

Greenhouse Gas Reduction in the Bay Area and Beyond

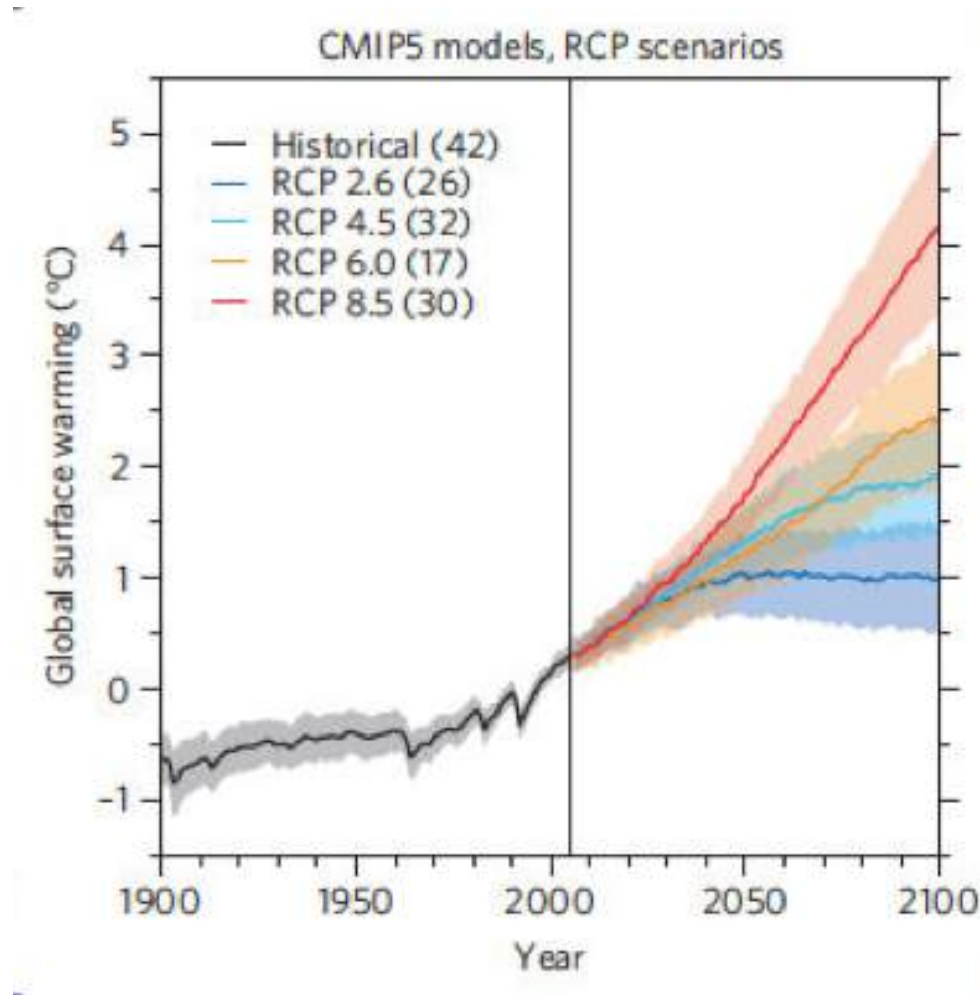


Creating a Climate Smart Bay Area

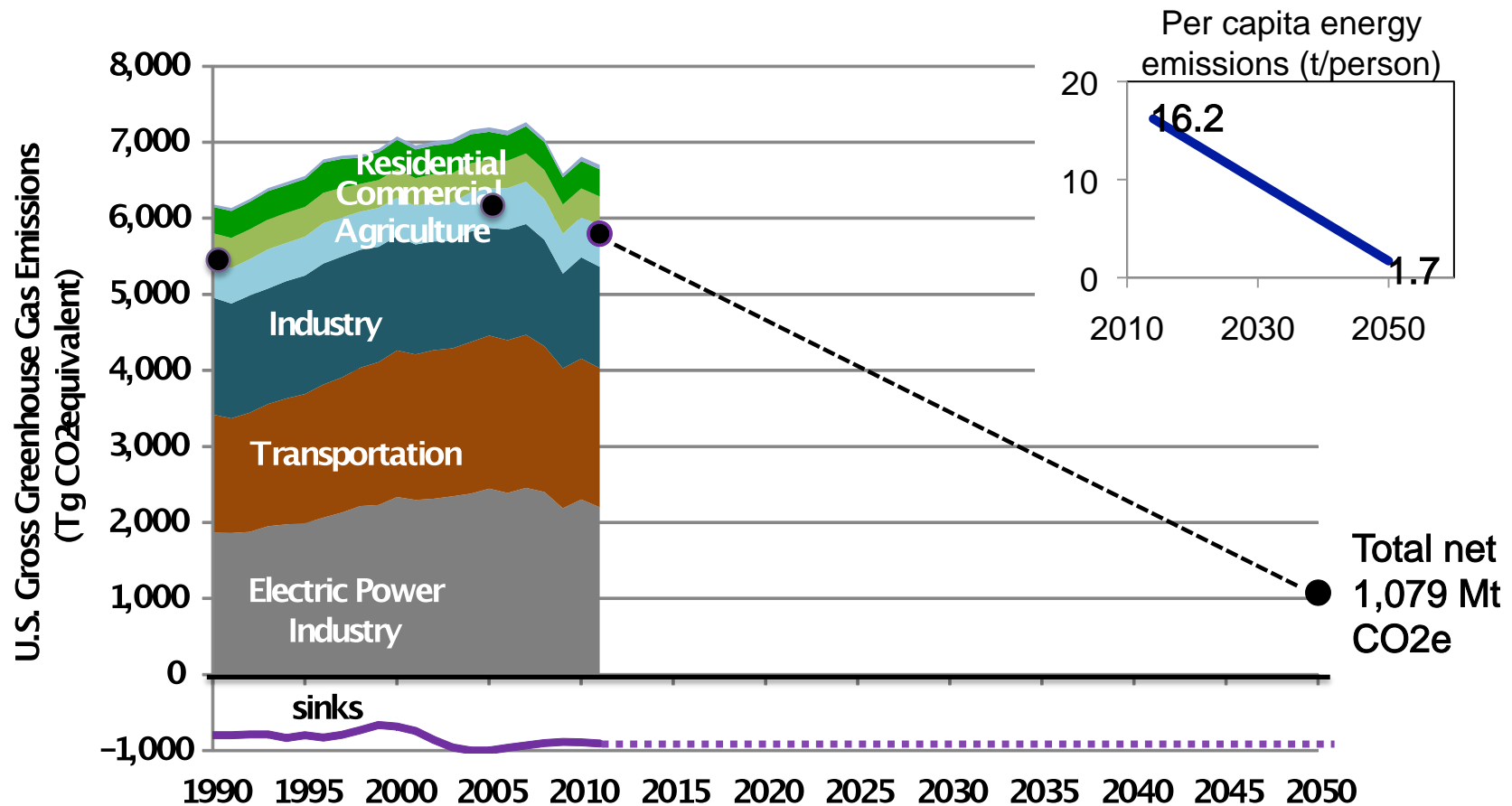
an informational roundtable

