



CLIMATE  
ACTION  
RESERVE

# Biochar Protocol v1.0

*Baseline Setting*

Workgroup Meeting 3  
December 6, 2022

# Housekeeping

- Workgroup members have the opportunity to actively participate throughout the meeting
  - Ask that you keep yourselves muted unless / until you would like to speak
- We will ask and take questions throughout the session
- All other attendees/observers are in listen-only mode
- Observers are free to submit questions in the Zoom Q&A dialog
- We will follow up via email to answer any questions not addressed during the meeting
- The slides and a recording of the presentation will be posted online

# Purpose

- Solicit feedback on the proposed approach for baseline setting

## **Reserve Staff:**

- Jon Remucal, Associate Director of Nature-Based Solutions
  - Protocol development lead
- Holly Davison, Associate Director of Programs & Marissa Spence, Forestry Manager
  - Protocol development support

## **External drafting support:**

- John Nickerson, Dogwood Springs Forestry

# Workgroup Members

Name (alphabetical)	Organization	Name (alphabetical)	Organization
Akio Enders	International Biochar Initiative	Kevin Fingerman	Humboldt State University
Allison Flynn	Arq	Matt Ramlow	World Resources Institute
Bruce Springsteen	Placer County Air Pollution Control District	Melissa Leung	GECA Environment
Daniel Sanchez	University of California - Berkeley	Micah Elias	Blue Forest Conservation / UC - Berkeley
David Morell	Sonoma Ecology Center	Nate Anderson	US Forest Service
Hannes Etter	South Pole Carbon Asset	Patricio Ortiz	ACT Commodities
Jeff Cole	Royal Dutch Shell	Phil Saksa	Blue Forest Conservation
Johannes Lehmann	Cornell University	Rachel Rubin	Woodwell Climate Research Center*
Jonah Levine	Biochar Solutions	Shawn McMahon	Aster Global
Xiaomei Li	Viresco Solutions	Tristan Brown	SUNY College of Environmental Science & Forestry
Josiah Hunt	Pacific Biochar		

# Funding support



## U.S. Forest Service Wood Innovations Program



## CAL FIRE Forest Health Grant

Funding also supporting:

- Companion market analysis by Blue Forest Conservation (with additional funding support from the Doris Duke Charitable Foundation), **now available on the Biochar Protocol webpage**
- Pilot projects to test protocol and demonstrate its viability and versatility



CLIMATE  
ACTION  
RESERVE

# BASELINE SETTING

# What is a baseline?



A counterfactual representation of the GHG emissions and/or removals that would have occurred in the absence of the project.

- Provides basis for comparison of GHG and C outcomes resulting from the project to determine the net climate benefit.
- Involves qualitative characterization and quantitative characterization





# What is a baseline for biochar?

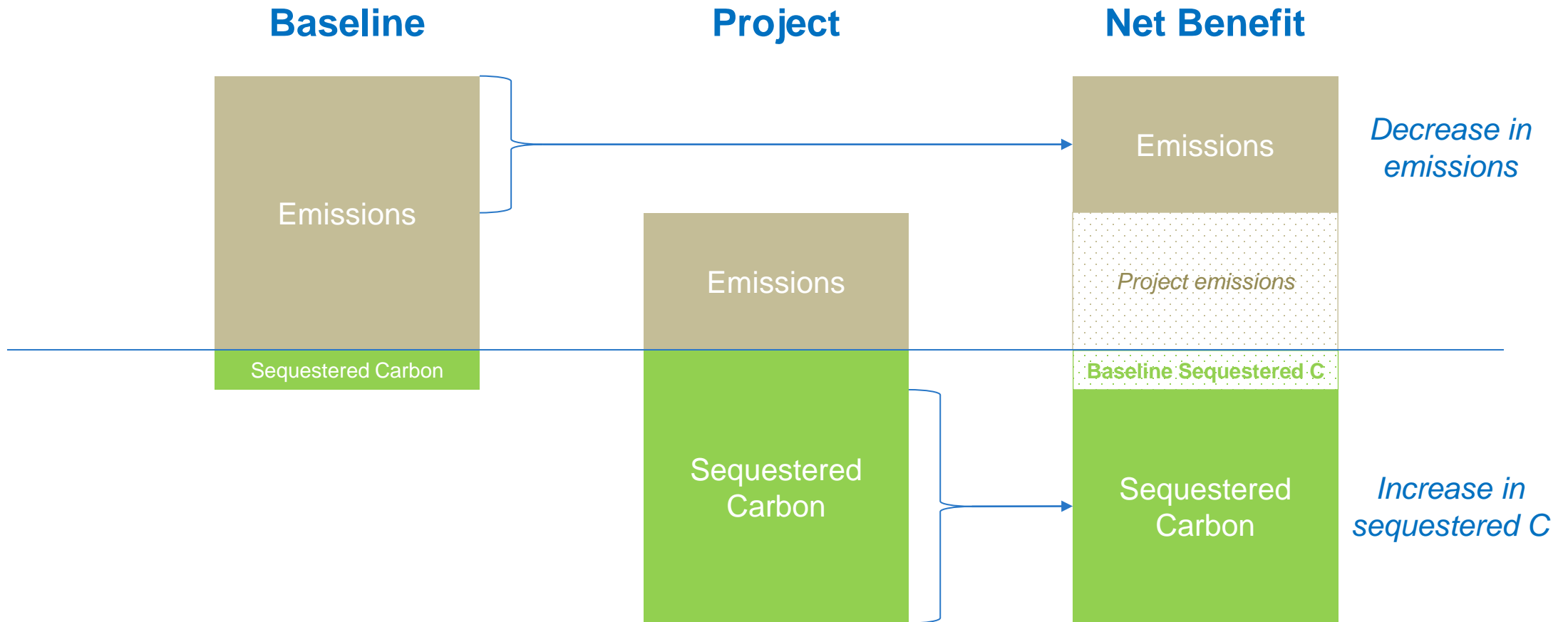
What would have happened to the project's feedstocks if they were not used to produce biochar?

