Clean Power Plan: Forest Industry Perspective

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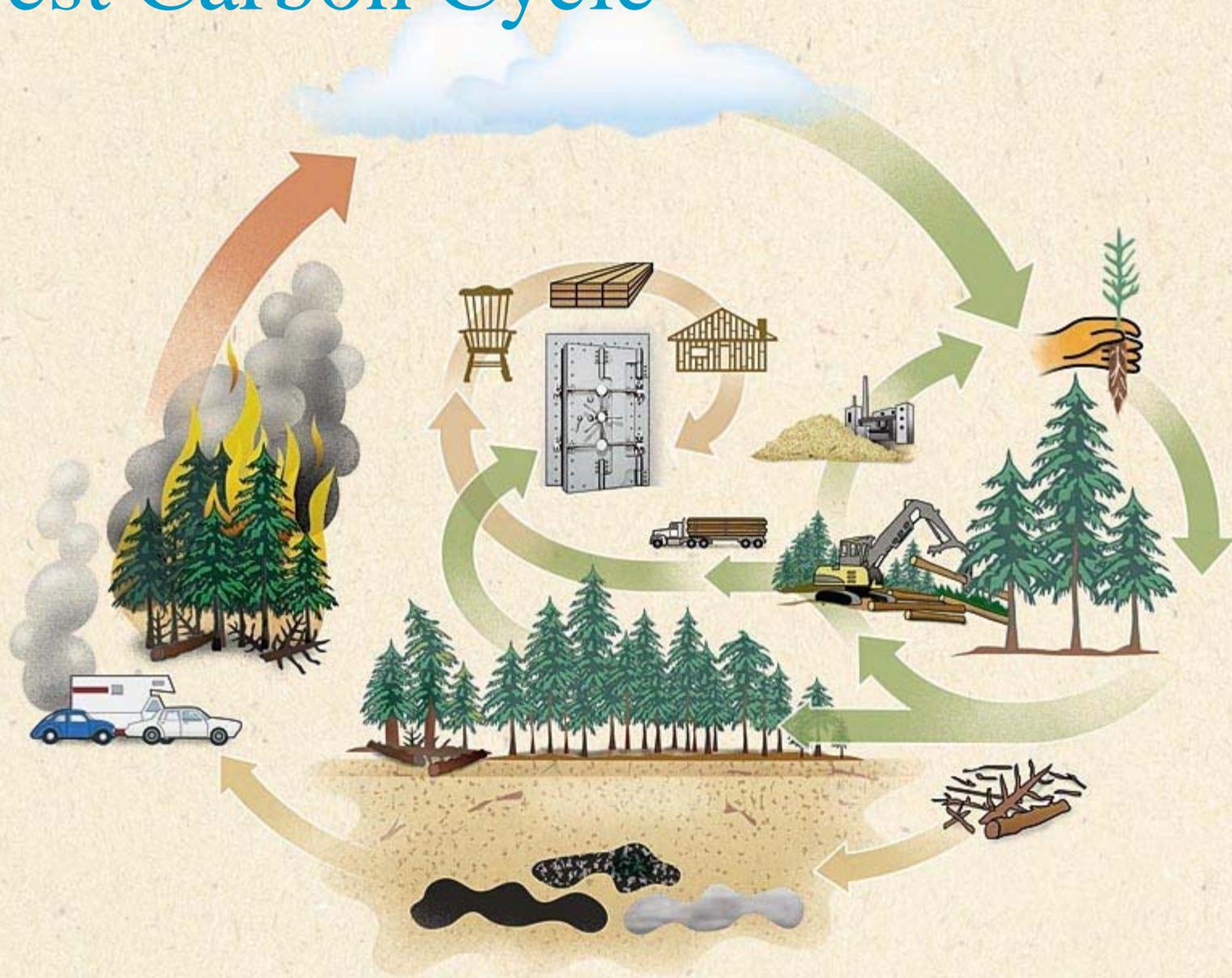


IPCC - 2007

“In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.”

