



SANITATION DISTRICTS OF LOS ANGELES COUNTY





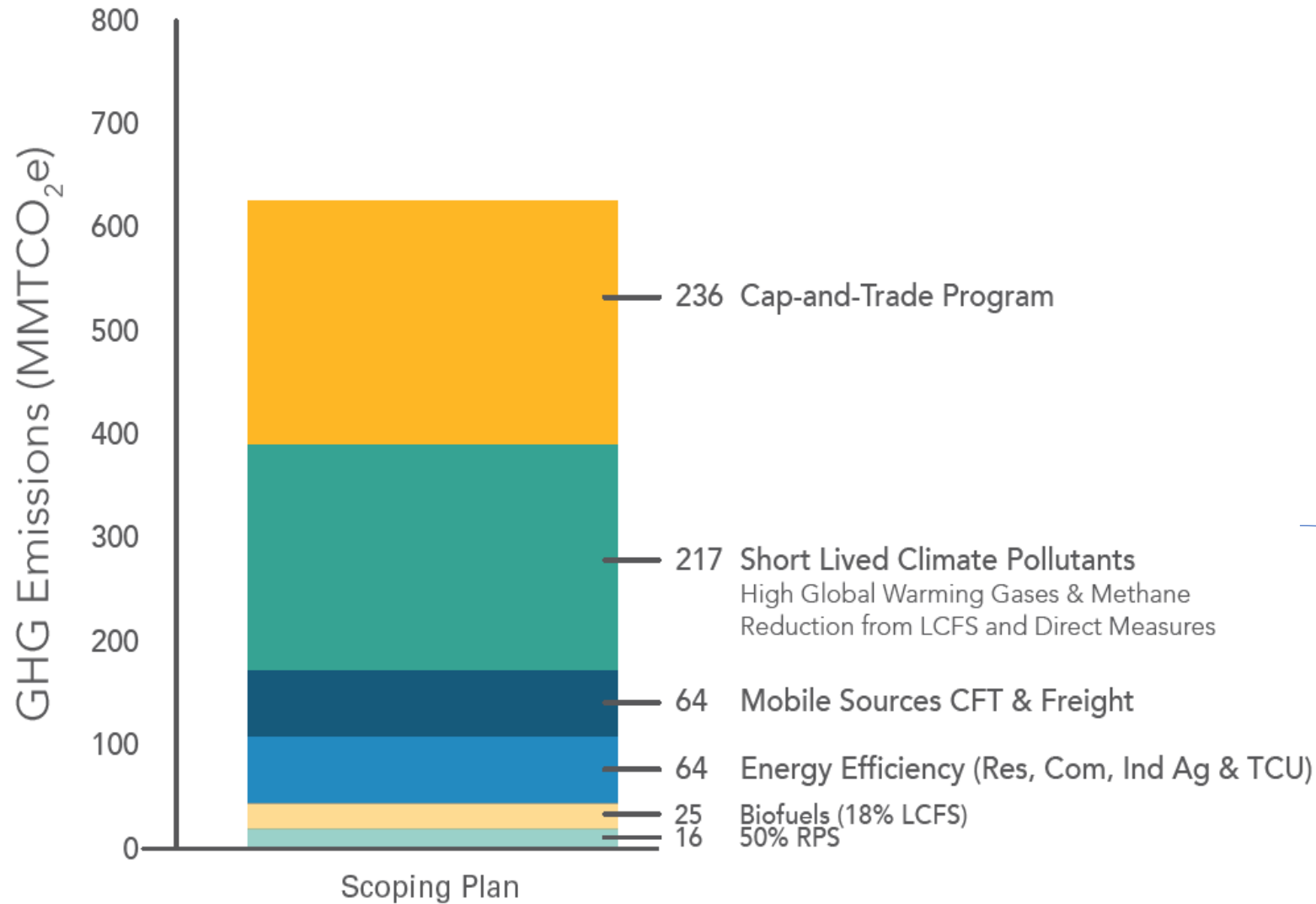
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YOU IDIOT!

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HALL

FIGURE 7: SCOPING PLAN SCENARIO – ESTIMATED CUMULATIVE GHG REDUCTIONS BY MEASURE (2021–2030)⁶⁴



More than half of CA's Climate Strategy Depends on SLCP Reductions, Biofuels, and Freight, RPS

Barriers to Bioenergy Development

- Technology biases
- Inadequate funding
- Lack of inter-agency cooperation
- Market uncertainty



Need to Remove Technology Bias - Vehicles

- Need to look beyond tailpipe emissions
- Set lifecycle based performance standards
- Need Zero and Near Zero Emission Vehicles
- Need to address near-term and long term goals



