



PLACER COUNTY BIOMASS PROGRAM

**Bruce Springsteen
Placer County Air Pollution Control District**

**Presented at
Sierra Cascade Logging Conference
Redding, CA**

February 11, 2010



PLACER COUNTY AIR POLLUTION CONTROL DISTRICT

- Air quality in Placer County
- Programs:
 - Permitting and inspections of stationary sources
 - Enforcement of Air Pollution Control Regulations
 - Air Monitoring
 - Air Quality Planning – CEQA & Attainment
 - Clean Air Grants and Incentive Programs
 - Air Toxics
 - **Manage Open Burning -- Agricultural/Forestry**

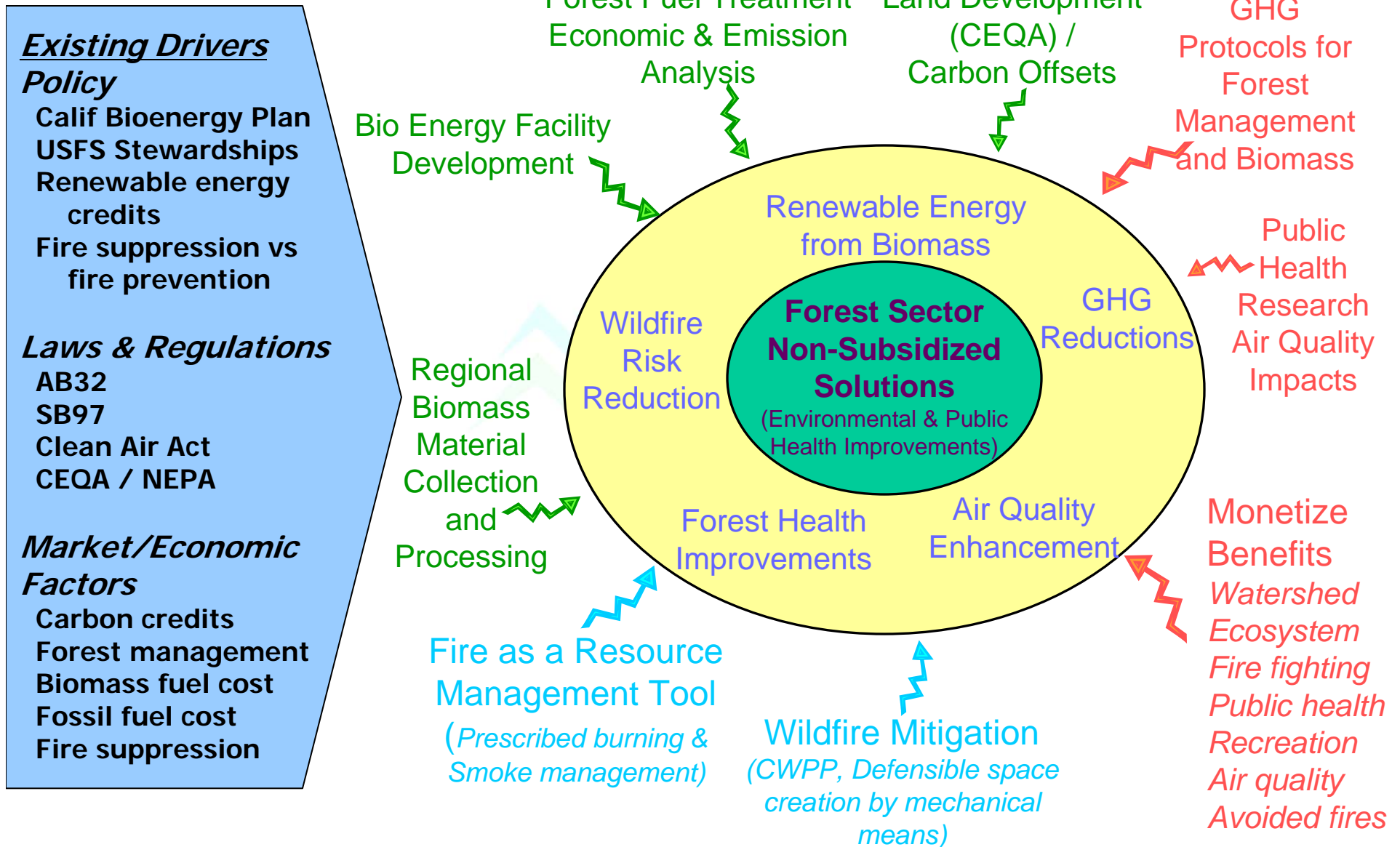


PLACER COUNTY

- 3 Air Basins -- Valley to Lake Tahoe
 - Valley, foothills, mountains
- 550,000 acres of forested land (> 50% of total county land)
- Three National Forests
- Recent major wildfires
 - Gap, Ponderosa, Star, Ralston, American River Complex
- High property values, wildland urban interface



