Background Information for Western Dialogue on Bioenergy from Forests

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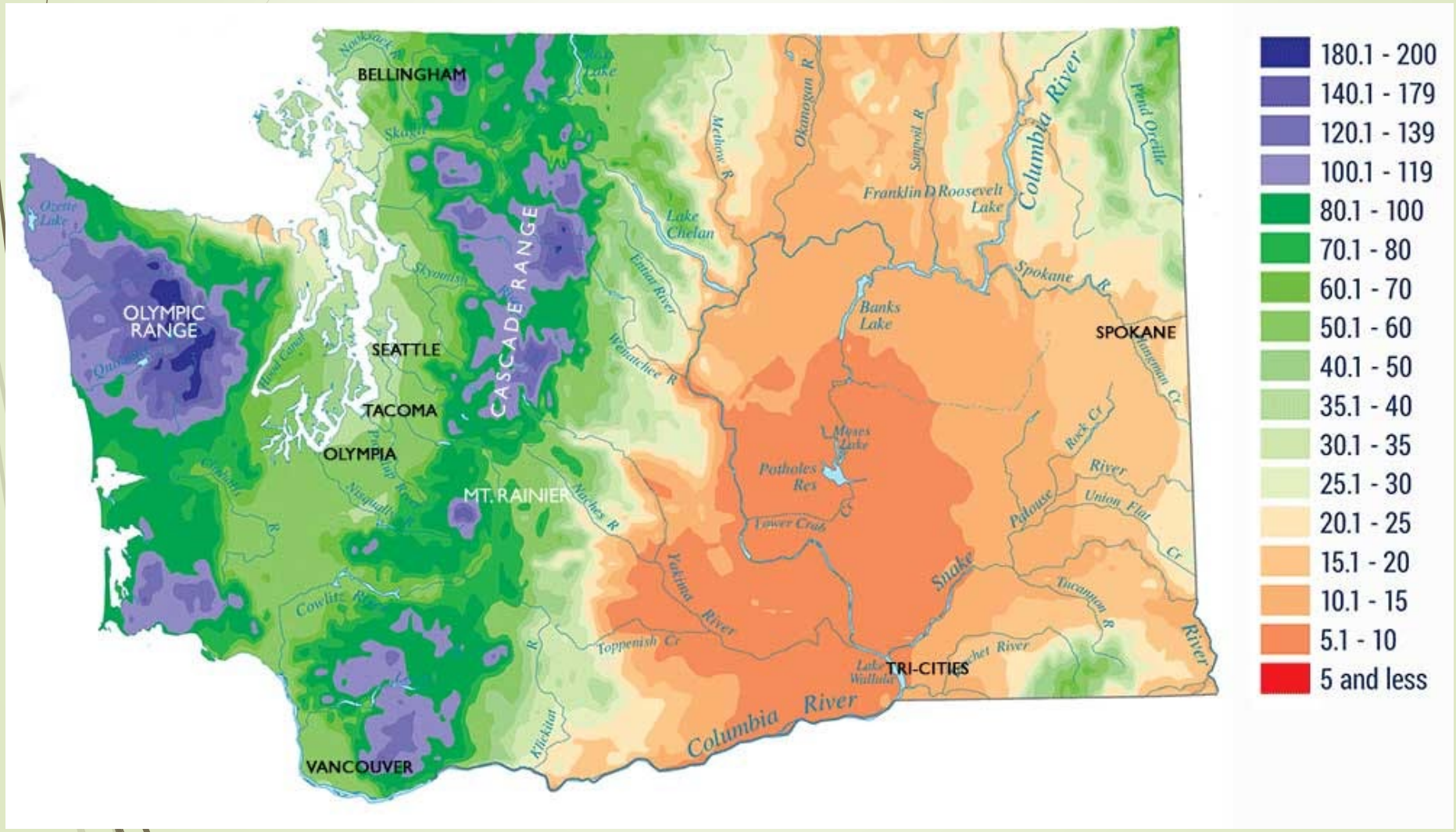
Supported by the Yale Forests Dialogue

