



RenewWest

“Redefining how Americans value our forests”



Main Challenges to Western Forests



Disease

Several types of disease, including the Mountain Pine Beetle (pictured), are running mostly unchecked through western forests.



Fire

Every year, millions of acres of wildland are deforested by fire. This trend is going more severe.



Climate Change

A warming climate stresses trees as summers are longer and drier, further encouraging disease and fire.



Over 8.5 Million Acres Have Burned in 2020

Larger Than 9 Different States or DC



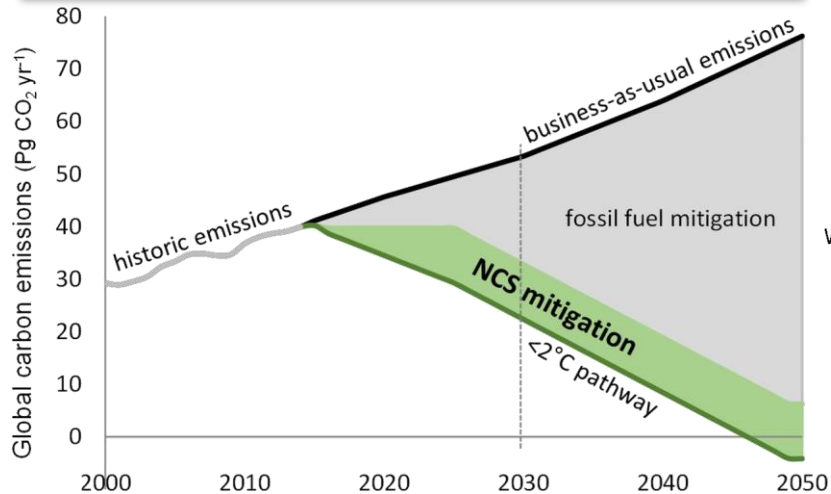
Natural climate solutions

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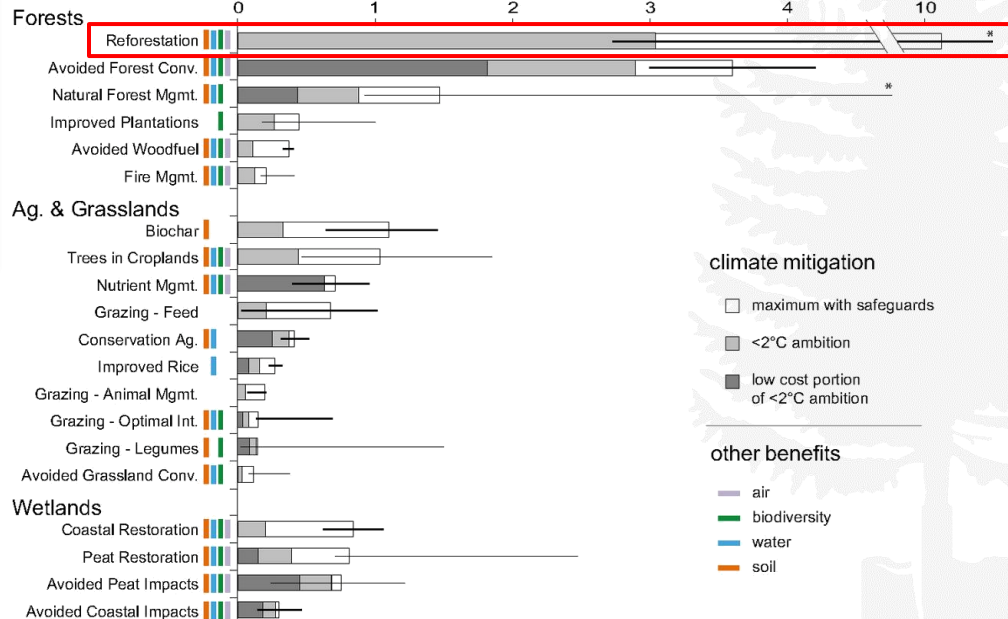
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Contributed by William H. Schlesinger, September 5, 2017 (sent for review June 26, 2017; reviewed by Jason Funk and Will R. Turner)

Better stewardship of land is needed to achieve the Paris Climate Agreement goal of holding warming to below 2 °C; however, confusion persists about the specific set of land stewardship options use change, including forestry (4.9 PgCO₂e y⁻¹) and agricultural activities (6.1 PgCO₂e y⁻¹), which generate methane (CH₄) and nitrous oxide (N₂O) in addition to CO₂ (4, 5). Thus, ecosystems



Climate mitigation potential in 2030 (PgCO₂e yr⁻¹)