BIOMASS PROGRAM





FOREST FUEL TREATMENT: ECONOMIC AND EMISSIONS ANALYSIS

Post-harvest Slash Piles, Tahoe National Forest, Foresthill





FOREST FUEL TREATMENT: ECONOMIC AND EMISSIONS ANALYSIS

- Chipping and transport to biomass to energy, 60 miles
- 5,000 BDT, 5,800 MW electricity





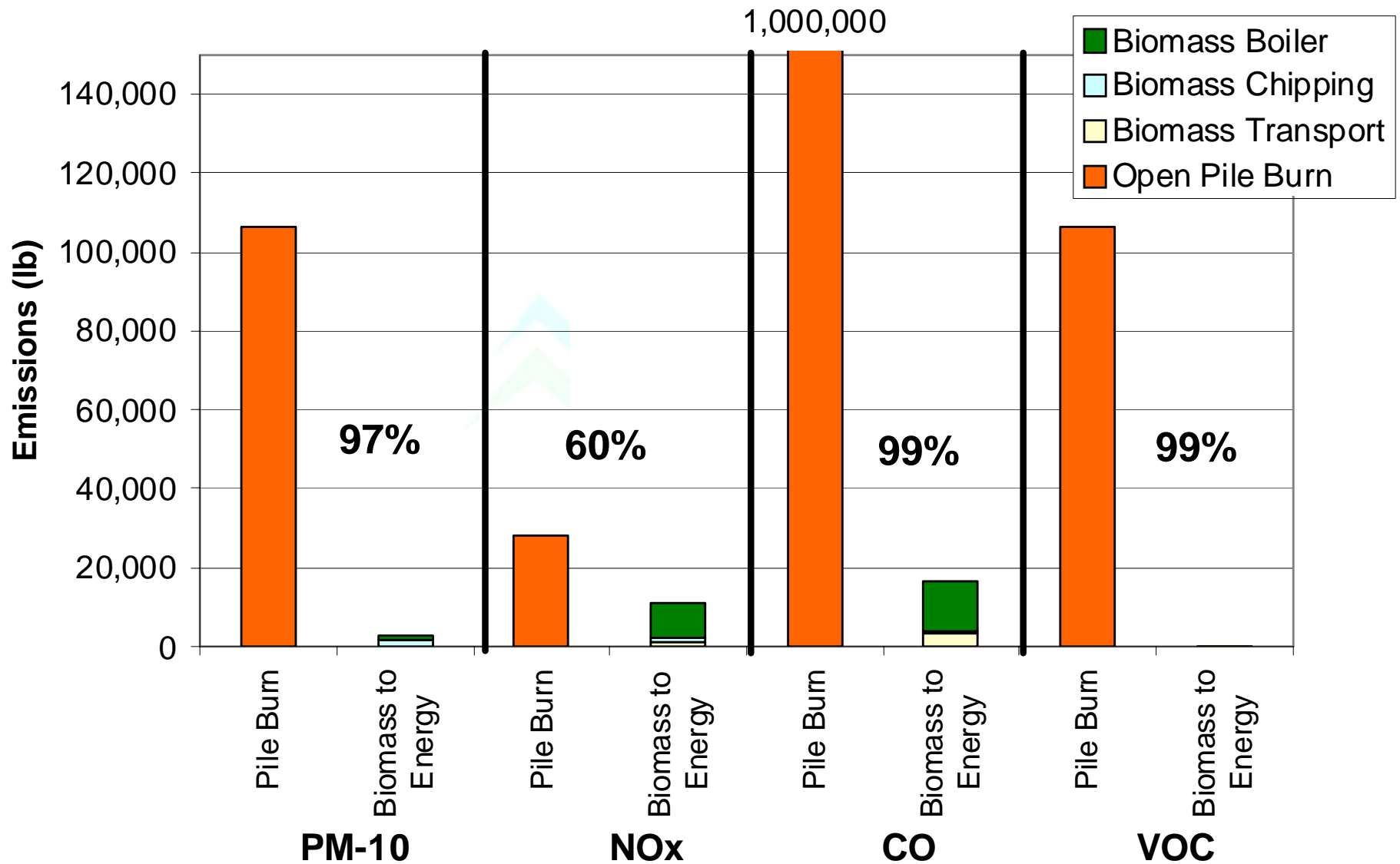
FOREST FUEL TREATMENT: ECONOMIC AND EMISSIONS ANALYSIS

- \$55/BDT, working to increase operating efficiency



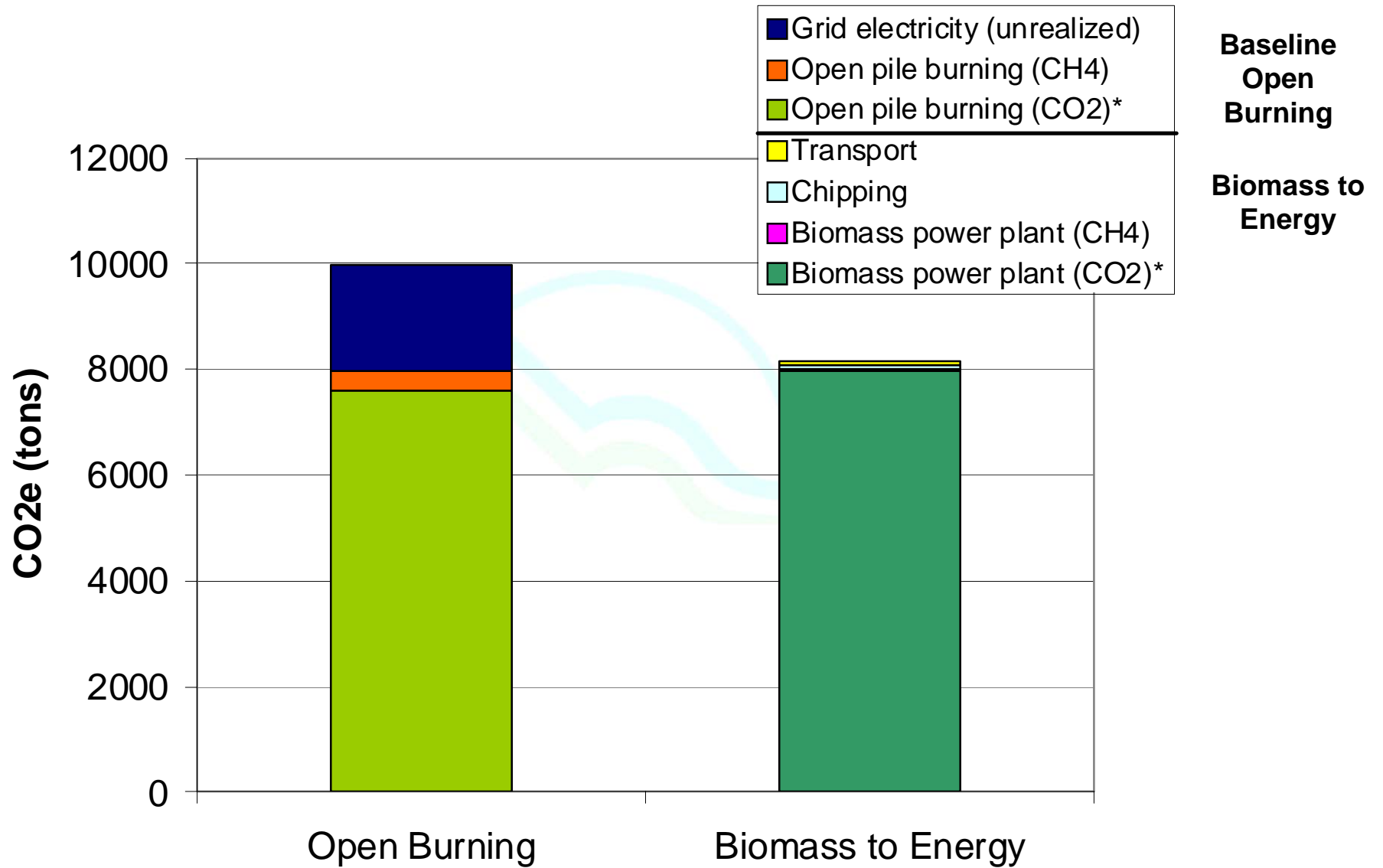


CRITERIA AIR POLLUTANT REDUCTIONS