The Forests Dialogue

Conditions in Washington

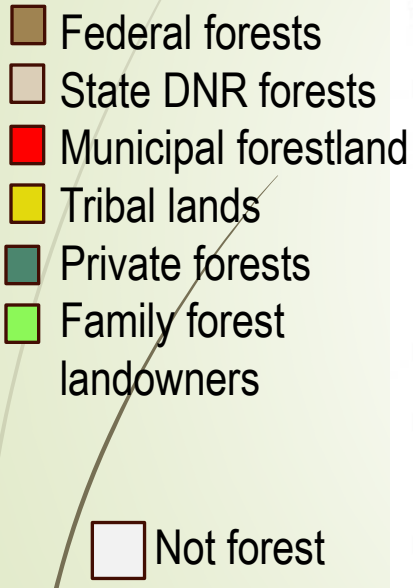
- **Climate**

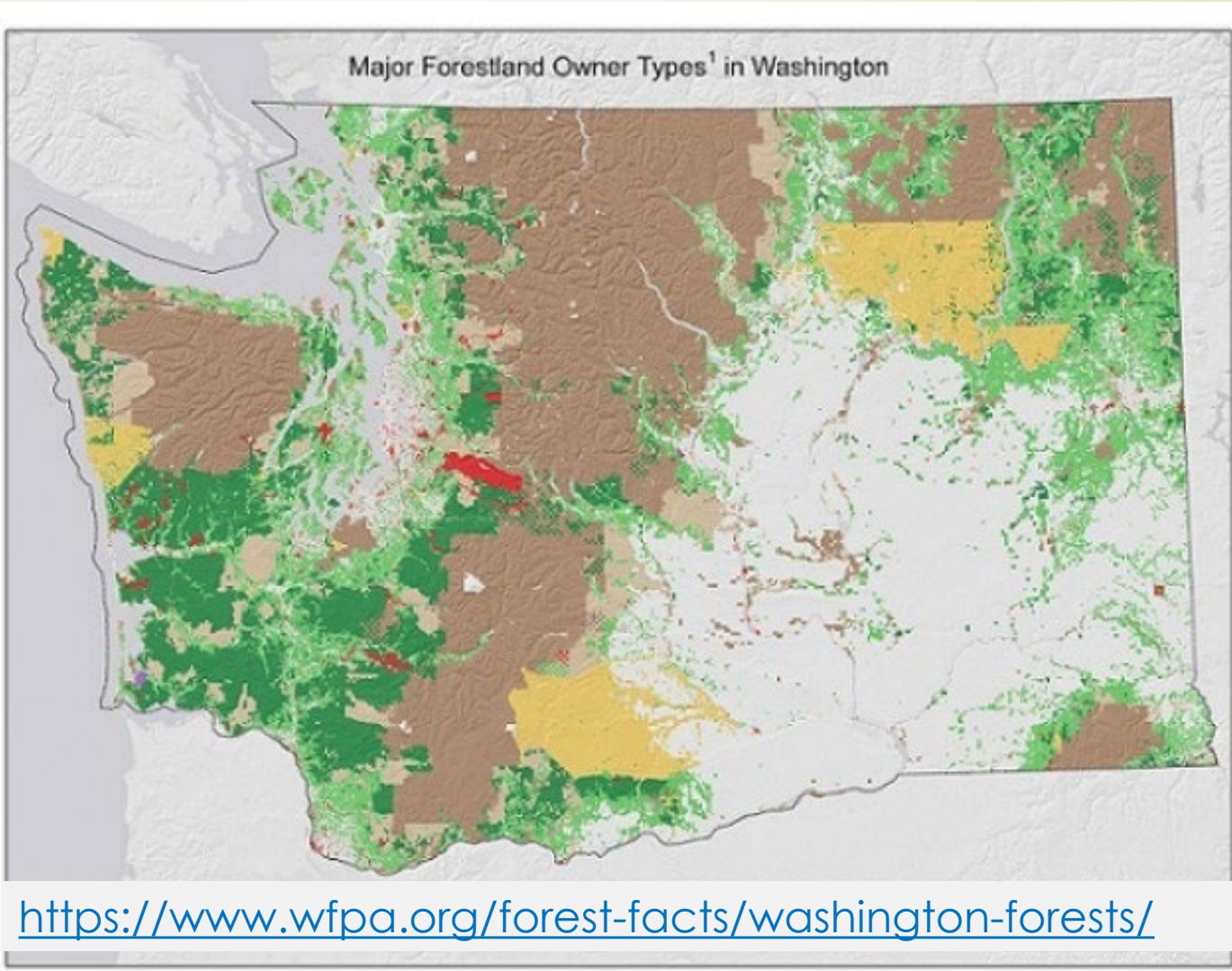
Annual precipitation (Inches) 1961-1990



Conditions in Washington

- Climate
- **Forest distribution and ownership**





https://www.wfpa.org/forest-facts/washington-forests/

