

# Bluesource

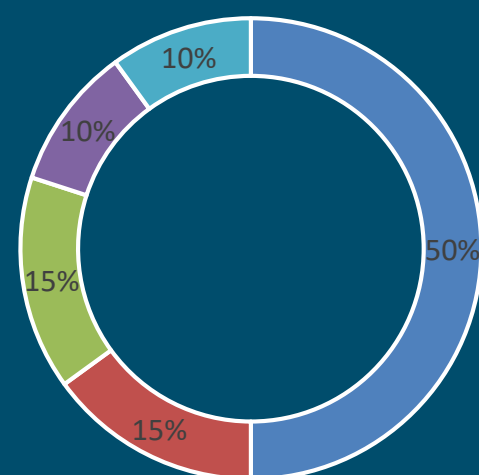
**SOCWG Meeting  
April 6<sup>th</sup>, 2017**



# Carbon Offset Development and Marketing

- ✓ Over 200 carbon offset projects developed
- ✓ Offsets sold for 30 million tonnes CO<sub>2</sub>e reduced
- ✓ 20 Project types
- ✓ Oldest and largest carbon offset developer in the N.America

Project Type



□ Forestry □ ODS □ Biomass □ Energy Efficiency □ Other

## Services:

- ✓ Carbon opportunity assessment
- ✓ Feasibility confirmation
- ✓ GHG Inventory development
- ✓ Carbon growth and yield modeling
- ✓ Project design & documentation
- ✓ 3<sup>rd</sup> party verification
- ✓ Public registration
- ✓ Credit marketing, sales & contracting
- ✓ Continual Project support



# Forest Carbon

- ✓ **Only successful developer of both Improved Forest Management and Avoided Conversion projects**
- ✓ **Forestry Team: 10 person team includes in-house finance, marketing and legal experts plus 4 professional foresters with unparalleled forest carbon experience**
- ✓ **Forestry Projects: 11 projects completed – credits successfully verified, issued, sold and revenue delivered to landowners**
- ✓ **Contracted for sale of nearly 3,000,000 tons of forestry credits, valued at over \$25,000,000**

## Forest Owner Partners:

- ✓ **Forestland Group**
- ✓ **Campbell Global**
- ✓ **Forest Investment Associates**
- ✓ **The Nature Conservancy**
- ✓ **Audubon Society**



# Improved Forest Management

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## Recognized activities in California protocol

- ✓ Increasing the overall age of the forest by increasing rotation ages;
- ✓ Increasing the forest productivity by thinning diseased and suppressed trees;
- ✓ Managing competing brush and short-lived forest species;
- ✓ Increasing the stocking of trees on understocked areas; and/or
- ✓ Maintaining stocks at a high level.