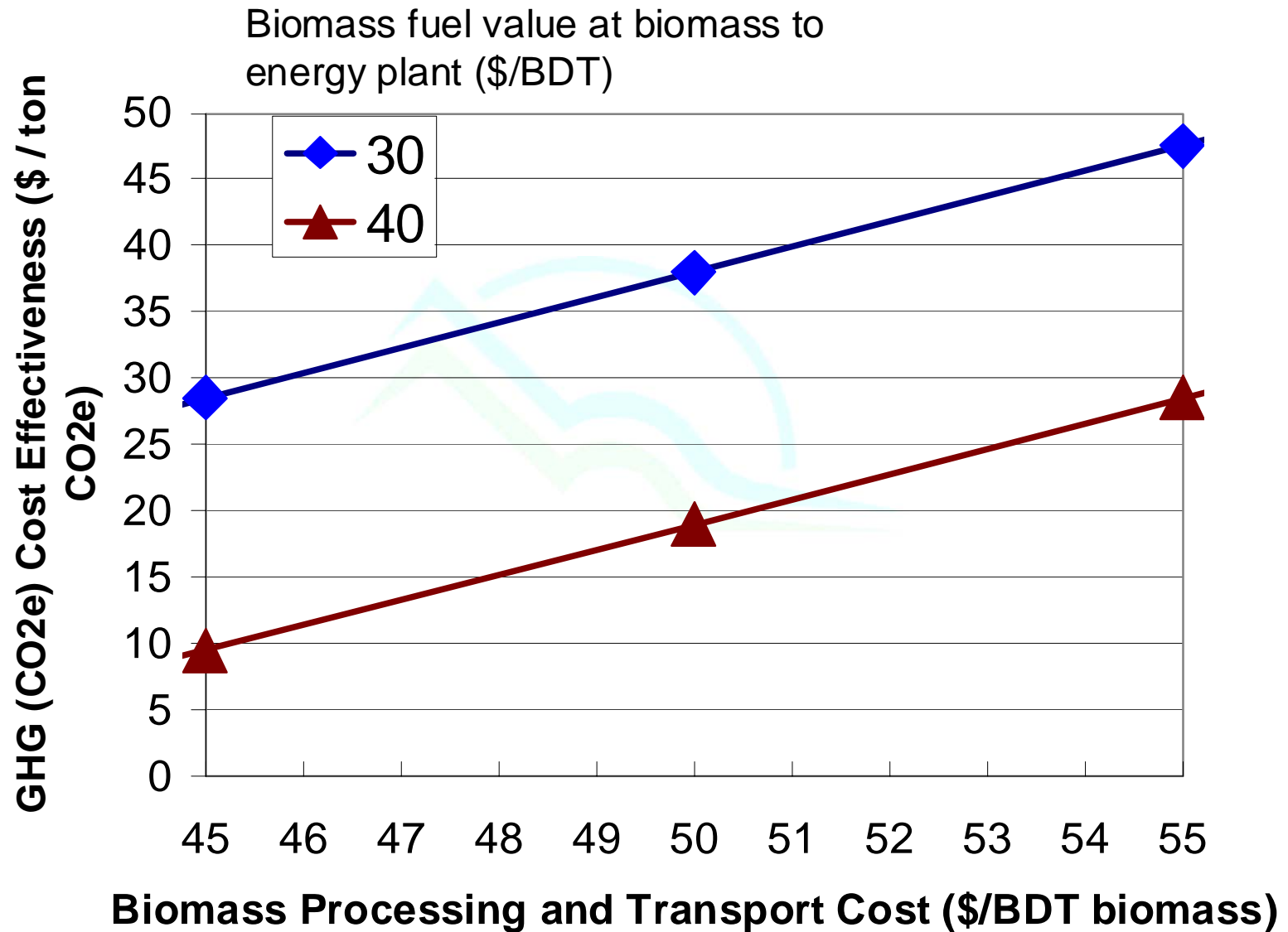


GREENHOUSE GAS REDUCTIONS





GHG COST EFFECTIVENESS





FOREST FUEL TREATMENT

Benefits to the Watershed

- USFS rehabilitation & planting of genetically superior seedlings
- Net increase in water yield
- Forest more fire resilient
- Less erosion