Sep 9, 2015

Emissions Today Shape Climate post-2050

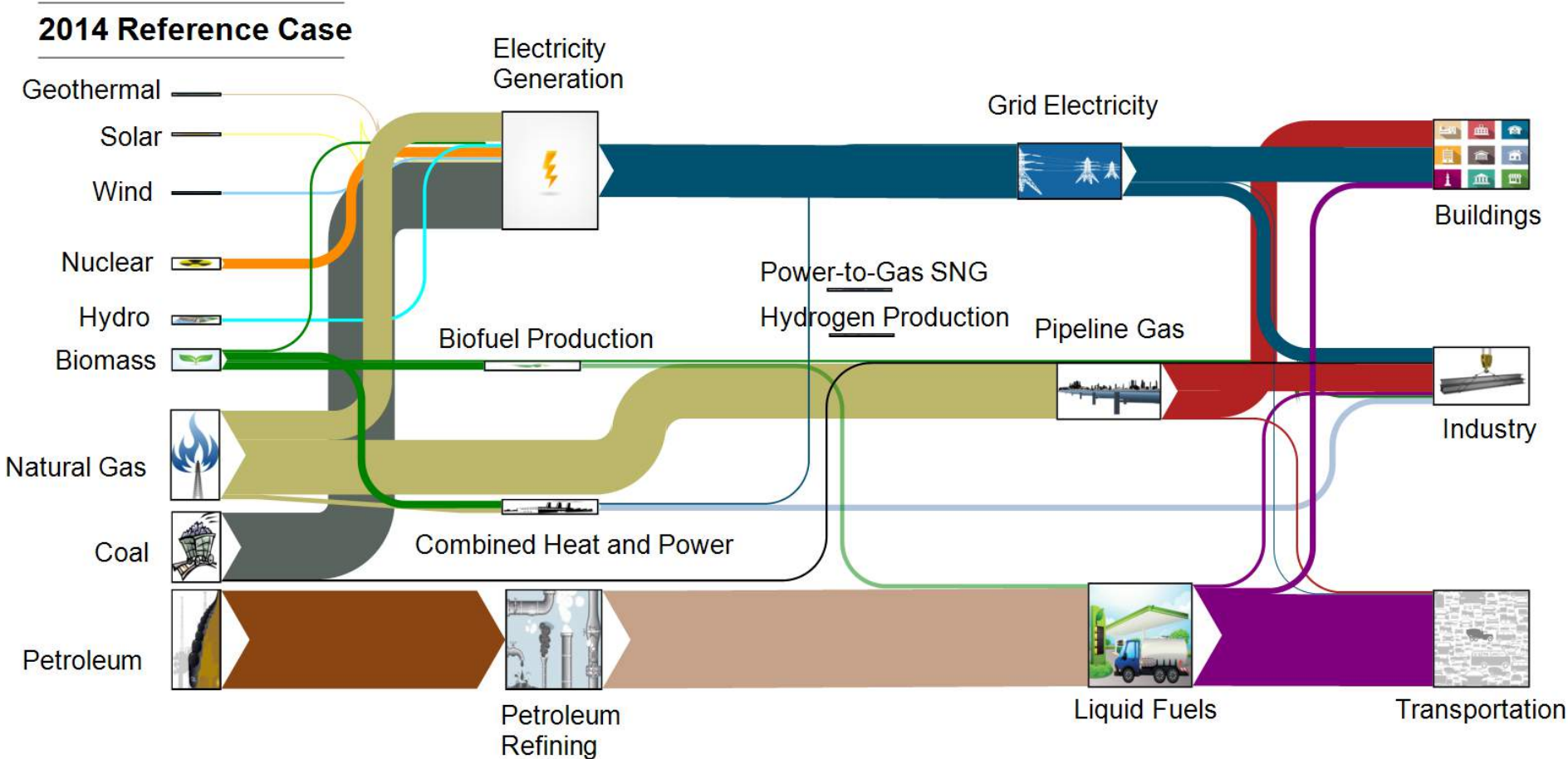


We know it is technologically possible to Deeply Decarbonize

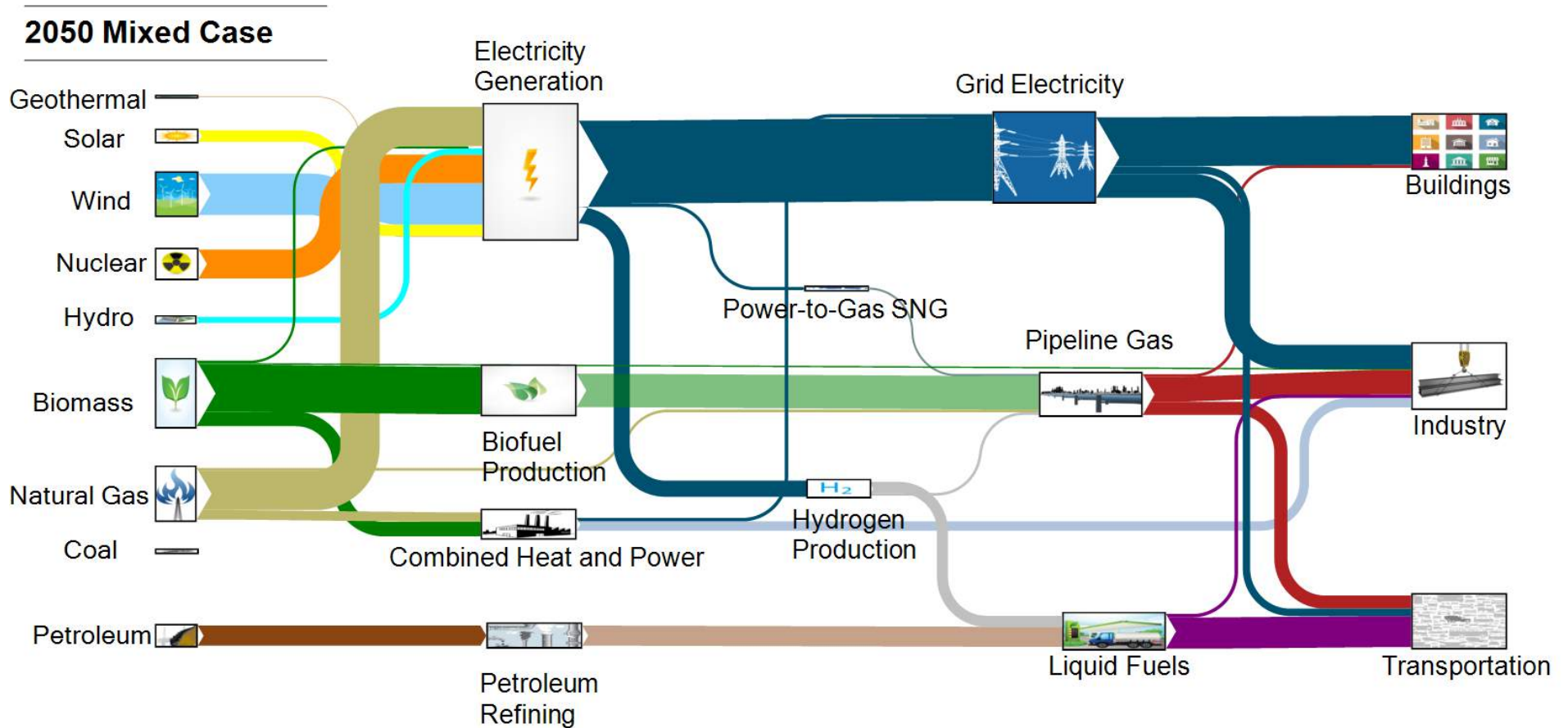


Based on US EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2011, Table 2-2

U.S. energy system in 2014



Decarbonized energy system in 2050



Williams et al., 2014

Pathways to Deep Decarbonization in the United States, Mixed case results

Open Questions for Greenhouse Gas Reduction



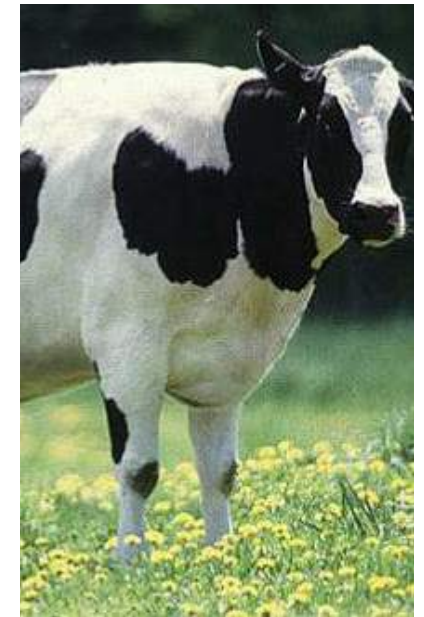
What is the right policy pathway?



What role should regional and local agencies play?