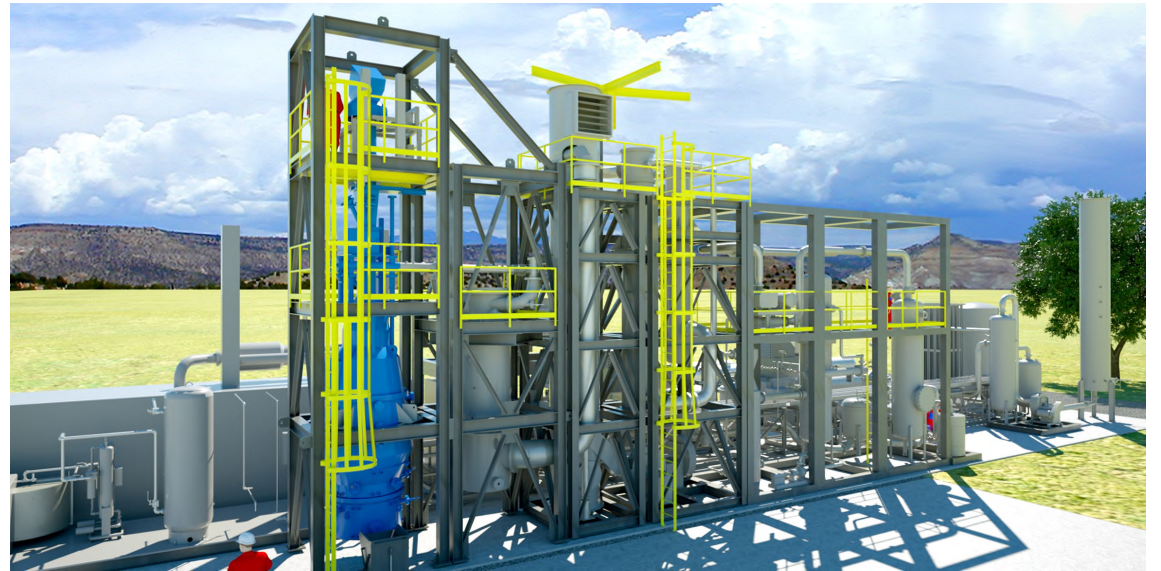
Need Diverse Electricity Portfolio

National Academy of Sciences:

- “Deployment of a diverse portfolio of clean energy technologies makes a transition to a low-carbon-emission energy system both more feasible and less costly than other pathways.”
- “There are no electric storage systems available today that can affordably and dependably store the vast amounts of energy needed over weeks to reliably satisfy demand using expanded wind and solar power alone.”
- Bioenergy can provide carbon negative energy while assuring high levels of reliability in the energy system.

Pipeline, Waste Diversion Policies

- Pipeline biogas and incentives limited to gas from anaerobic digestion – Need to revise H&S 25420
- Waste diversion requirements effectively exclude gasification – Need to revise PRC 40117



Feedstock	Amount Technically Available	Billion Cubic Feet Methane	Million Gasoline Gallon Equivalents
Landfill Gas	106 BCF	53	457
Animal Manure	3.4 M BDT	19.5	168
Waste Water Treatment Gas	11.8 BCF	7.7	66
Fats, Oils and Greases	207,000 tons	1.9	16
Municipal Solid Waste (food, leaves, grass)	1.2 M BDT	12.7	109
Municipal Solid Waste (lignocellulosic fraction)	6.7 M BDT	65.9	568
Agricultural Residue (Lignocellulosic)	5.3 M BDT	51.8	446
Forestry and Forest Product Residue	14.2 M BDT	139	1,200
TOTAL BIOGAS POTENTIAL		351	3,030

Cellulosic waste = nearly ¾ of CA's organic waste stream, not suitable for anaerobic digestion or compost

Need to Increase Funding

- Need at least \$100M/year to meet organics diversion requirements of SB 1383
- 10% of CalFire's SB 901 funding should support bioenergy development
- Low Carbon Transportation funding should focus equally on near-zero and zero- emission vehicles
- ARFVTP should increase biofuels funding
- 20% percent of EPIC should be allocated to bioenergy
- 10% electric and gas utilities C&T \$\$ should be allocated to bioenergy



Estimated Average GHG Reduction Cost Is High With Wide Variation Across Programs

Estimated Average Cost Per Ton of Reduction Varies Greatly

Program	Cost Per Ton ^a
Organics and recycling loans	\$4
Forest health	4
Dairy digester research and development program	8
Organics composting/digestion grants	9
Forest legacy	10
Recycling manufacturing	15
Delta and coastal wetlands restoration	30
State water and efficiency and enhancement program	33
Clean vehicle rebates	46
Sustainable agricultural lands conservation	59
Mountain meadow ecosystems restoration	113
Urban and community forestry	116
Water-energy grant program	141
Affordable housing and sustainable communities	191
Single-family solar photovoltaics ^b	209
Transit and intercity rail capital	259
Single-family energy efficiency and solar water heating ^b	282
Large multifamily energy efficiency and renewables ^b	343
Enhanced fleet modernization program "plus-up"	414
Truck and bus voucher incentives	452
Incentives for public fleets pilot project for DACs	725
Overall Average	\$57

^a Calculated as the amount of cap-and-trade funds awarded to a program divided by the total estimated greenhouse gas (GHG) emission reductions from the projects that receive cap-and-trade funds.

^b Assumes GHG reductions at the midpoint of the administration's estimated range.
DACs = disadvantaged communities.

- Administration's data suggests average cost of \$57 per ton reduced.

Need More Cross-Sector and Inter-Agency Cooperation



- Need to update 2012 Bioenergy Action Plan with short- and long-term goals
- Need Bioenergy Action Team to coordinate regulations, incentives, R&D
- Need to require CPUC to coordinate more with CDFA, CalRecycle, SNC and CalFire on bioenergy related actions

Need Greater Market Certainty

- Need to fully implement SB 1122 (BioMAT) – 250 MW small scale bioenergy
- Need biogas procurement policy that is technology neutral
- Need market for biochar, digestate and biosolids
- Need long-term certainty for LCFS credits for all biogas sources



We Need Every Weapon in the Fight Against Climate Change





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