FOREST SERVICE GHG ISSUES AND INFORMATION NEEDS

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POLICY CONTEXT

- UNFCCC
- EO 13514
- NEPA Draft Guidance
- Forest Service Draft Planning Rule
- Forest Service Climate Change Performance Scorecard

UNFCCC

- US political commitment to 17% economy wide reduction from 2005 by 2020 (includes LULUCF)
- Current interagency discussions on *how* LULUCF will be included – eg how to deal with natural disturbance, risk
- New GHG reduction commitments are under negotiation – likely to have implications for US forest inventory and management

EO 13514

- Section 9: “consider and account for sequestration and emissions of GHGs resulting from Federal land management practices.”
- Draft Guidance: interagency team of managers and scientists (will) recommend the appropriate tools, models, protocols, and data to account for: 1) GHG sequestration and emissions from Federal land management practices, and 2) total GHG sequestration and emissions from Federal lands at appropriate spatial scales.

NEPA GHG GUIDANCE

Draft CEQ guidance: federal land management agencies should consider greenhouse gas (GHG) emissions and climate change effects as part of their NEPA procedures.

- Consider GHG emissions resulting from their proposed projects and programs in NEPA documents.
- Determine whether GHG emissions resulting from proposed actions are "significant" (require an EIS).
- Evaluate differences among alternatives in emissions and carbon sequestration potential, as well as trade-offs with other environmental values.

FS DRAFT PLANNING RULE

The proposed rule specifies that units will monitor “carbon stored in above ground vegetation”. Some public comments were received regarding carbon, and the language in the final rule is being developed.

FS CLIMATE CHANGE SCORECARD

- Mitigation is 1 of 4 dimensions
- Carbon Assessment Stewardship
  - Does your Unit have a baseline assessment of carbon stocks?
  - Does your Unit have an assessment of how disturbance and management activities are influencing carbon stocks or carbon sequestration and emissions?
  - How is your Unit integrating carbon stewardship with the management of other benefits being provided by the Unit?

BIG ISSUES

- Disturbance
- Estimating avoided losses
- Effects of climate change on sequestration rates
- Communicating forest carbon dynamics
- Life cycle analysis
- Adaptation/mitigation opportunities in restoration of disturbed lands

DISTURBANCE

- Variability and inherent unpredictability at short temporal/spatial scales
- Unknown effects of climate change on disturbance dynamics
- Risk management

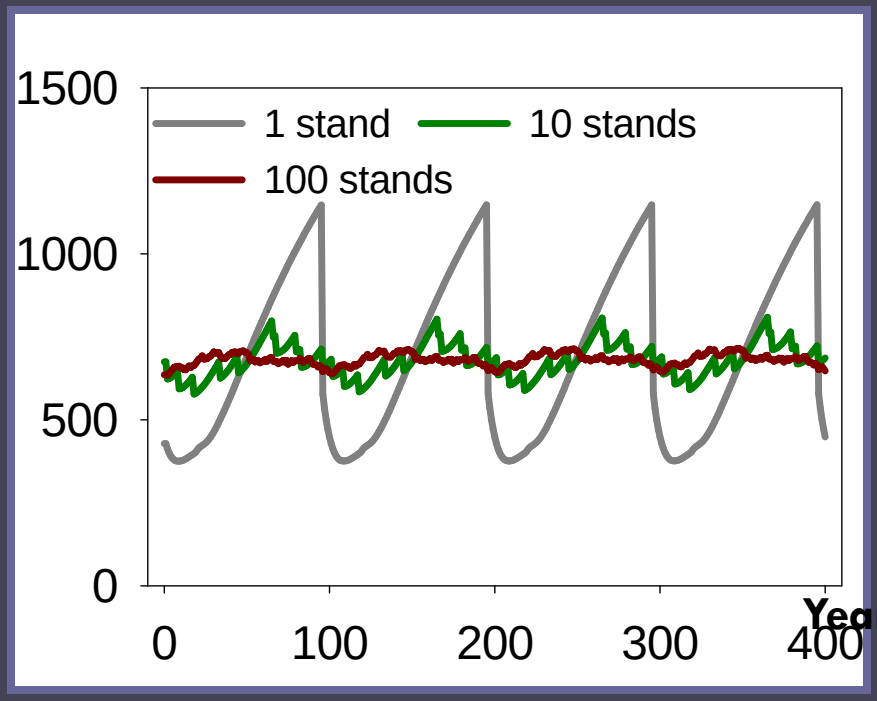
ESTIMATING AVOIDED LOSSES

Seems simple (but isn't)