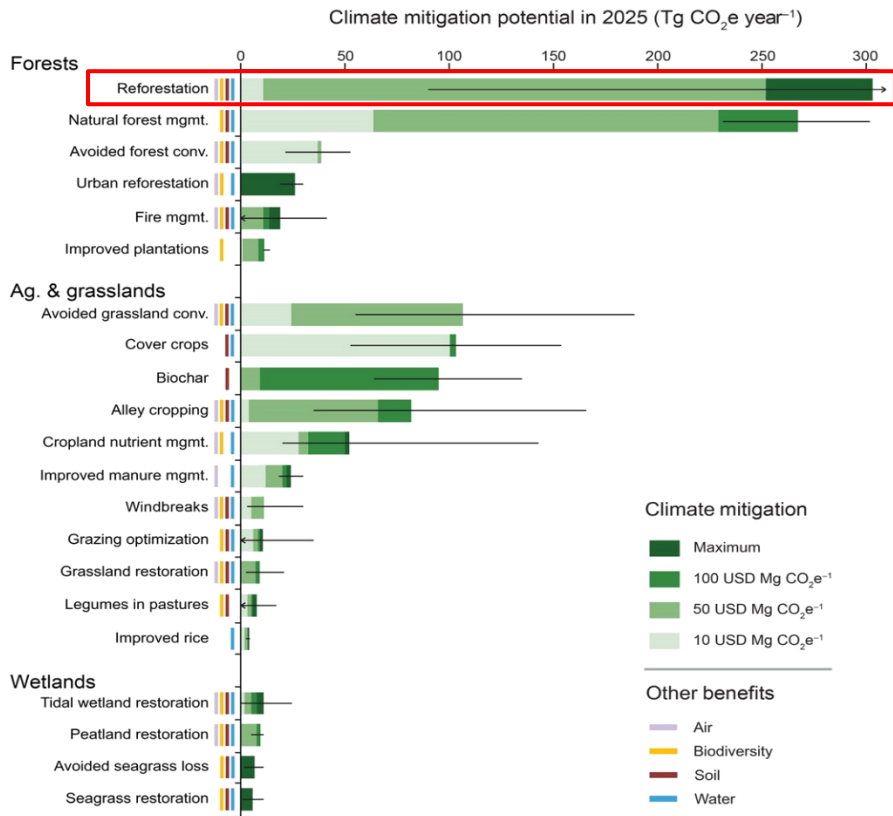


climate mitigation

- maximum with safeguards
- <2°C ambition
- low cost portion of <2°C ambition

other benefits

- air
- biodiversity
- water
- soil



SCIENCE ADVANCES | RESEARCH ARTICLE

ENVIRONMENTAL STUDIES

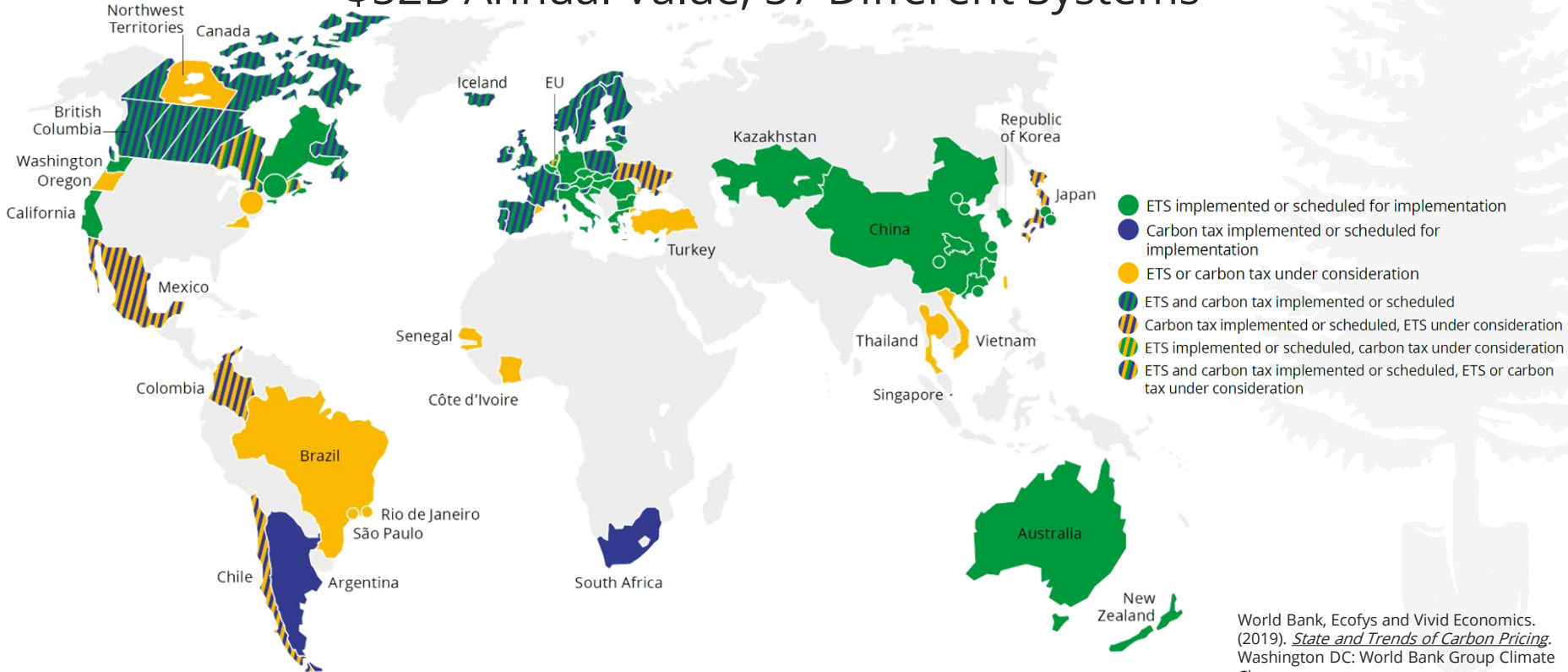
Natural climate solutions for the United States