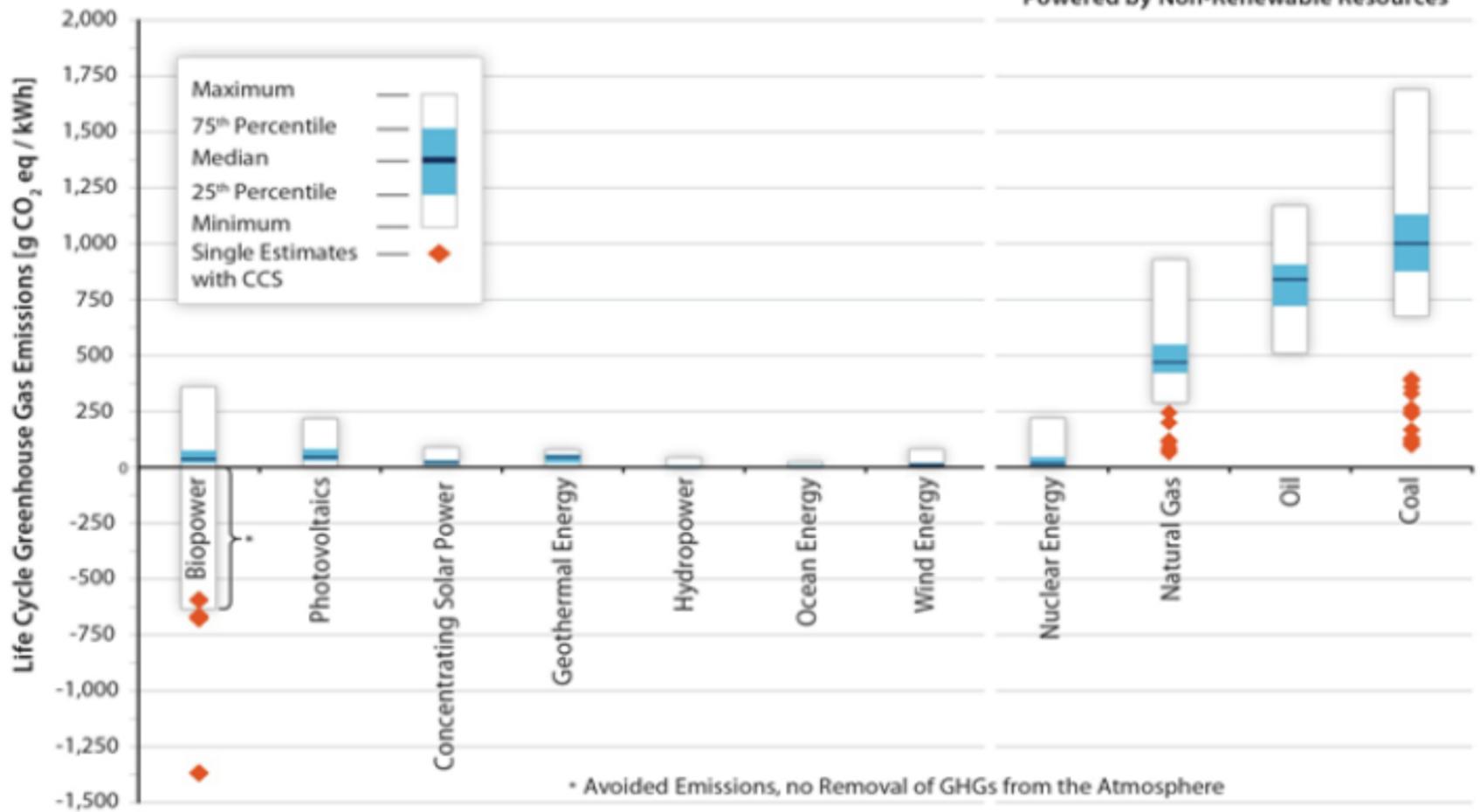


Forest Carbon Cycle



Electricity Generation Technologies Powered by Renewable Resources

Electricity Generation Technologies Powered by Non-Renewable Resources

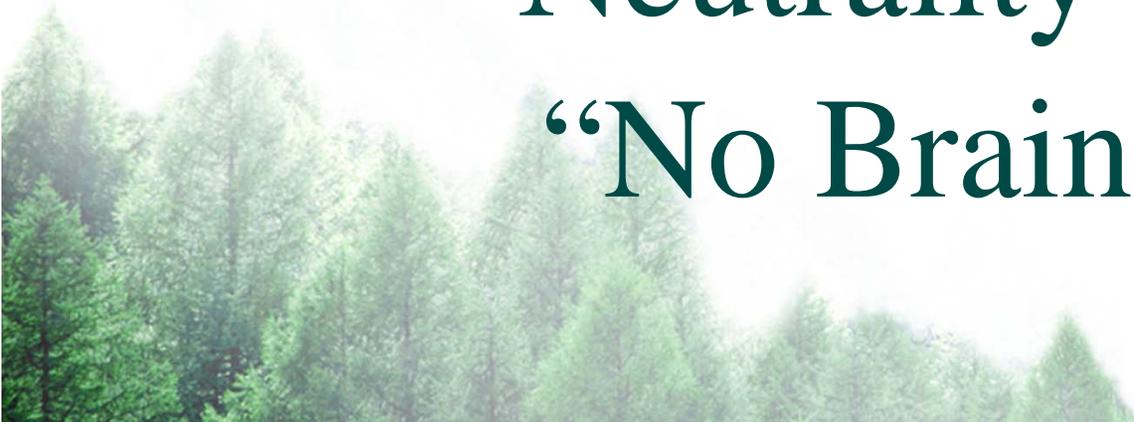


Count of Estimates	222(+4)	124	36	8	28	10	126	125	83(+7)	24	169(+12)
Count of References	52(+0)	26	10	6	11	5	49	32	36(+4)	10	50(+10)