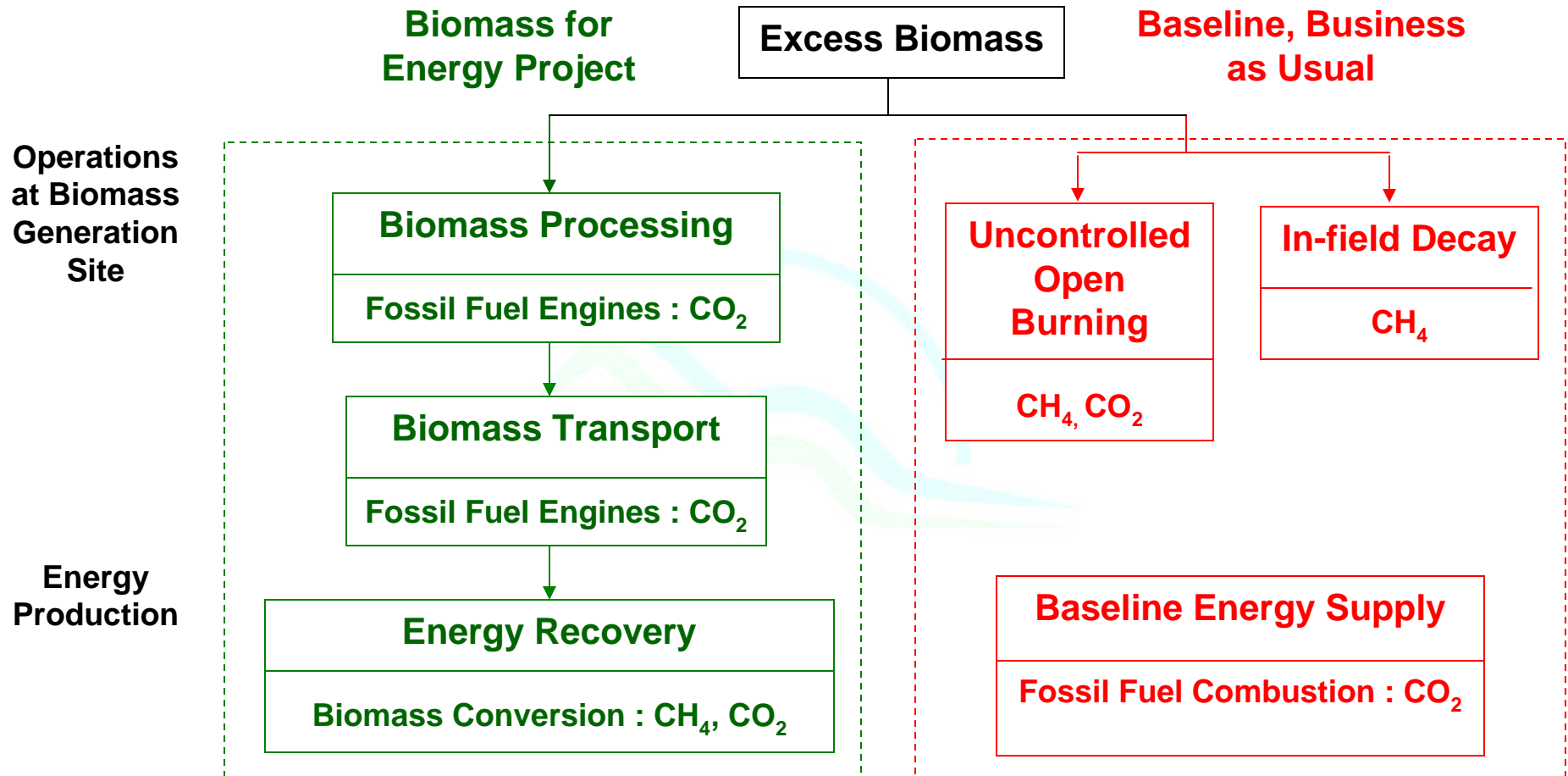


Before

After



BIOMASS WASTE FOR ENERGY: GHG OFFSET PROTOCOL





FOREST FUEL TREATMENT: GHG OFFSET PROTOCOL

- Quantify GHG reductions for forest fuel treatment projects
 - Wildfire reduction – size, intensity
 - Forest growth rate enhancement
- Research Team
 - U.S. Forest Service Pacific Southwest Research Station, U.C. Berkeley, and Spatial Informatics Group



BIOENERGY FACILITY DEVELOPMENT

- System in Lake Tahoe Basin
 - Conversion methods
 - Combustion
 - Gasification / Pyrolysis
 - Technology Assessment Evaluation Criteria
 - Technology development, operating experience
 - Air and water impacts
 - Economics
 - Cogeneration : 1 - 3 MW
 - 10,000 – 20,000 BDT biomass / year
 - Target date: 2012 - 2013



REGIONAL BIOMASS COLLECTION

- Efficient biomass waste collection, processing, transport
 - Reduce open burning, disposal in landfill
- Implementation
 - Material Recovery Facilities, recycling cans
 - "Biomass Boxes"
 - Regional collection yards
- Achievements – 8,000 + BDT



BIOMASS CHALLENGES AND OPPORTUNITIES

- Challenges
 - Biomass fuel availability
 - Biomass fuel cost
 - Facility location
 - Facility size
 - Air permitting
 - Offsets may be needed in non-attainment regions.
Emission reduction credits in short supply
- Opportunities
 - Renewable energy credits, carbon credits