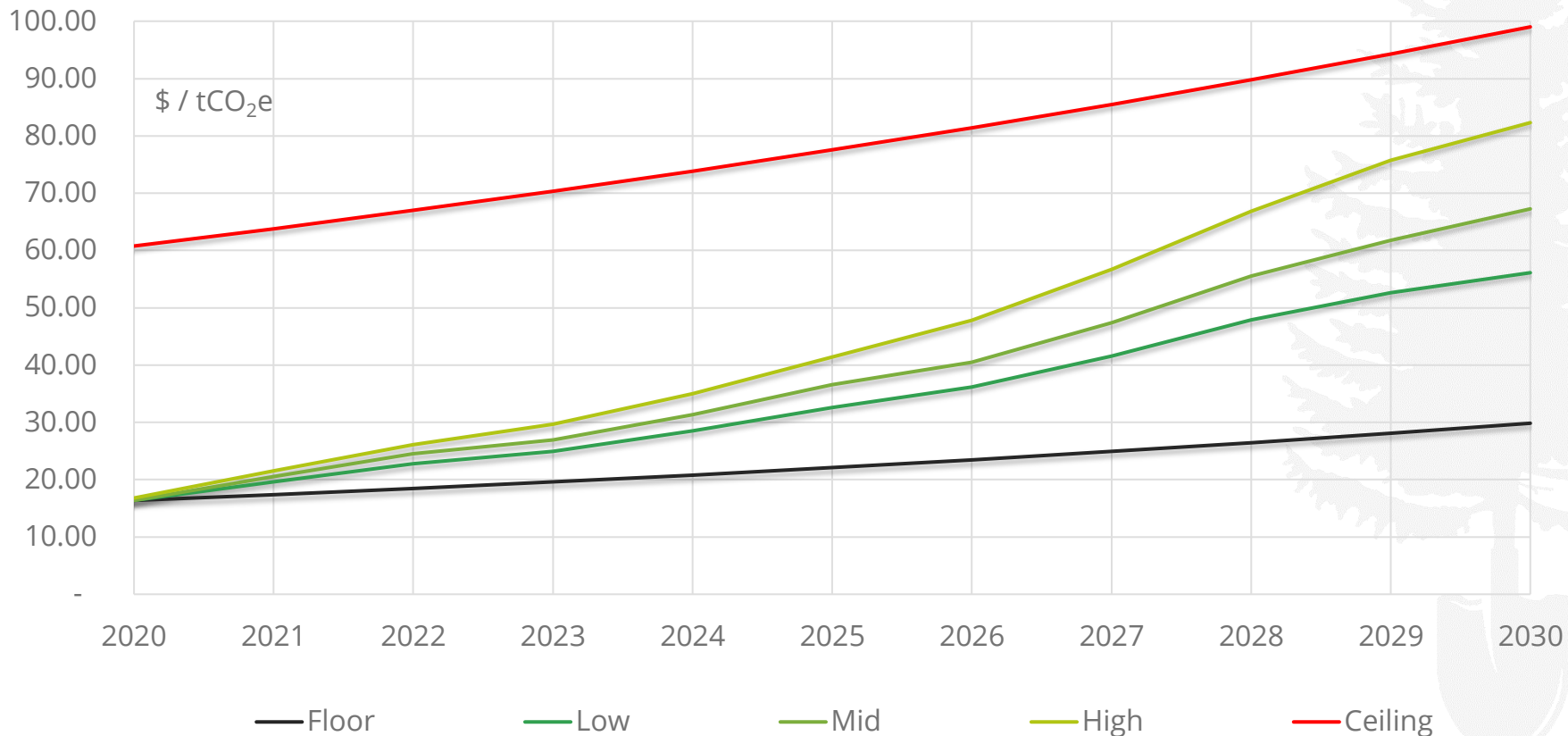
Joseph E. Fargione^{1*}, Steven Bassett², Timothy Boucher³, Scott D. Bridgman⁴, Richard T. Conant⁵, Susan C. Cook-Patton^{3,6}, Peter W. Ellis³, Alessandra Falcucci⁷, James W. Fourqurean⁸, Trisha Gopalakrishna³, Huan Gu⁹, Benjamin Henderson¹⁰, Matthew D. Hurteau¹¹, Kevin D. Kroeger¹², Timm Kroeger³, Tyler J. Lark¹³, Sara M. Leavitt³, Guy Lomax¹⁴, Robert I. McDonald³, J. Patrick Megonigal⁶, Daniela A. Miteva¹⁵, Curtis J. Richardson¹⁶, Jonathan Sanderman¹⁷, David Shoch¹⁸, Seth A. Spawn¹³, Joseph W. Veldman¹⁹, Christopher A. Williams⁹, Peter B. Woodbury²⁰, Chris Zganjar³, Marci Baranski²¹, Patricia Elias³, Richard A. Houghton¹⁷, Emily Landis³, Emily McGlynn²², William H. Schlesinger²³, Juha V. Siikamaki²⁴, Ariana E. Sutton-Grier^{25,26}, Bronson W. Griscom³