Conditions in Washington

- Climate
- Forest distribution and ownership
- **Current forest conditions**
  - **Disturbance regimes**
    - **Fire**
    - **Wind**
    - **Insects and disease**
  - **Climate change effects**

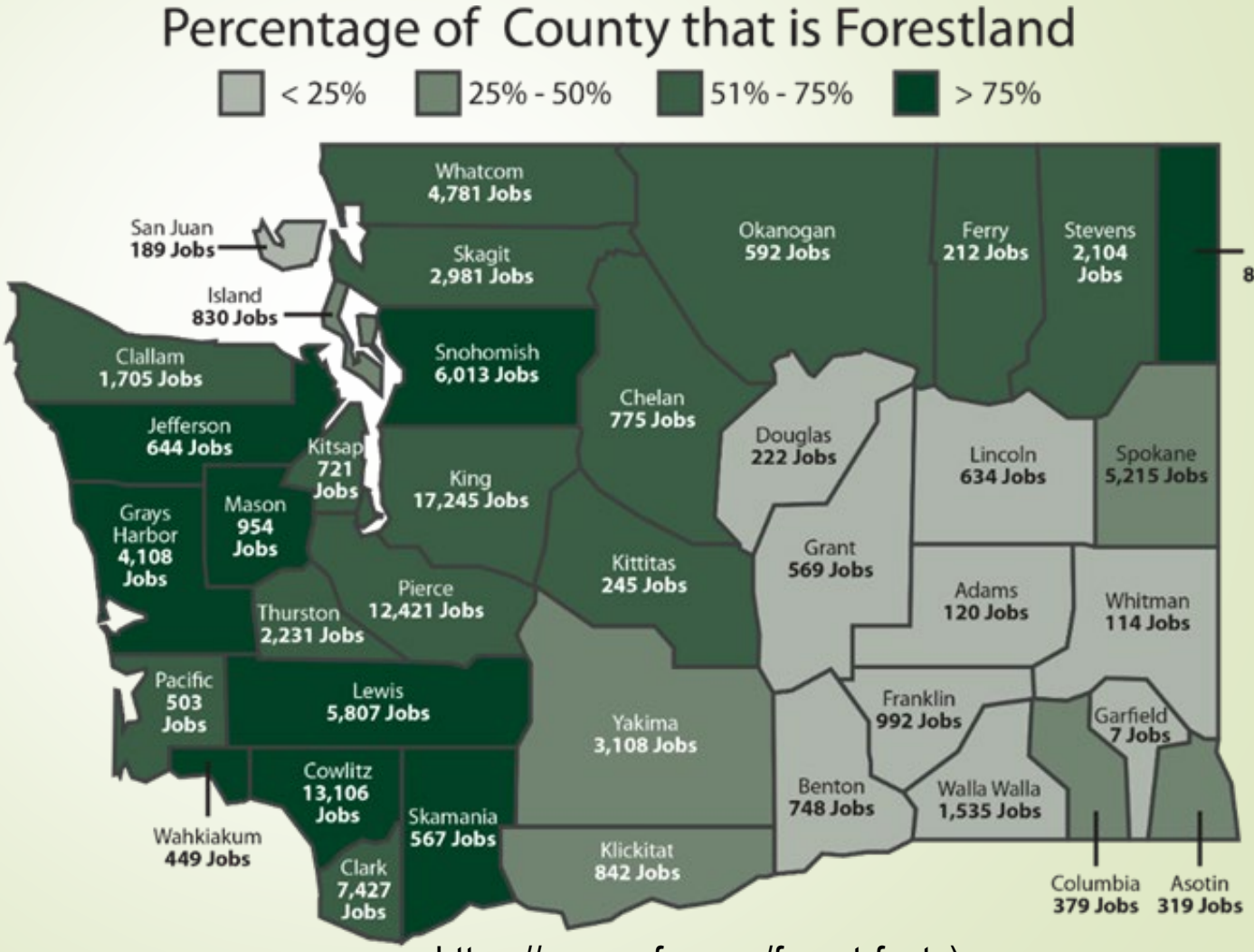
July 2014: https://newstalkkit.com/two-fires-burning-across-eastern-washington/