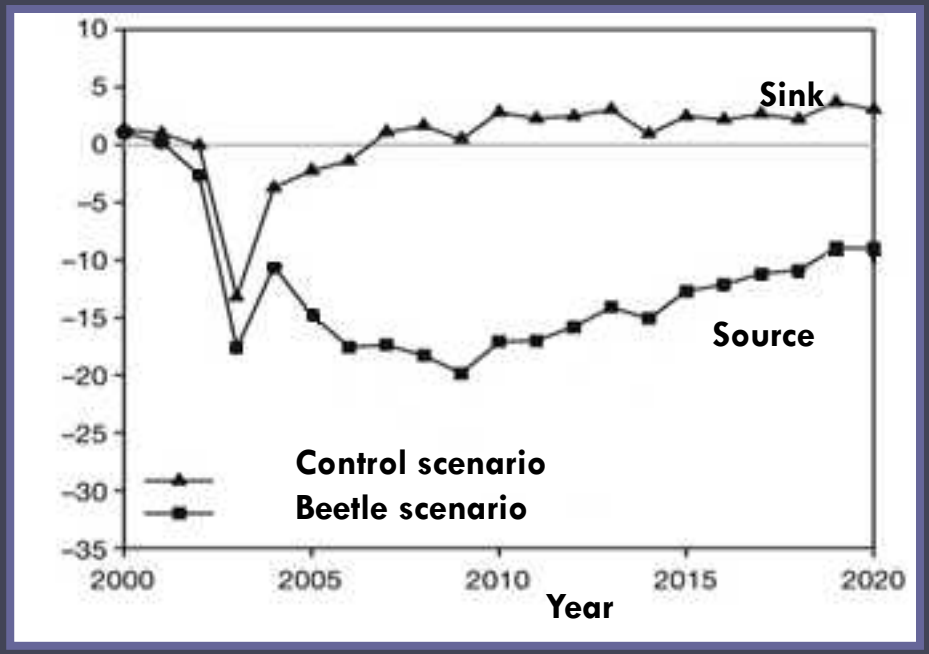
EFFECTS OF CLIMATE CHANGE ON SEQUESTRATION RATES

- Increased disturbance
- Increased moisture stress
- Increased nitrogen deposition and CO_2
- Net effect – unknown and regionally variable

COMMUNICATING FOREST CARBON DYNAMICS



Carbon, Mg/ha



Ecosystem Carbon stock change, MT/y

DIVERGENT VIEWPOINTS

Mutually exclusive strategies

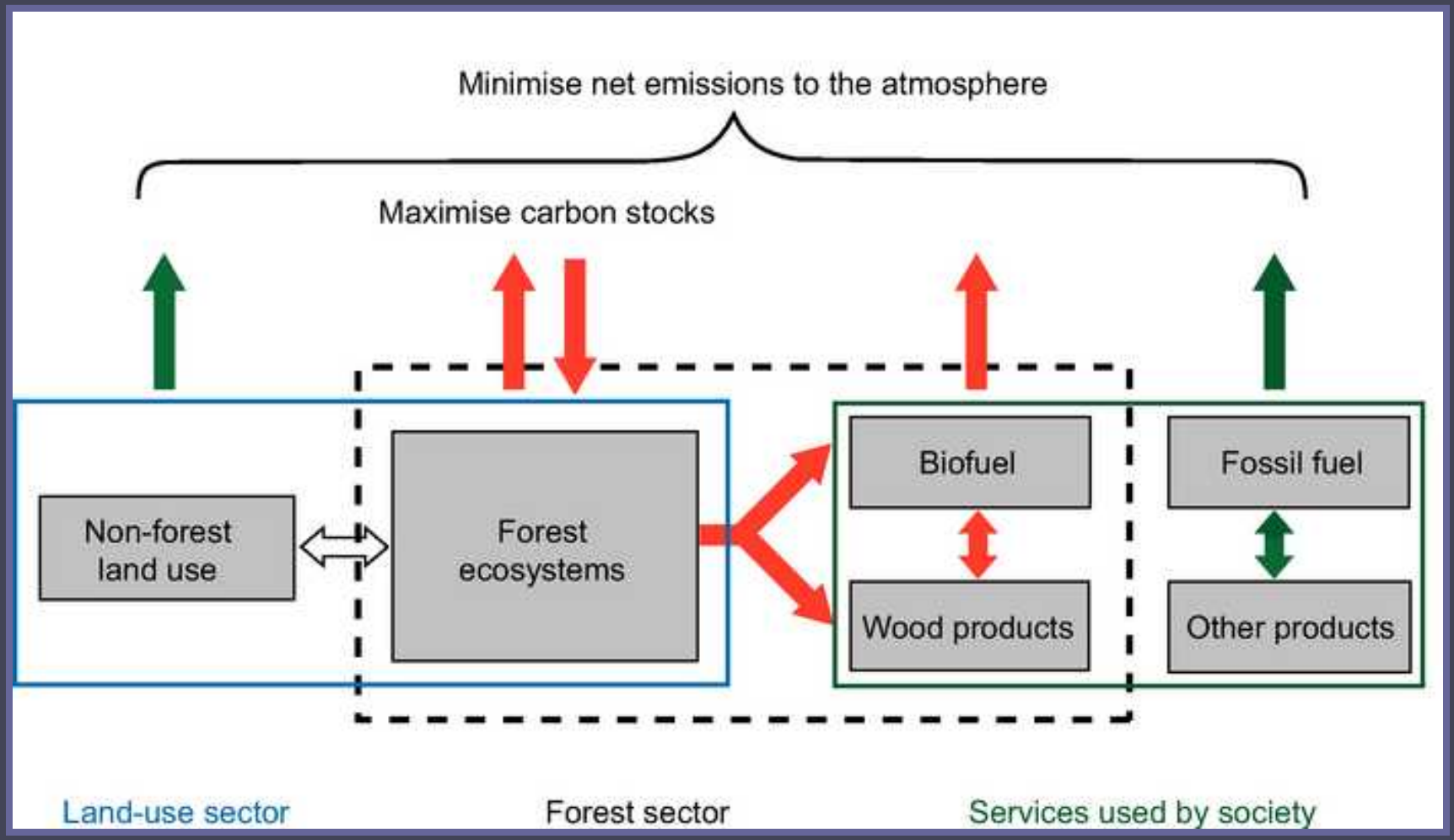
1) Increase carbon stocks in living forest

2) Use forests for C storage and substitution:

- Store C and harvested wood products
- Substitute for energy intensive products
- Substitute for fossil energy

Portfolio of options that are appropriate in different situations.

LIFE CYCLE ANALYSIS– what are the system boundaries



Source: IPCC 4th Assessment Report on Mitigation, Forestry

RECLAMATION OF DISTURBED LANDS

- Biochar for reclamation of abandoned mine sites
- Reforestation after severe wildfire

Thank you!