Limiting climate warming to <2°C requires increased mitigation efforts, including land stewardship, whose potential in the United States is poorly understood. We quantified the potential of natural climate solutions (NCS)—21 conservation, restoration, and improved land management interventions on natural and agricultural lands—to increase carbon storage and avoid greenhouse gas emissions in the United States. We found a maximum potential of 1.2 (0.9 to 1.6) Pg CO₂e year⁻¹, the equivalent of 21% of current net annual emissions of the United States. At current carbon market prices (USD 10 per Mg CO₂e), 299 Tg CO₂e year⁻¹ could be achieved. NCS would also pro-



\$52B Annual Value; 57 Different Systems

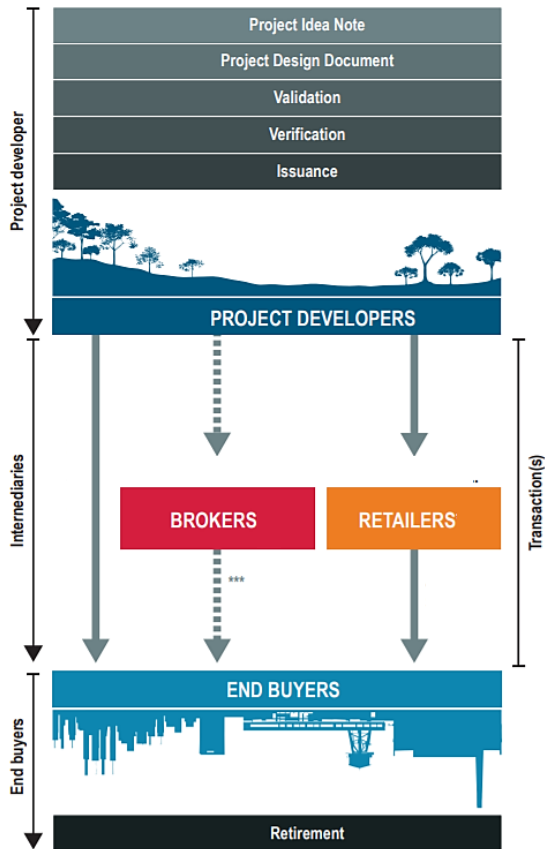






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Offset Market Players



Project Developers: Must adhere to an offset protocol / methodology. Players include:



Project Brokers: Facilitate transactions and operate on commission. Players include:



Offset Buyers: Required to purchase, by law. Include:





CORSIA

Carbon Offsetting & Reduction Scheme for International Aviation is to be implemented in three phases, with mandatory participation for nearly all commercial passenger air travel beginning in 2027.

Corporate Social Responsibility

Feeling pressure from various stakeholders – investors, customers, general public – corporations of all scales are increasingly focusing on carbon offsetting.

 KAISER PERMANENTE, AT A GLANCE

Carbon neutral
by 2020

We're leading the fight
against climate change



State / Local Government

Recognizing lack of effort at federal level, state and municipal governments are feeling political pressure to act from constituents.