- What is the qualitative characterization of the fate of the feedstock?
- What GHG emissions would have occurred?
- Would some of the C remained sequestered temporarily or permanently?

Primary qualitative distinction based on general feedstock type:

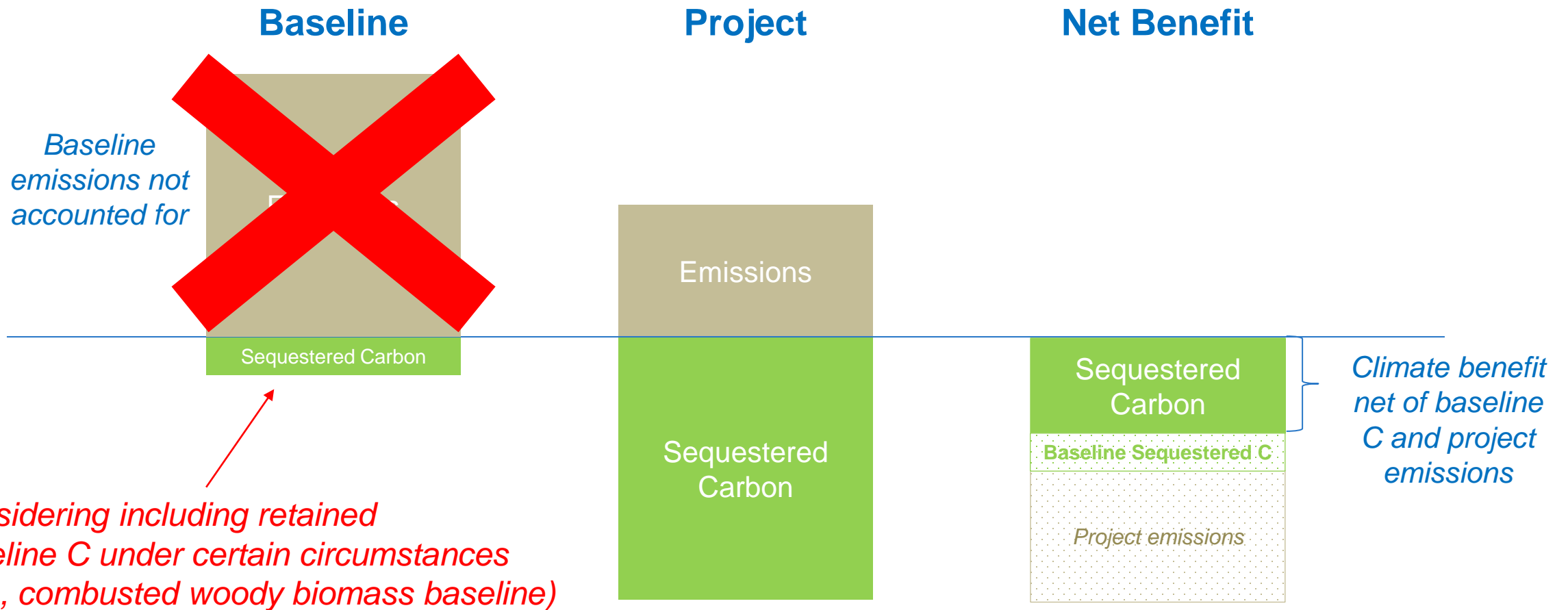
- Waste/by-products
- Purpose-grown (i.e., biomass grown specifically to produce biochar)

# Conceptual Approach to Credit Quantification



Climate benefits derived from decreasing emissions and increasing the amount of C sequestered *relative to the baseline scenario*