From a Life-Cycle
Vantage Point:

Biomass Carbon
Neutrality is a
“No Brainer”

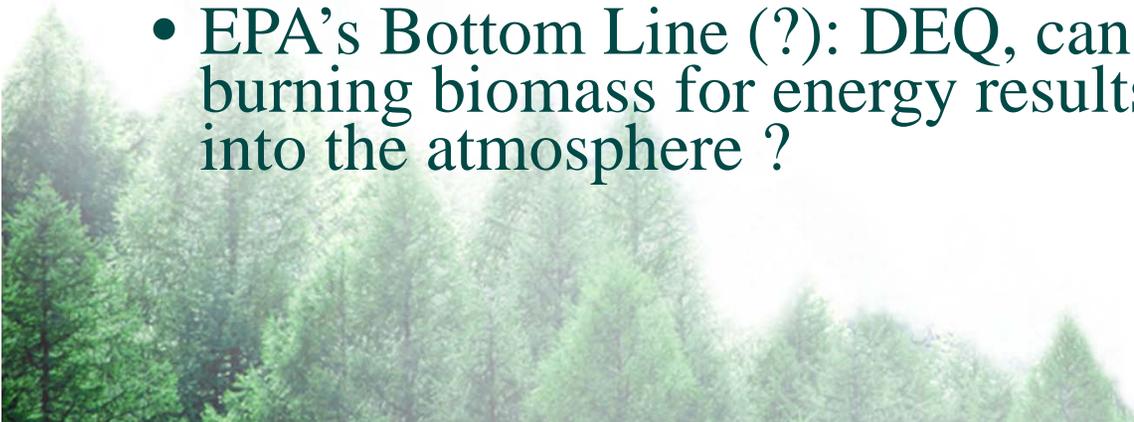


SO WHY ALL THE CONTROVERSY?



The Challenge for EPA & DEQ

- The Clean Air Act (CAA) regulates emissions of pollutants (NO_x, SO_x, VOCs, etc.) from smoke stacks
- The Supreme Court (5-4) said in 2007 that CO₂ is an “air pollutant” subject to regulation under the CAA
- CAA regulatory structure is not designed to consider other impacts (e.g. carbon cycle, life cycle emissions)
- This incongruence resulted first in the “Tailoring Rule” and then in EPA’s ambivalence about biomass carbon emissions in the CPP (e.g. not included in the FIP)
- EPA’s Bottom Line (?): DEQ, can you demonstrate that burning biomass for energy results in less carbon going into the atmosphere ?



Oregon Forest Biomass Utilization

Is not an industry.
It is a carbon-neutral
(or carbon-negative)
answer to a

Waste Disposal Problem!



Biomass IS Carbon Neutral

Oregon (Carbon Cycle)

- In Oregon CAA SIP (approved by EPA)
 - Except as superseded by federal law
- In Oregon Law
 - Except as necessary to implement the CAA
- Biomass is a Renewable Energy Resource in RPS

Washington (Carbon Stock)

- In Law
 - As long as forest stocks are stable or increasing

EPA CAA SIP Preference (Feedstock)

- “Qualified Biomass”
 - Up to states to define



Define “Qualified Biomass”

- Consistency With Existing State Laws?
 - Carbon Cycle, Forest Stocking, Feedstock approaches
- States have flexibility and can consider alternatives
- EPA Prefers Feedstock Approach
 - Pre-approved Feedstocks
 - Evaluation, Measurement & Verification
 - Valuation of carbon benefits of biomass
 - Sustainability (EPA references Forestry Program for Oregon)
 - Alternative Fates Analysis
 - Alternative Market Analysis



“Qualified Biomass” Feedstock Approach: Cracking a Walnut with a Sledgehammer?



Define “Qualified Biomass”

Alternative Fates

- Spent Pulping Liquor
- Mill Residuals
- Forest Management Residuals (Slash)
- Forest Health Restoration
- Purpose-Grown Energy Crops (?)

If energy is produced from biomass whose emissions would have occurred anyway, then fossil fuel emissions (additional carbon) are avoided, making biomass energy carbon negative!

Other CPP SIP Issues

Other CPP SIP Issues

- Mass-Based (Allowances) vs Rate-Based (ERCs)
- Consistency with Other States/Interstate Trading?

Uncertainty

- Lawsuits (27 states suing, 15 states support)
- 2016 Election
- Federal Legislative Initiative
 - Carbon Stock Approach

Biomass Energy in the BIG Picture

What can Oregon Forests do to reduce carbon in the atmosphere and combat GLOBAL Climate Change?

Sustainable Forest Management

- Keep Working Forestlands in Forest Use & Maintain Stocking
 - Includes Economic Sustainability for Private Landowners
- Restore Forest Health & Reduce Fire Risk in Federal Forests

Grow the Forest Products & Bioenergy Sector!

Questions?

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