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Voluntary Market Players



THE BOTTOM LINE:

TAKING STOCK OF THE ROLE OF OFFSETS
IN CORPORATE CARBON STRATEGIES

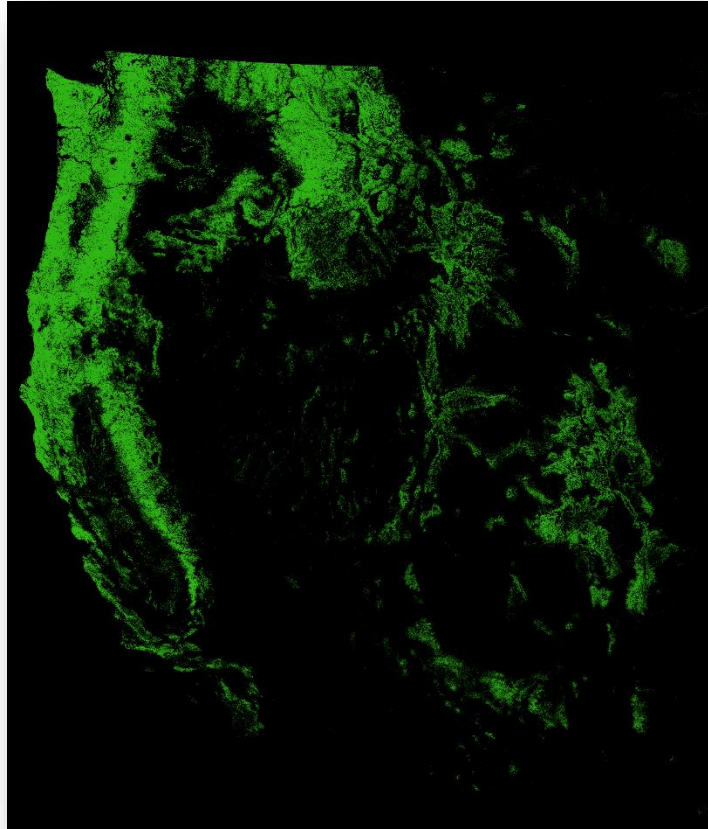
FedEx
Barclays
Microsoft
Norfolk Southern
Northrop Grumman
Toyota
Coca-Cola

Absa Group	Exelon Corporation	NRG Energy Inc
Aimia Inc.	FedEx Corporation	Olam International
Allianz SE	General Motors Company	Old Mutual plc
Amdocs Ltd	Goldman Sachs Group Inc.	ORIX Corporation
AMP	Google Inc.	Pearson
Astellas Pharma Inc.	Green Mountain Coffee Roasters, Inc.	PG&E Corporation
Atos SE	Groupe Steria	PPR
AU Optronics	H&M Hennes & Mauritz AB	PSA Peugeot Citroen
Australia and New Zealand Banking Group	Hanesbrands Inc.	PUMA SE
Aviva	Hess Corporation	Qantas Airways
Banco Santander Brasil	ING Group	Ricoh Co., Ltd.
Bank of Montreal	Insurance Australia Group	RSA Insurance Group
Barclays	Interface, Inc.	Sanlam
Barlworld	J.B. Hunt Transport Services, Inc.	Schneider Electric
Bombardier Inc.	JPMorgan Chase & Co.	SGS SA
British American Tobacco	Kering	Skandinaviska Enskilda Banken AB (SEB AB)
British Sky Broadcasting	Kohl's Corporation	Societe Generale
Cap Gemini	Lenovo Group	Sony Corporation
Capital One Financial	Macquarie Group	State Street Corporation
Catlin Group Ltd	Marks and Spencer Group plc	Swiss Re
Clorox Company	Microsoft Corporation	TD Bank Group
Commerzbank AG	Mitsubishi Heavy Industries, Ltd.	Telstra Corporation
Compagnie Financière Richemont SA	Mitsubishi UFJ Financial Group, Inc.	The Coca-Cola Company
Coop Genossenschaft	Munich Re	Toyota Motor Corporation
Credit Suisse	National Australia Bank	TransAlta Corporation
Daiichi Sankyo Co., Ltd.	Natura Cosméticos S.A.	TUI
Danone	Nedbank Limited	UBS
Danske Bank A/S	News Corporation	UniCredit
Delta Air Lines	NKSJ Holdings, Inc.	UPS
Deutsche Bank AG	Noble Group	VF Corporation
Deutsche Post AG	Norfolk Southern Corp.	Walt Disney Company
Deutsche Telekom AG	Northrop Grumman Corp	Westpac Banking Corporation
Entergy Corporation	Novartis	WPP Group
Estee Lauder Companies Inc.		



