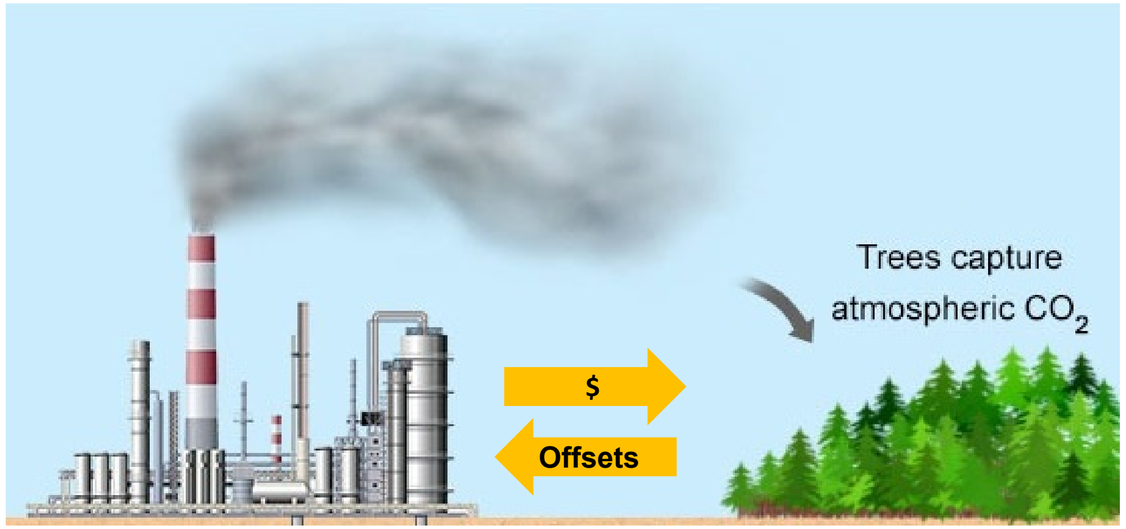
What Are Forest Carbon Offsets?

- Forests across the US sequester substantial amounts of CO2
- By maintaining or increasing forest stocking, forest landowners can generate units of CO2 emissions reductions (“Carbon Offsets”)
- Companies wishing to combat climate change are willing to pay forest owners for these Carbon Offsets, thereby claiming credit for reducing CO2 emissions and mitigating some of the effects of climate change



Markets and Pricing

Past and Current Market Pricing

- 2015 Pricing on the compliance market was around $9.50/ton
- Late 2018 pricing on the compliance market is over $13.00/ton
- Voluntary market pricing is over $9.00/ton