The fungus, *Armillaria ostoyae*, is associated with most conifer mortality in the Pacific Northwest https://pnwhandbooks.org/plantdisease/host-disease/fir-douglas-true-armillaria-root-rot

Conditions in Washington

- Climate
- Forest distribution and ownership
- Current forest conditions
- **Economic and social conditions of the region**

Number of direct, indirect, induced jobs related to forestry in 2022 and



https://www.wfpa.org/forest-facts)

Conditions in Washington

- Climate
- Forest distribution and owndership
- Current forest conditions
- Economic and social conditions of the region
- **Bioenergy activities in Washington**

Ethanol

Sustainably managed forest

Wood pellets

Biomass power station

Hydrogen

Biochar

Relevant policies

- **State energy policies**
- **State and Federal timbe policies**
  - Boldt Decision
  - Northwest Plan
  - Uncertainties
- **Federal energy policies**
- **International energy policies**

Opportunities

- Managing forests for multiple purposes
- Using forest residuals and thinnings
- Reducing risks of wildfires, disease, and insect infestations
- Increasing employment
- Taking advantage of growing bioenergy market

Residual wood outside sawmill in British Columbia

Constraints

- **Challenges of developing a new market system**
  - Long transit distances
  - Exclusion of federal forests from Renewable Identification Numbers (RINs)
  - Uncertainties in Federal policies
  - Need for strong markets and infrastructure
  - Dependence of supply of forest and mill residues on overall forest sector activities and markets