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Project Sites

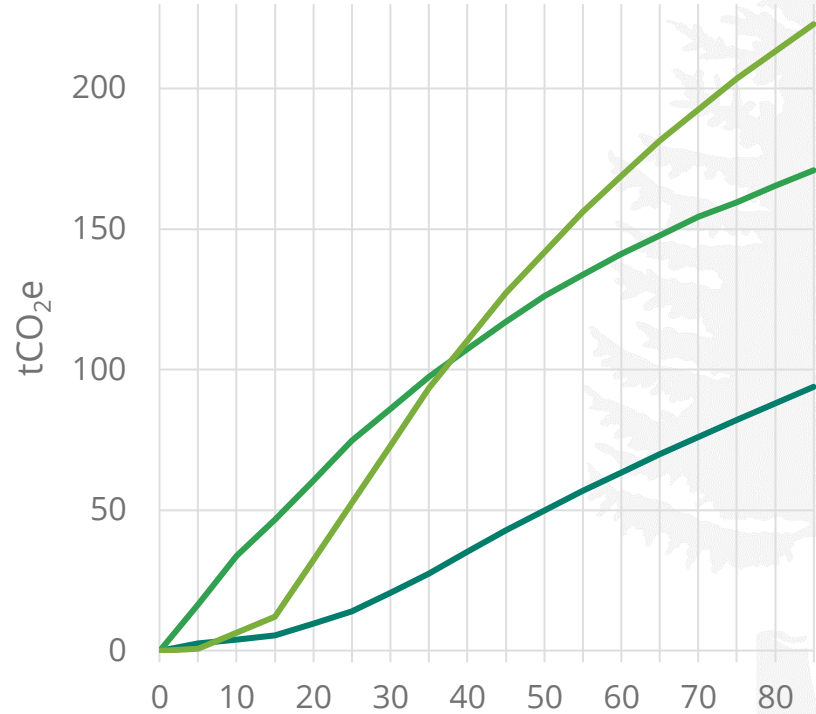
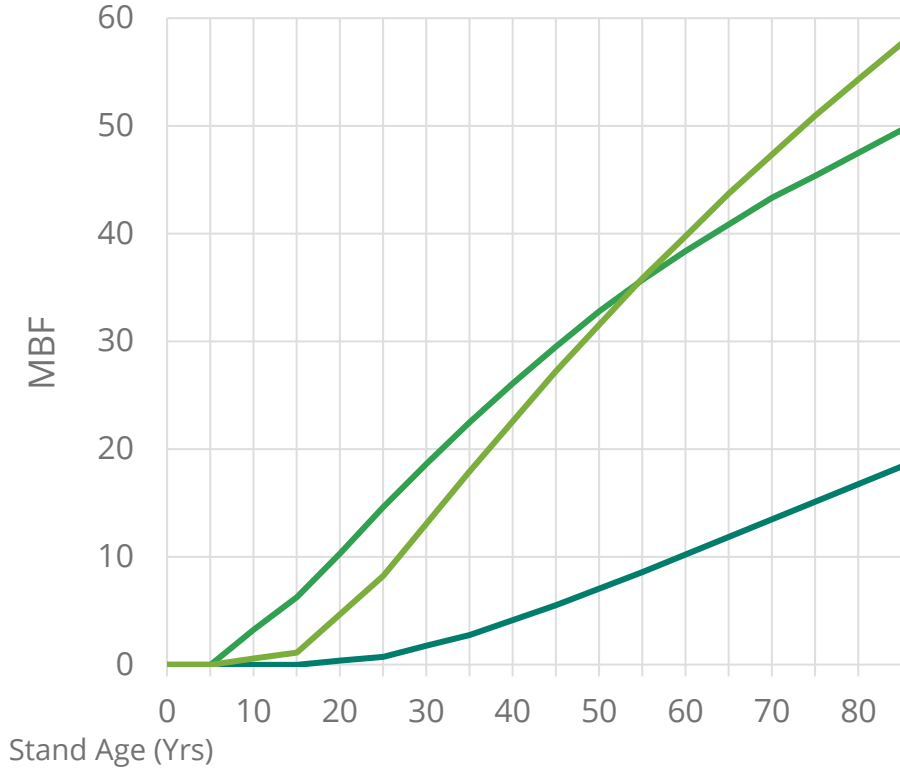