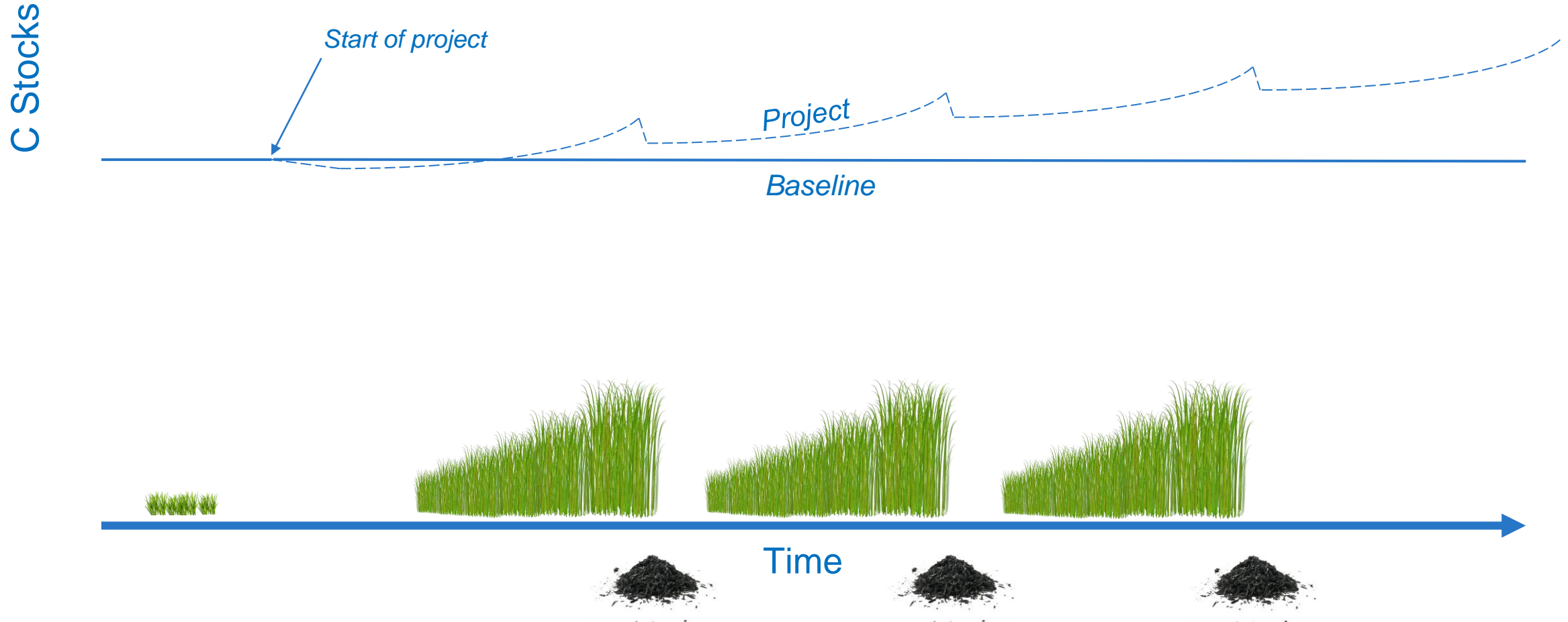
# Zero Emissions Baseline – Waste/By-Products Feedstocks



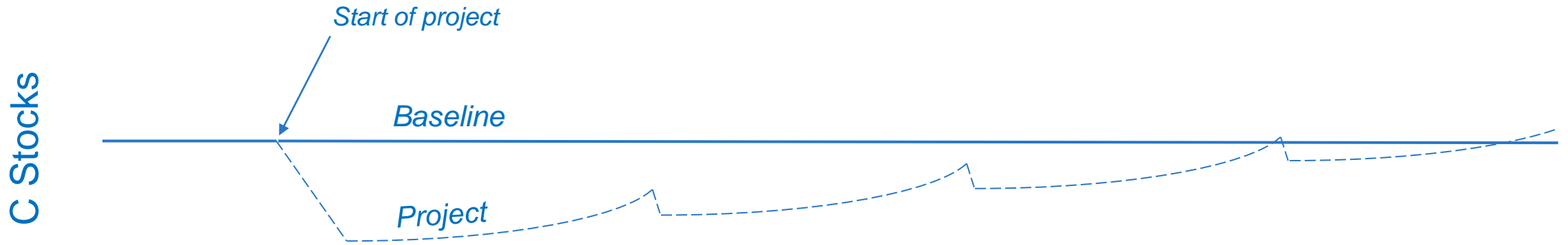
*Considering including retained baseline C under certain circumstances (e.g., combusted woody biomass baseline)*

*Examined temporal aspects of baseline sequestered C (e.g., portion of residual wood in burn pile not combusting but decomposing over time), but decided on simpler approach with a default rate of retention*

# Purpose-Grown Feedstocks



# Purpose-Grown Feedstocks



*Concern is for situations where site with higher C stocking is converted for production of purpose-grown feedstocks*



Time





CLIMATE  
ACTION  
RESERVE

# NEXT STEPS

# Next Steps

- **Email comments/feedback on baselines by December 16**
- Reach out any time to discuss protocol topics or process
- Protocol drafting by Reserve staff – *ongoing*
- *Workgroup Meeting 4 – End use eligibility and permanence – Thursday, December 15, 9:00 am Pacific*

# Key contacts

## **Protocol development lead:**

Jon Remucal, Associate Director of Nature-Based Solutions

[jremucal@climateactionreserve.org](mailto:jremucal@climateactionreserve.org)

## **General inquiries:**

[Policy@climateactionreserve.org](mailto:Policy@climateactionreserve.org)