Constraints

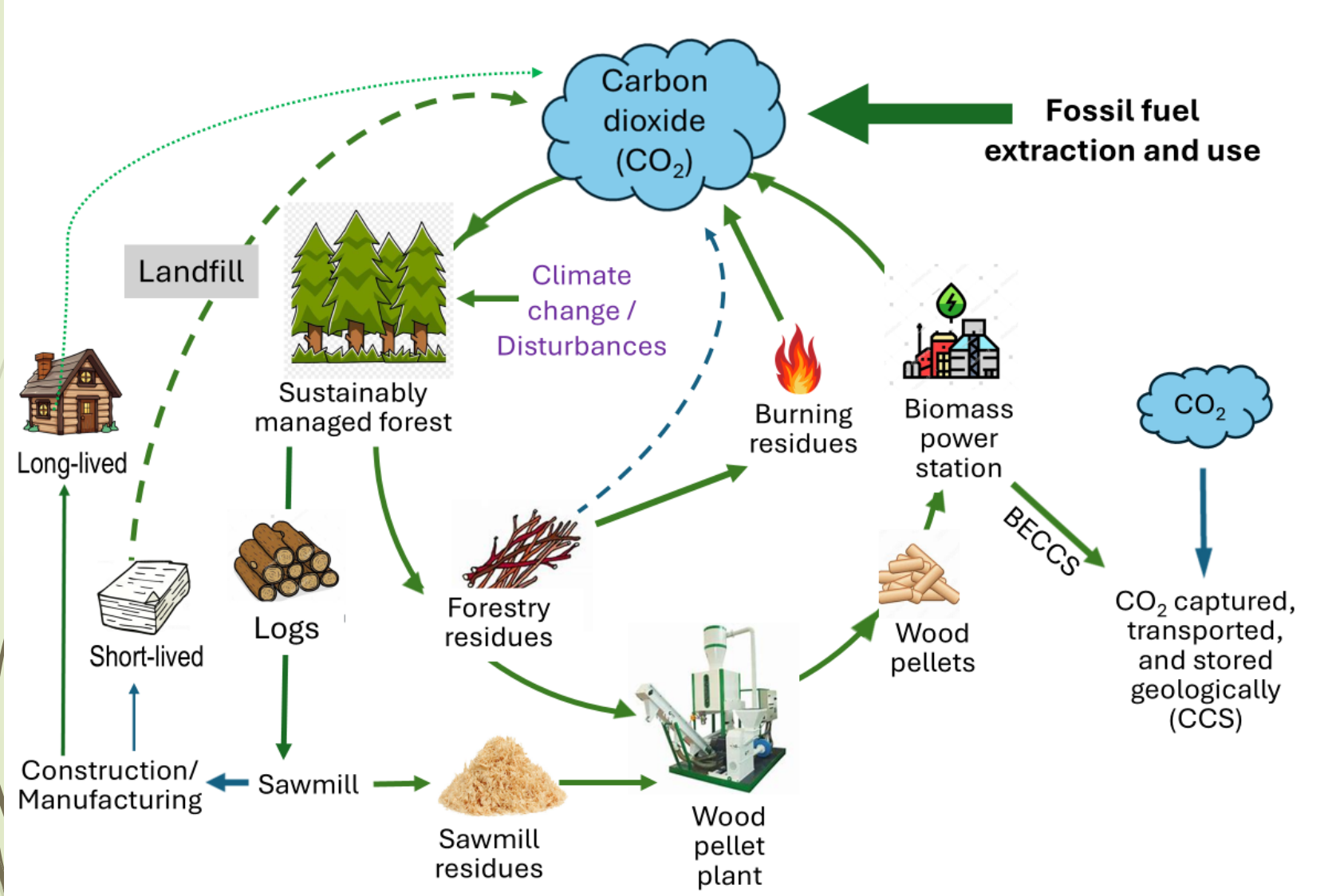
- Challenges of developing a new market system
- **Environmental and social concerns**
  - Air quality
  - Environmental justice
  - Social license
  - Net carbon emissions
  - Habitat and biodiversity

Constraints

- Challenges of developing a new market system
- Environmental and social concerns
- **Need for a clear definition of sustainable forestry**
  - Timely, transparent, and trusted monitoring and reporting