CWSF
COUNCIL OF WESTERN
STATE FORESTERS



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Volume Growth

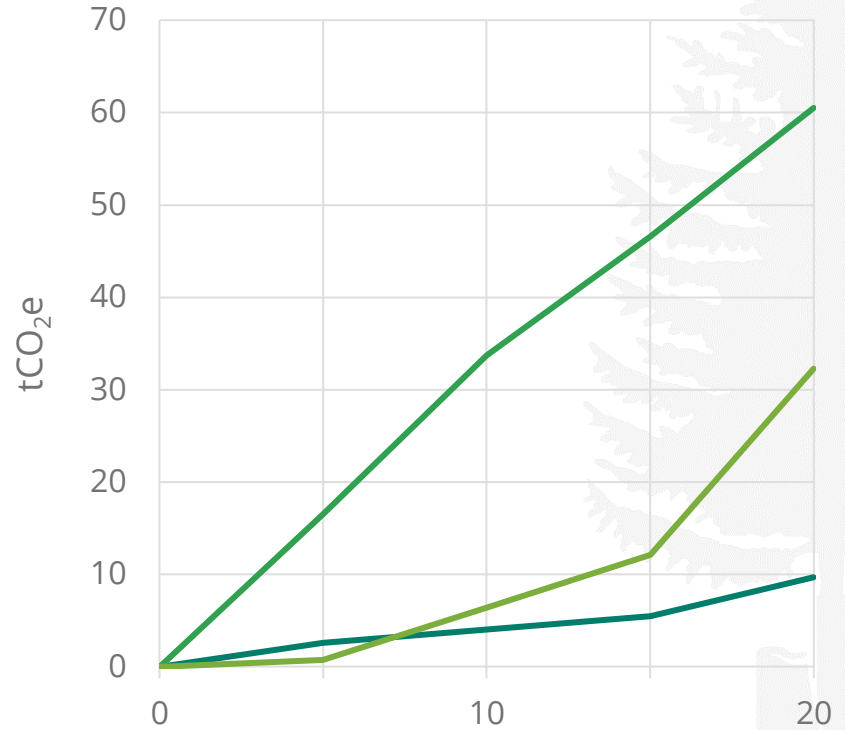
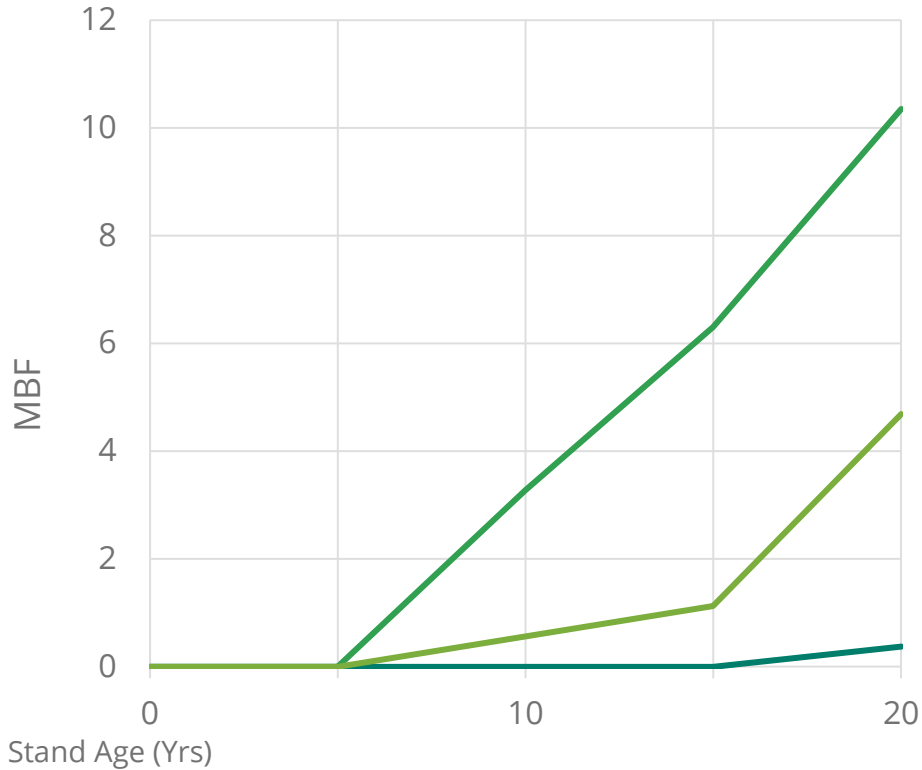