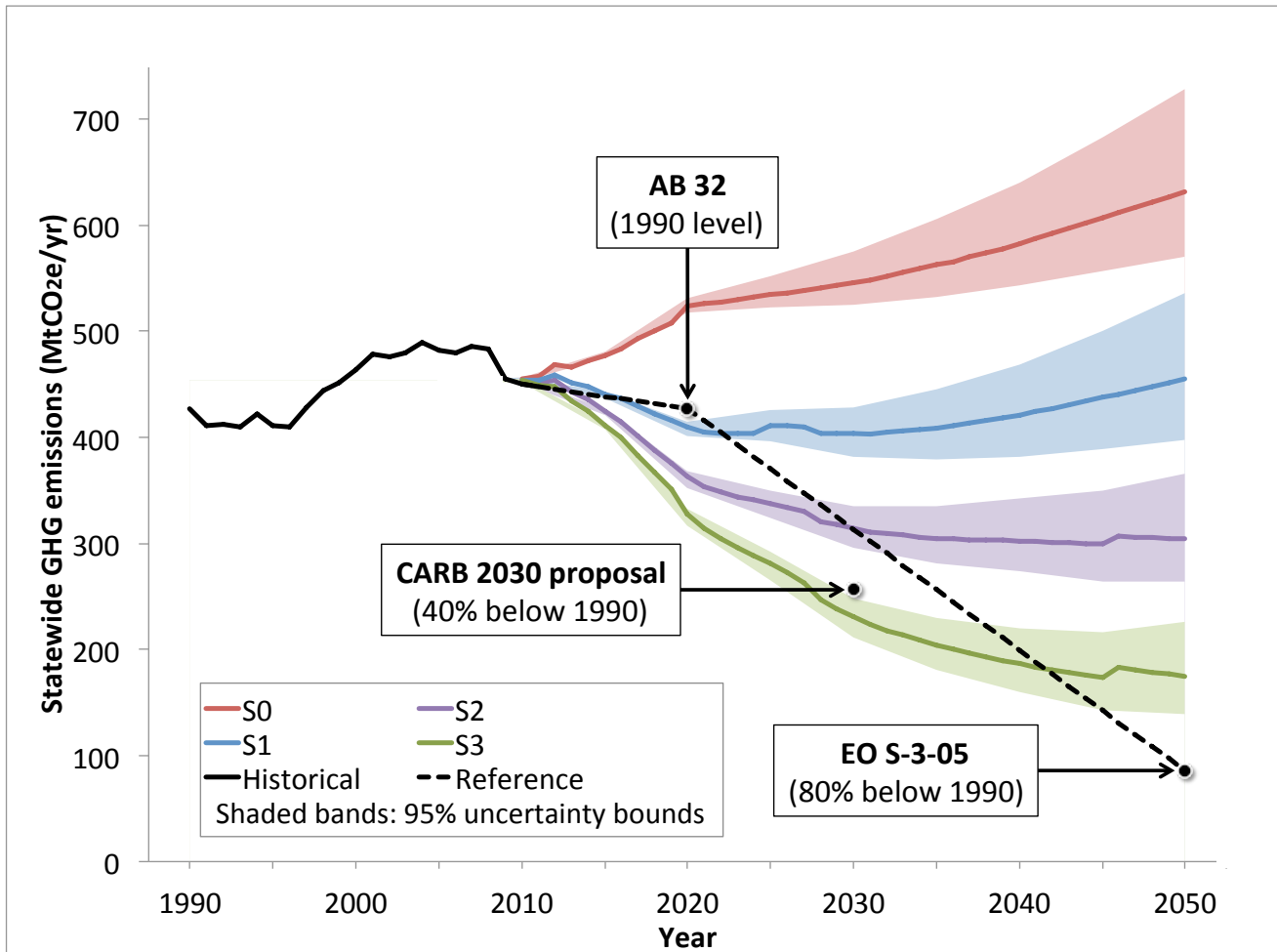


How to simultaneously mitigate and adapt in the energy sector?



How to handle non-energy and non-CO₂ emissions?

How far will existing CA policy get us?



Jeffrey Greenblatt et al.

Needs and Opportunities for Regional Agencies

- Emissions Inventory
 - Modeling and Monitoring
 - Especially methane – when does inventory not match observations?
 - How will state policies affect regional emissions?
- What additional efforts are needed at regional level?
 - Transportation and Land-Use Planning
 - Building Codes
 - Health and Equity Considerations

Transportation is a Key Regional Challenge

Emissions are a function of:

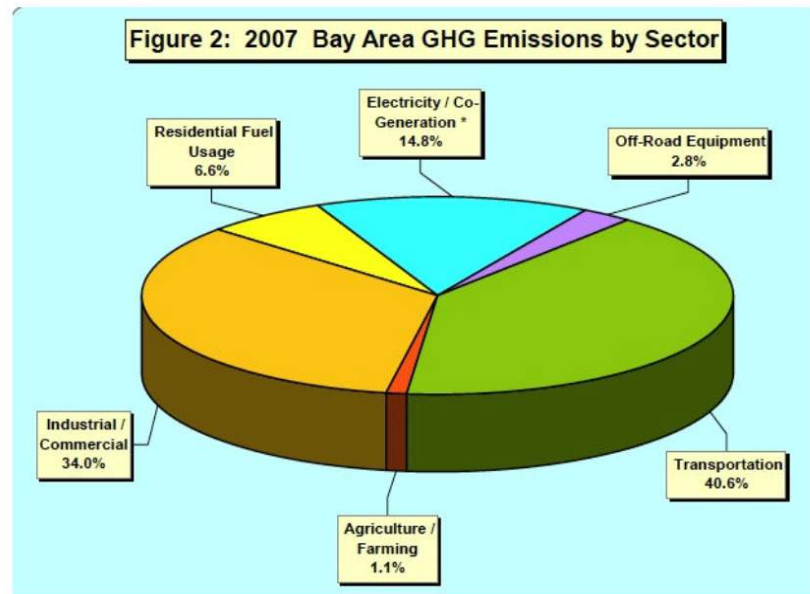
- Land Use
- Transportation Networks
- Vehicle Technology
- Behavior