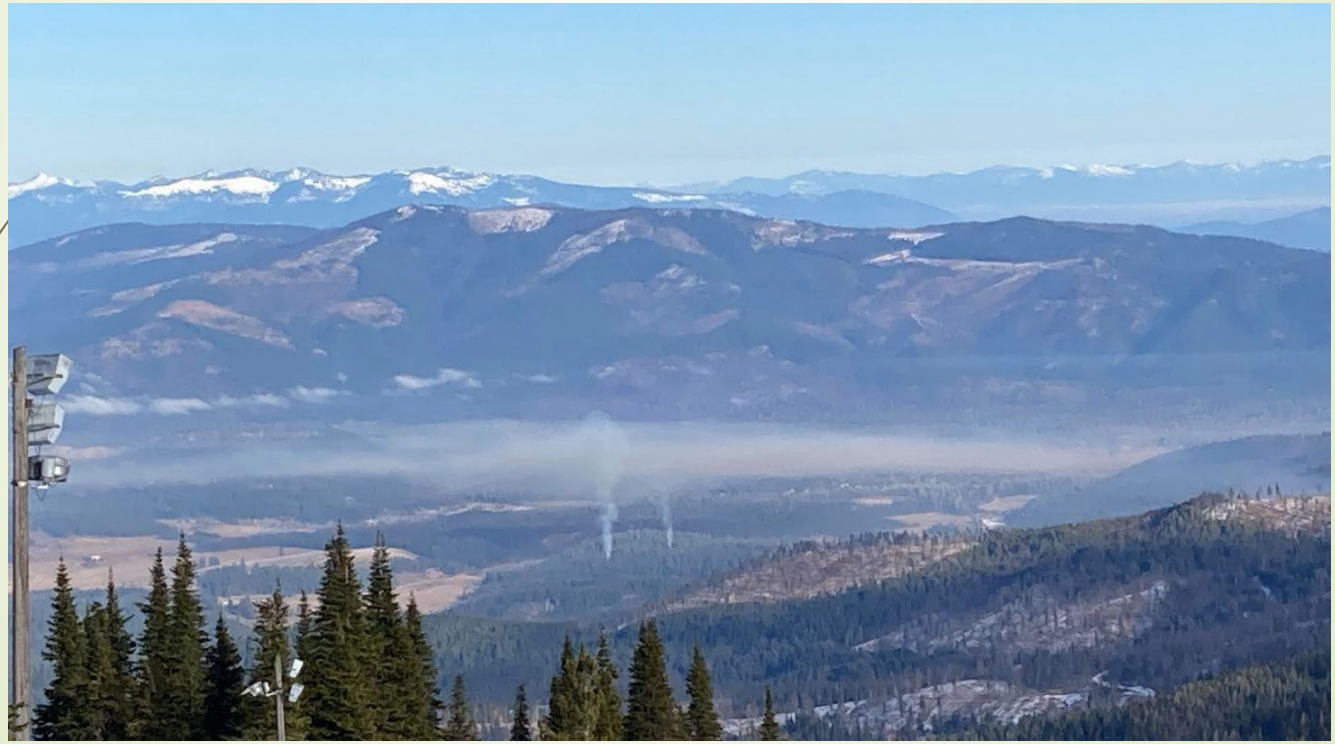
Fracture lines

- Effects on global climate change



Fracture lines

- Effects on global climate change
- **Effects on local air quality**



https://ecology.wa.gov/about-us/who-we-are/news/2023/dec-28-new-report-shows-air-pollution-hits-washington-s-most-vulnerable-the-hardest

Fracture lines

- Effects on global climate change
- Effects on local air quality
- **Worker conditions**