# GHG Reductions from IFM

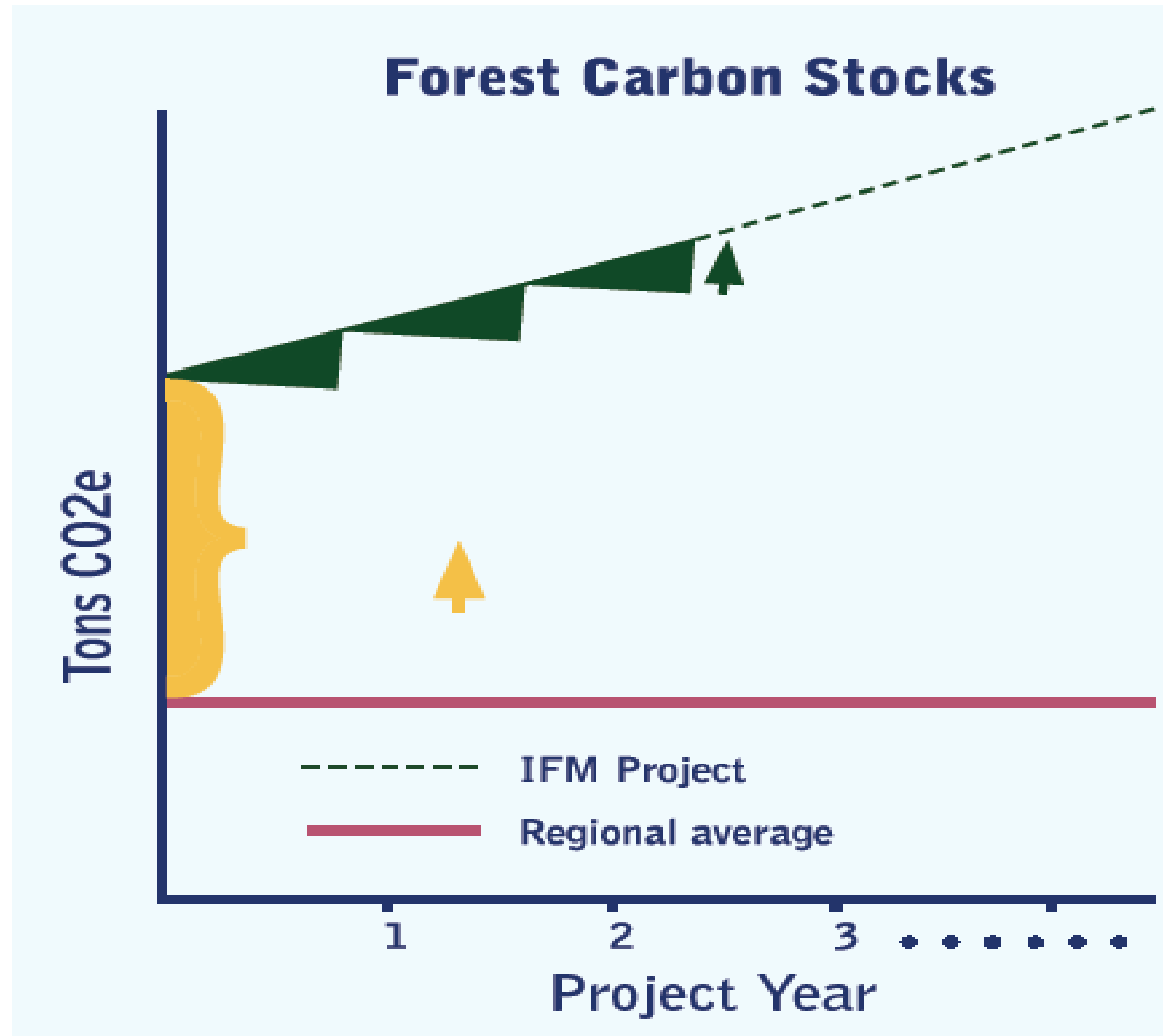
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In conjunction with modeling baseline onsite carbon stocks described in subchapter 5.2.1 for projects on private land or subchapter 5.2.2 for projects on public land:

- ✓ Forecast the harvesting of trees from within the project area that would have occurred in the baseline;
- ✓ Derive the standing live tree carbon stocks and standing dead tree carbon stocks from the growth and harvesting model, which would have been harvested in each reporting period of the 100 year baseline for the purpose of producing wood products; trees of noncommercial sizes and species are excluded;
- ✓ Calculate the average annual amount of carbon that would have been harvested in the baseline.
- ✓ On an annual basis, determine the amount of carbon in standing live and standing dead trees (bole only, excluding bark) that would have been harvested during the reporting period for the purpose of producing wood products and would have remained stored in wood products over 100 years, following the requirements and methods in appendix C; trees of noncommercial sizes and species are excluded.



# Improved Forest Management



	Pacific Northwest Fir	Northern Mixed Hardwood	Southern Pine
Credits at project initiation	190,000	120,000	115,000
▲ Revenue at project initiation	\$1.9	\$1.2	\$1.2
Annual credit generation from continued CO <sub>2</sub> stock accumulation	8,000	5,000	7,000
▲ Gross revenue in first project decade	\$2.7	\$1.7	\$1.9
Gross revenue per acre in first project decade	\$270	\$170	\$185

## Assumes:

- 4,000 Ha
- Carbon stocks 20% over average stock

- 50% annual growth harvested
- \$10/ton carbon price
- 10 year crediting (25-100 year possible)



# Improved Forest Management

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## Eligibility Requirements in California Protocol

- ✓ May be situated on either private or public lands, excluding federal lands that are not included in listed categories;
- ✓ Must be situated on land that has greater than 10 percent tree canopy cover;
- ✓ May define geographic boundaries such that non-forested areas or areas not under forest management are excluded from the project area;
- ✓ Can be contiguous or separated into tracts;
- ✓ May extend across multiple assessment areas within an ecosection or supersection, but may not extend across more than two adjacent ecosections or supersections as identified in the supersection maps available from the Forest Offset Protocol Resources section of ARB's website.
- ✓ Native species requirement.