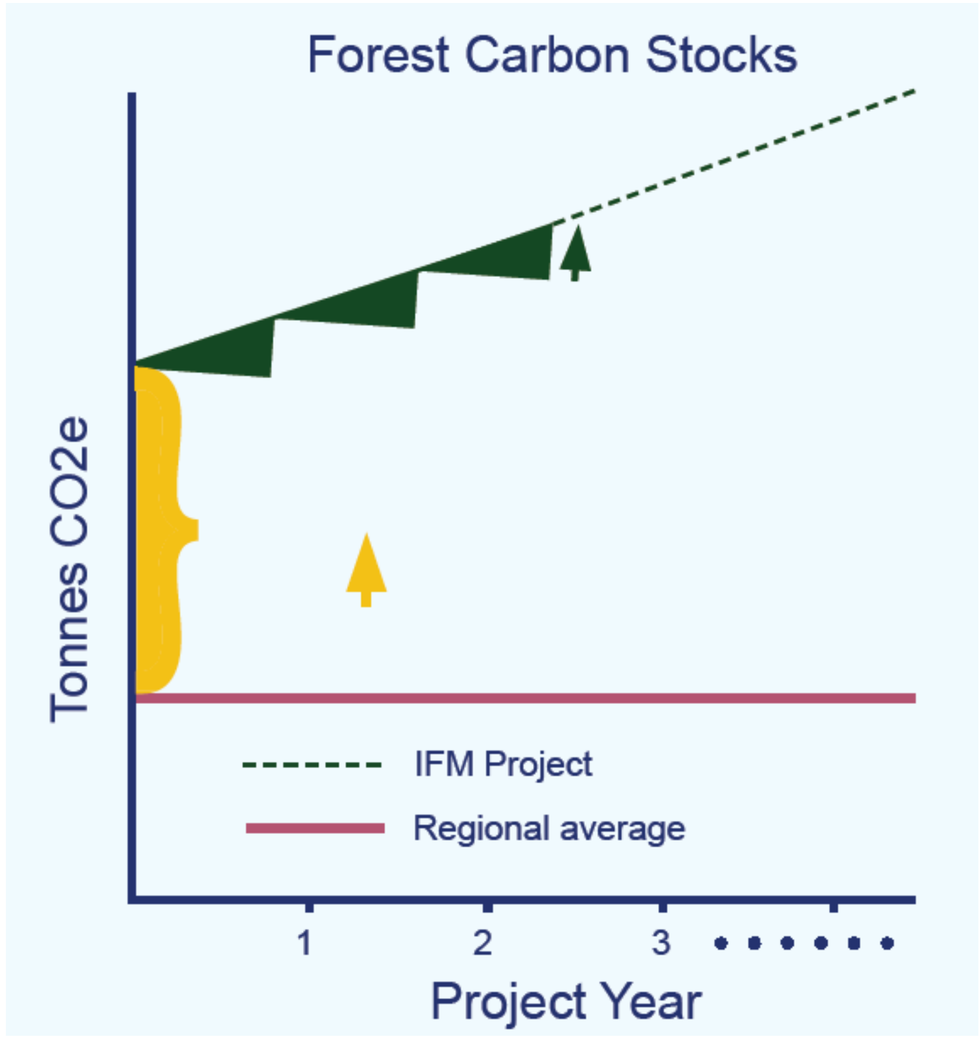
Economic Impact for Alaska

- Over $120 million in credits already sold
- Over $150 million more under development
- Over a dozen separate projects

Outlook for Alaska

- Projects continue to be developed into 2019
- Projects outside of California will be limited after 2021
- Currently the compliance program (market) extended until 2030
- Central and Western Alaska not yet included in Compliance Market

IFM Project Mechanics



Calculating Carbon in Alaska

Rough Conversion Factors for SE Alaska

- 1 sqft basal area/ acre = ~1 metric ton of carbon per acre
- Divide gross board feet per acre by 75 to approximate metric tons of carbon per acre

(12,000 bf/acre) / **75** = 160 tons of carbon per acre

Supersection	Assessment Area	Associated Species	Site Class	Basal Area (Sq Ft / acre)	Common Practice - Above Ground Carbon Mean (mtCO2e / acre)
Southeast and South Central Alaska	Alaska Range Transition	Sitka spruce, White spruce, Black spruce, Cottonwood, Aspen, Paper birch	All	55.12	37.14
	Kodiak Island and Alexander Archipelago	AK Yellow-cedar, Cottonwood, Lodgepole Pine, Mountain hemlock, Paper birch, Red Alder, Sitka spruce, Western hemlock, Western red cedar	All	124.47	120.22
	Mountains, Chugach-St. Elias Mountains and Gulf of	Cottonwood, Mountain hemlock, Paper birch, Sitka spruce, Westen hemlock, White spruce,	All	104.00	84.90

Field Inventory in Alaska

Impacts On Management

Management Restrictions In Years Where Credits Are Generated

- Must maintain certification (FSC, SFI, ATFS) *or* have State/Fed/BIA approved forest management plan *or* no harvesting on an area greater than 12 contiguous acres
- Harvesting should not exceed growth in any year
- No even aged harvests on contiguous areas greater than 40 acres
- No use of broadcast fertilizer

Long Term Management Obligations

- For the life of the project, forest stocking should not drop below the level for which carbon credits have been generated

Landowner Obligations

A compliance project must be maintained for **100 years** following final credit issuance

Monitoring

- A complete forest inventory must be updated at least every 12 years
- Monitoring documentation must be updated annually to account for harvesting, growth, or significant damage from natural disasters

Auditing

- A full verification with a site visit component must be undertaken every 6 years

Thank You

Special Thanks to Bluesource for sharing educational materials and slides