— Rocky Mountain Ponderosa — Southeast Loblolly — Northern Jack

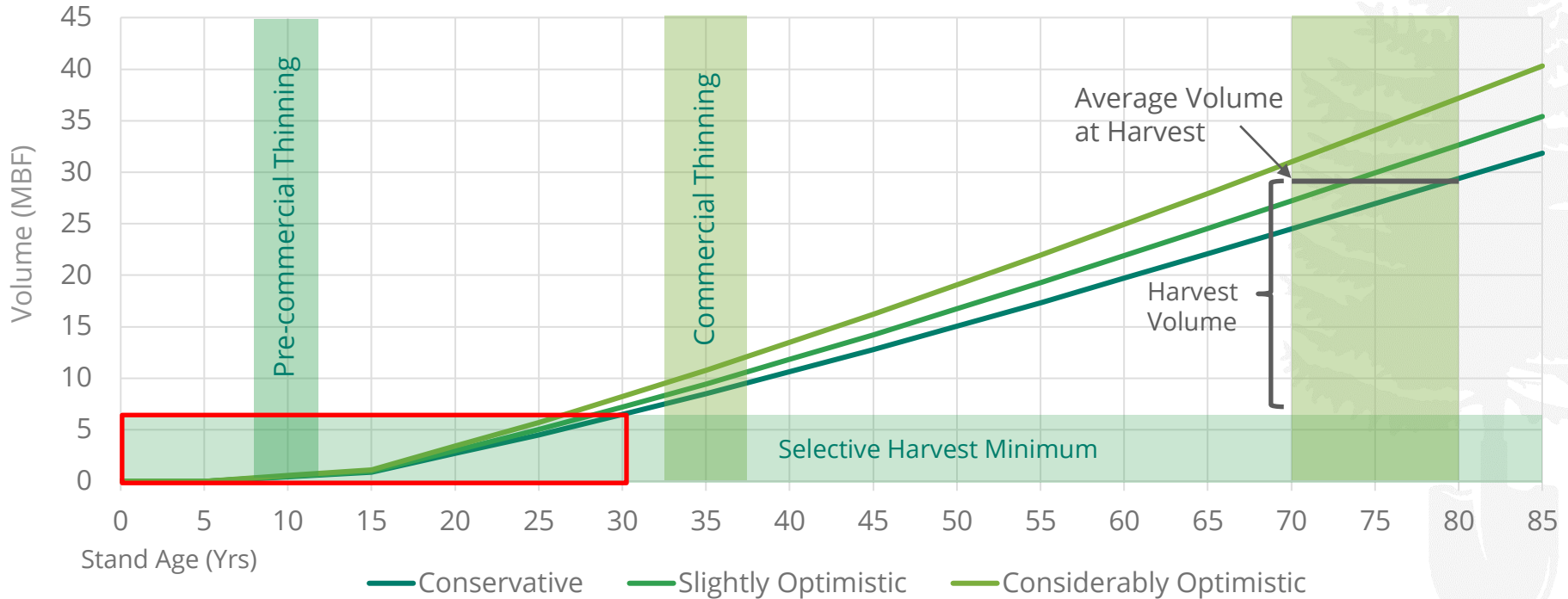


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Volume Growth

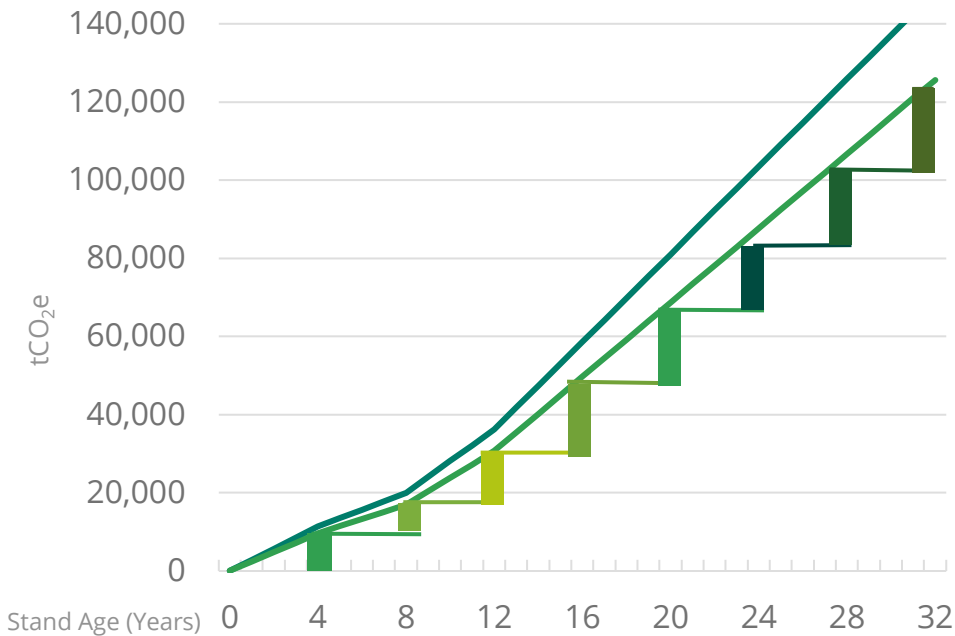


— Rocky Mountain Ponderosa — Southeast Loblolly — Northern Jack





Total Carbon Sequestered



Carbon Offset Sale Value