# Improved Forest Management

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## Commitments

- ✓ Sustainable harvesting (FSC/SFI/Tree Farm, <40ac clear-cuts)
- ✓ ~100 year measurement, verification, reversal commitment
- ✓ Resample every 12 years, verify every 6 years, model and report annually
- ✓ Compensate for intentional reversals (i.e. harvests), not unintentional (e.g. fires)
- ✓ Similar to a conservation easement with a termination option.
- ✓ Can subdivide and sell, but commitment transfers w/ownership
- ✓ Can exit at any time if pay back all credits issued (+penalty in some cases)
- ✓ Endowment may be set aside in first years to cover 100-year expenses





# Project Timelines

Stage	Pre-Contract	Months (After BlueSource Contracted)												Contract Term	
		1	2	3	4	5	6	7	8	9	10	11	12		
1 Feasibility Assessment (eligibility, volume)	BlueSource, Other	BlueSource													
Legal (AC Only)	Other	Other	Other												
Appraisal (AC Only)	Other	Other													
2 Forest Carbon Inventory		BlueSource													
Inventory Methodology and Design		BlueSource													
Inventory Sampling / Field Work			Consulting/In-House Foresters												
3 Calculation of Carbon Benefits		BlueSource													
Project Growth & Yield models		BlueSource													
Baseline Scenario Harvest Model (legal, economic)			Consulting/In-House Foresters	BlueSource	BlueSource										
Conversion of "Gross" to "Net" Carbon Benefits (credits)				BlueSource	BlueSource										
Inventory confidence															
Leakage															
Wood products															
Reversal risk, e.g. fire, wind															
4 Project Design and Documentation		BlueSource	BlueSource	BlueSource	BlueSource	BlueSource									
5 Third-party Verification															
Full (Site) Verification								Other	Other	Other	Other				
Desk Verification													Other	Other	Other
6 Registration												Other	Other	Other	Other
7 Marketing, Sales, Contracting		BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource	BlueSource
8 Ongoing Monitoring, Reporting, Verification, Inventory															Other
9 Project Finance															Other

BlueSource  
 Owner  
 Consulting/In-House Foresters  
 Other (Lawyers, Appraisers, Verifiers, Registries)



# Bluesource Project Partnership Model

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**Our model gives landowners full participation in carbon market upside without upfront time, cost, risk.**



## Net-back model

- Developed and proven across industries and decades
- Blue Source takes responsibility for all upfront costs, risks, effort
- Share net revenues with owner
- We are not rewarded unless/until landowner is rewarded
- Skin in game
  - Not a “buy-low/sell high” model
  - Not a “first-out” model

## Benefits

- Minimizes landowner time, expense, risk in unknown market
- Concentrates risk where it belongs (Blue Source)
- Maintains landowner participation in market upside
- Full alignment of incentives (high volume, low cost, high price)
- Eliminates need for expensive sales contracting