Fracture lines

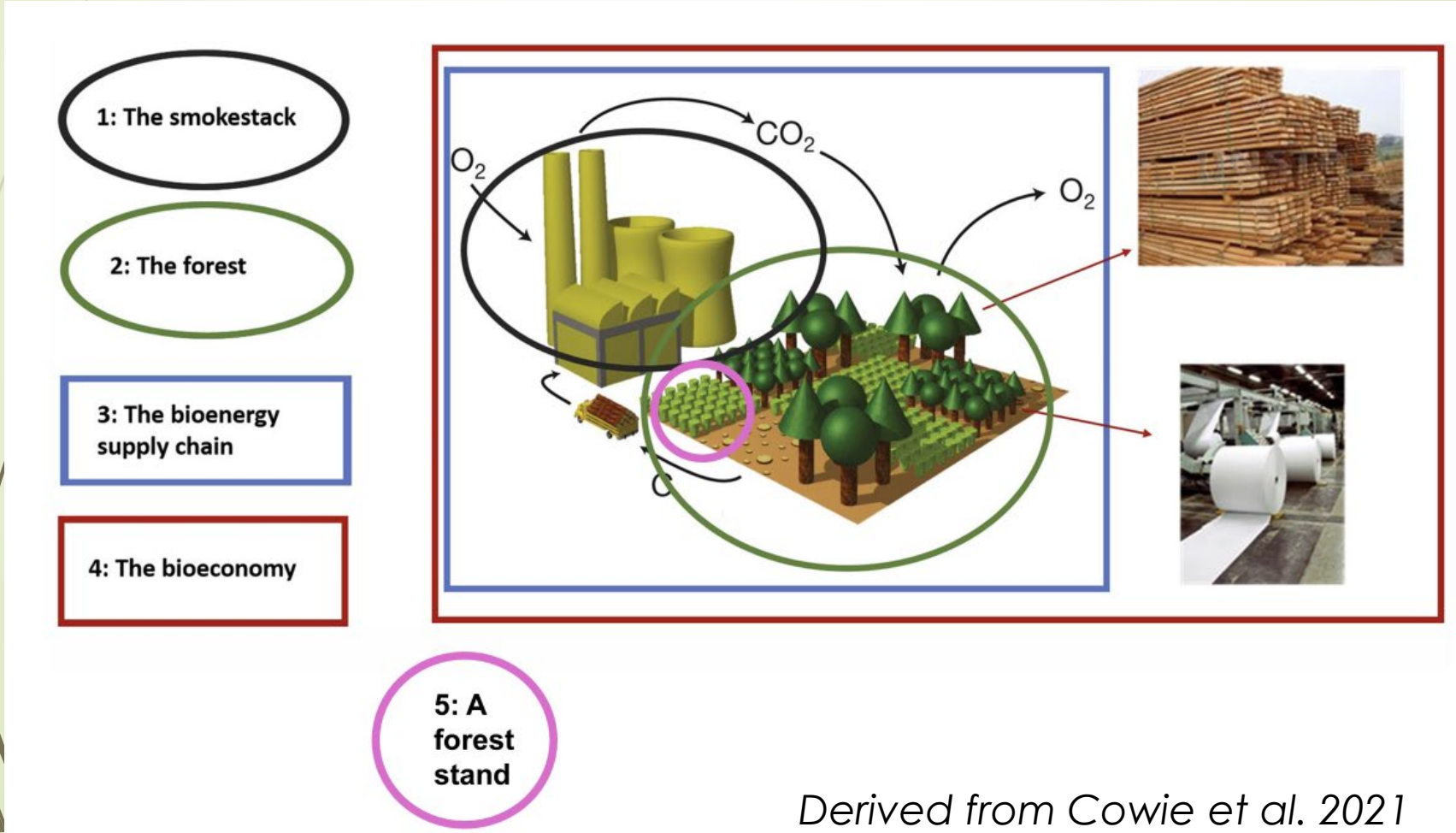
- Effects on global climate change
- Effects on local air quality
- Worker conditions
- **Forest management practices**

Fracture lines

- Effects on global climate change
- Effects on local air quality
- Worker conditions
- Forest management practices
- **Effects on forest species and their habitats**

Factors affecting fracture lines

- The inability to predict the future with certainty
- Trust regarding verifiable compliance
- Perspective of the reference scenario being adopted



Derived from Cowie et al. 2021

Recommendations

- Evaluate opportunities and constraints in light of context
- Define and measure progress toward sustainability of forests systems with bioenergy

Circle of stakeholders represents equally recognized values

Thank you!
Questions and comments?