Opportunity for Collaboration

- Multiple Regional Agencies
- State Agencies
- Transportation Analysts
- Urban Planners
- Public Health



Source: Bay Area Bike Share

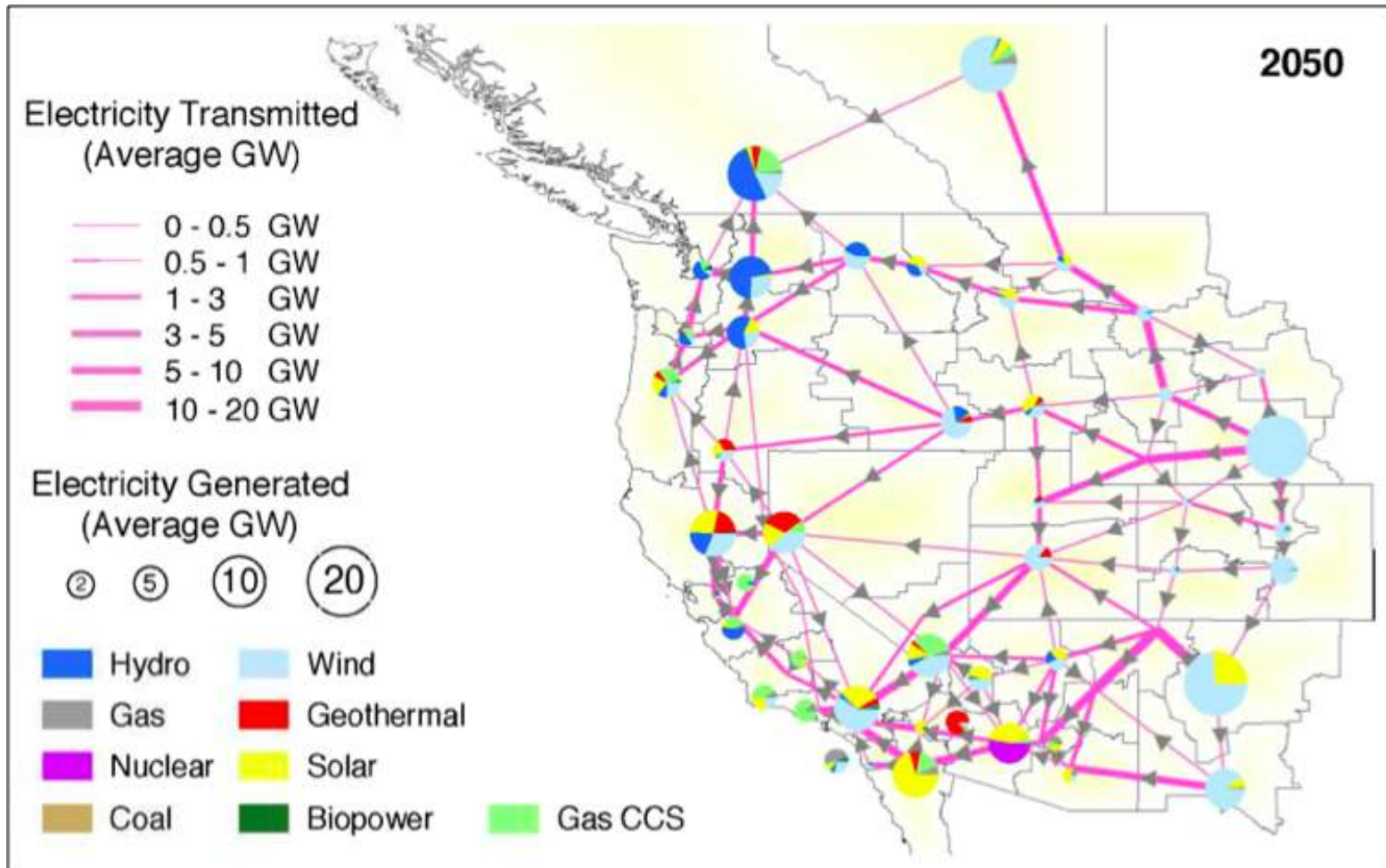


Source: Bay Area Air Quality Management District

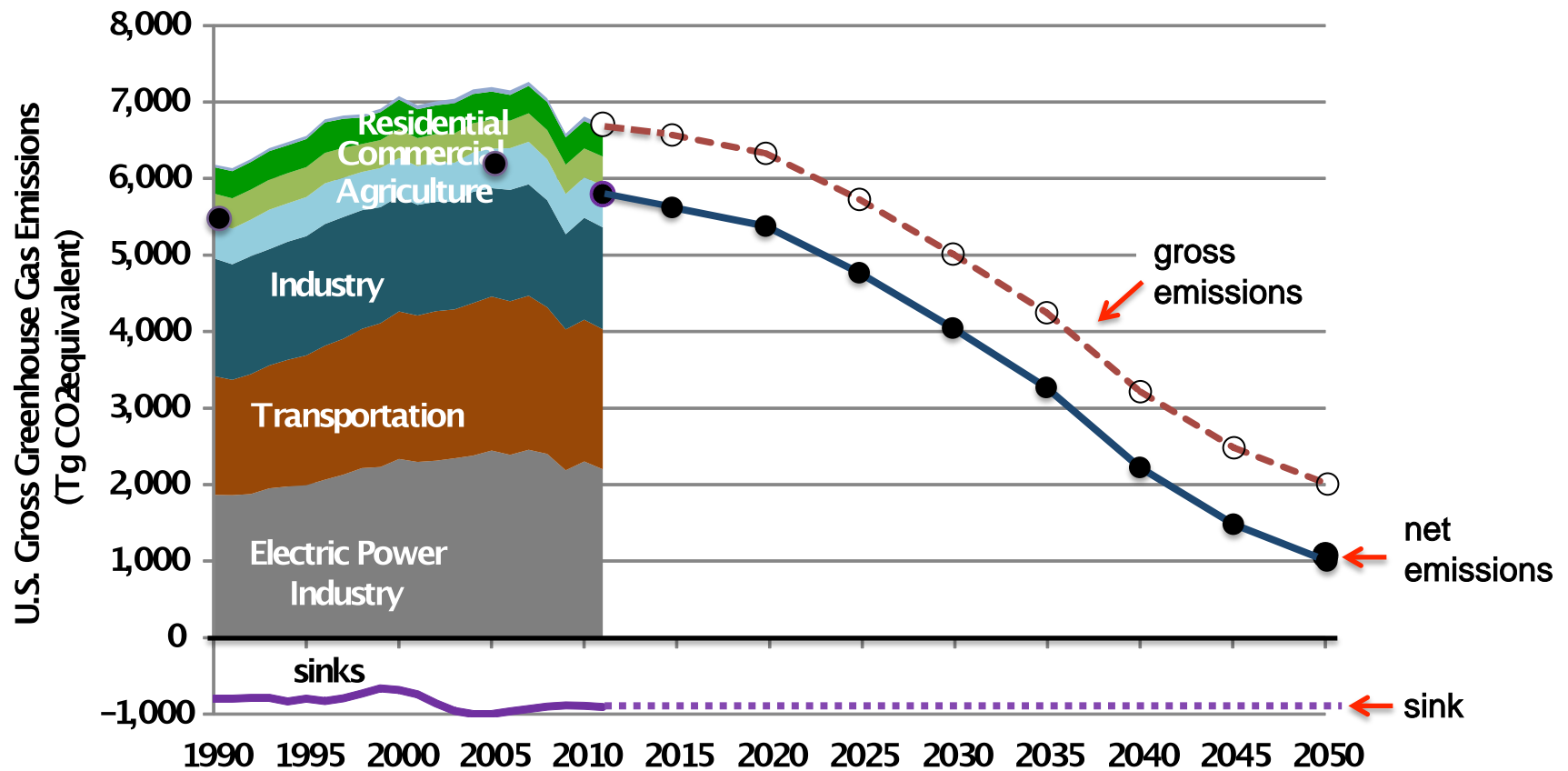


Created by: Brian Stockle

Interactions between Climate Mitigation and Adaptation