# GHG Reductions from Avoided Conversion

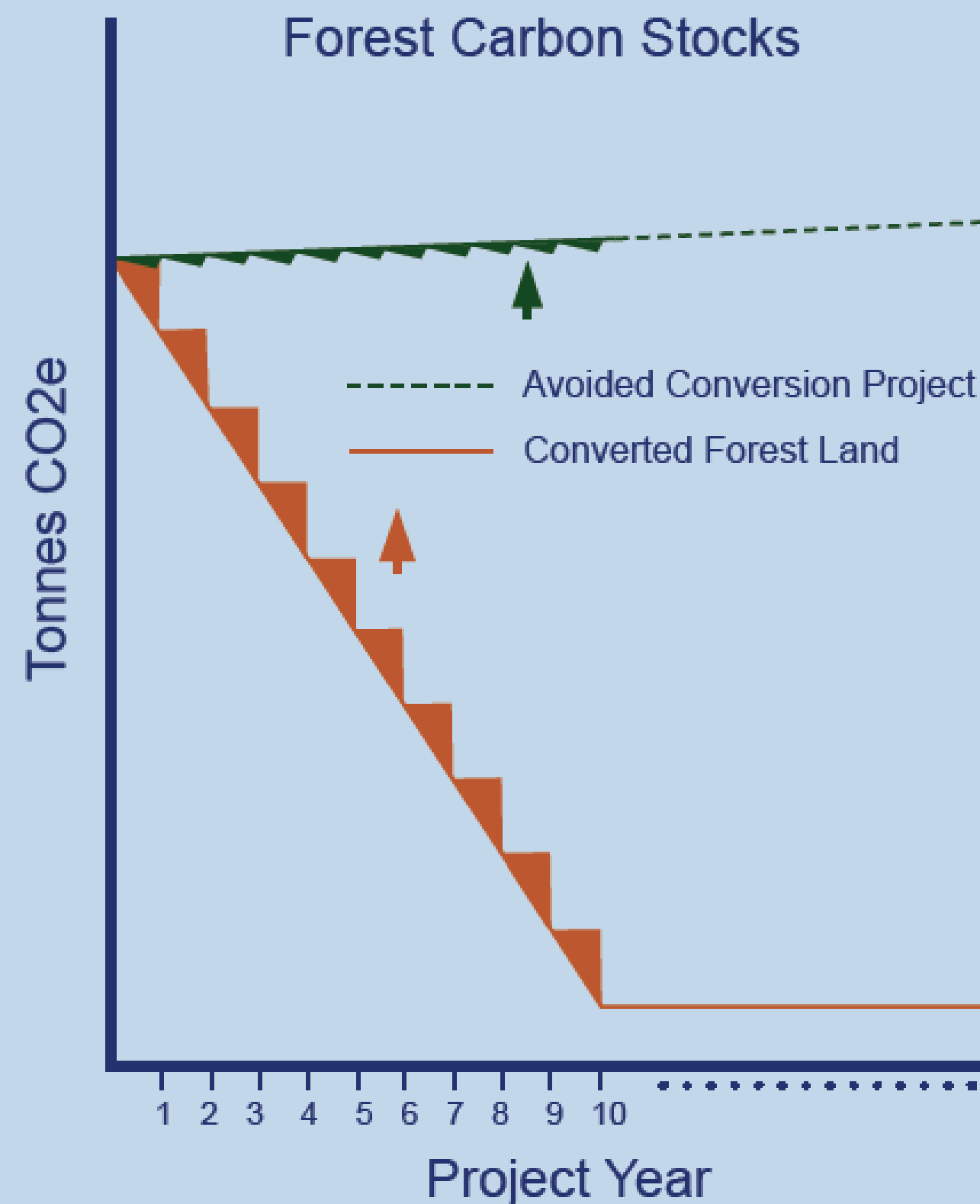
## Generating Carbon Offset Credits through Avoided Conversion (AC) Projects

AC projects reward landowners for preventing the conversion of forestland to non-forest uses, thereby avoiding the emission of carbon sequestered in forest materials. While an easement dedicating AC lands to continuous forest cover is required, forests participating in AC can continue to manage and harvest timber.

AC project carbon credits are generated in two ways:

AC projects assume project land will be converted to non-forest use within one decade of the project start date. Therefore, projects are annually awarded 1/10th of the total credits generated by conversion avoidance for the first ten project years.



Projects also generate credits by increasing onsite and wood product carbon stocks above the levels present at project initiation. Credits generated in this manner continue to accumulate throughout the life of the project.



# GHG Reductions from Avoided Conversion

While stocking around the country varies greatly, all forest types can offer attractive AC opportunities.

The table displays the 10 year volume and revenue potential for an AC project assuming 100% conversion of 2,500 forest acres, stocks 20% over common practice, 50% of annual forest growth harvested every year, and a carbon credit price of \$10 per tonne.

	Pacific Northwest Fir	Northern Mixed Hardwood	Southern Pine
 Annual Credits from conversion avoidance in first decade	28,000	18,000	16,000
 Annual credit generation from continued CO2 stock accumulation	2,200	1,400	2,800
Gross revenue in first project decade (\$ millions)	\$3.0	\$1.9	\$1.9



# Contact Information

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