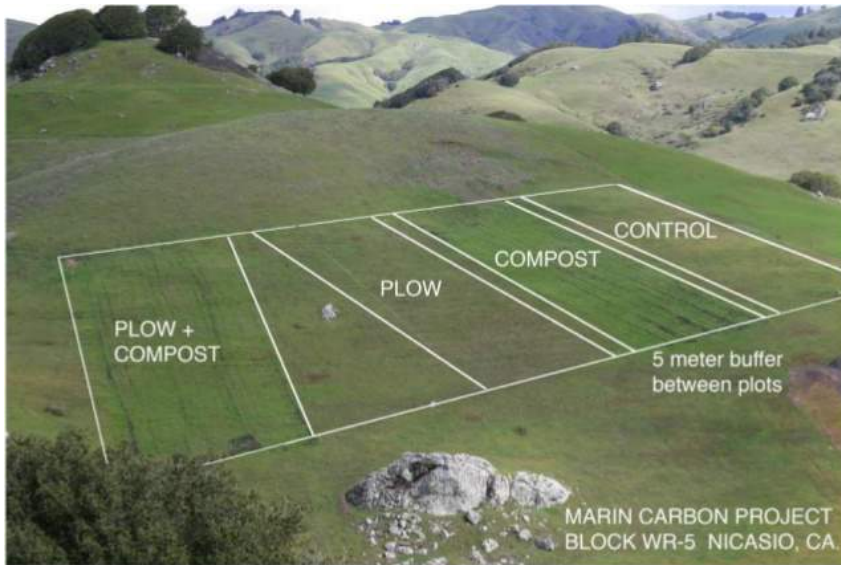
Understanding and Enhancing the Land Carbon Sink



Williams et al., 2014

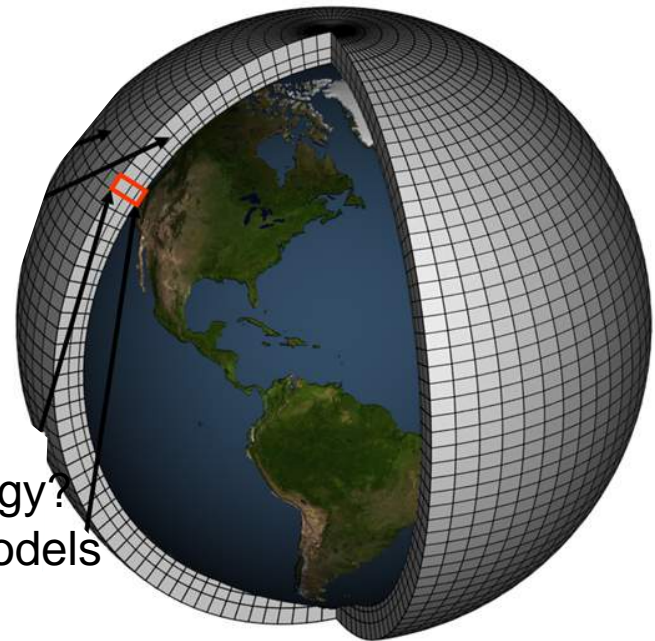
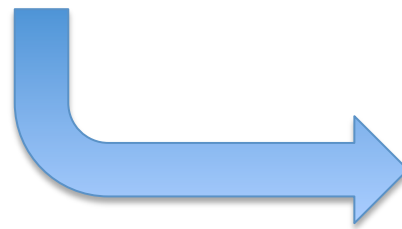
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Scaling up from Marin Carbon Project



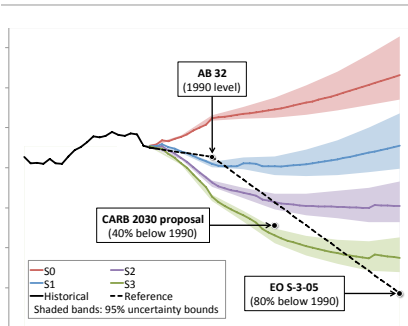
Jeff Creque

Compost amendment leads to
One Ton additional C per hectare



Question – What is the global potential of this strategy?
Approach – Incorporate Field Results into Global Models

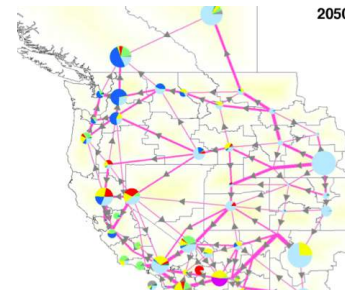
Capabilities and Opportunities



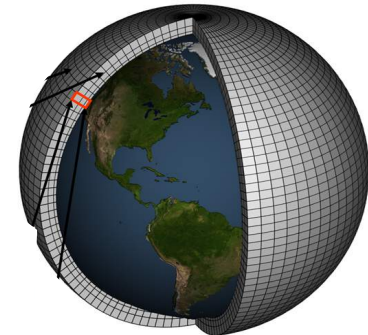
Scenario and Policy Analytics



Transportation Modeling



Electrical Grid Modeling



Carbon Cycle Science



Collaborative Knowledge Generation



Interdisciplinary Teamwork