ETAAC’s “Themes” – Consolidated, Version 3

1. Funding for innovation
   a. Incubation efforts to spur innovation and commercialization (Energy sector); statewide nonprofit for innovation and incubation (Bicker)
   b. CA advanced energy technology demonstration fund (Weyant)
   c. “CalCEF +” (Weyant)
   d. Revolving fund for technology demonstration projects (Rothrock)
   e. Support first MW installations that prove technical feasibility and enable project financing for emerging technologies (Bicker)
   f. Reorganize and recalibrate current subsidy programs to measure and incent GHG reductions (Bicker)
   g. Develop a California Carbon Trust ala UK’s Carbon Trust: non-profit set up by gov’t to support low-carbon technologies (Farrell)
   h. Partnership for New Generation of Energy Technologies in CA (Weyant)
   i. Technology certification: certify carbon reduction potential of new technologies (Hawley)
   j. Public funding for RD&D, including demonstration finance for “first megawatt” installations (Bicker)
   k. Leverage and provide coordination among California’s many centers of innovation (Bicker)

   Closely related ideas:
   - a,b,f,j,k,l (Energy Sector, Bicker, Weyant)

2. Consumer participation
   a. Green fuels labeling (Farrell)
   b. Green biofuels index for biomass (Tuttle)
   c. California-grown program for wood products (Tuttle)
   d. California Carbon Star certification (Epstein)
   e. Carbon accounting for commercial and consumer purchasing and decision-making (Kammen)
   f. Energy Savings Accounts to support low-greenhouse gas investments (Kammen)
   g. Embodied GHG allowances for imported primary products (Lloyd)

   Closely related ideas:
   - Green fuels labeling: a,b (Farrell, Tuttle)

3. Better information about GHG reductions for business
   a. Educate small businesses about benefits of LED (Energy sector)
   b. State online directory of green building technology and service providers (Rothrock)
   c. Create and encourage “Do It Green” industry collaboratives (like “Build it Green.”) (Farrell)
   d. Collection of climate data and development of software for climate-smart building design (Rothrock)
   e. Software for energy investments (Weyant)
   f. Training for building officials (Rothrock)
   g. Integrated Waste Management Board and air districts should educate stakeholders on potential for reduced emissions and increased energy production from landfills (Rothrock)
Closely related ideas:
- software for energy investments / green building: d,e (Rothrock, Weyant)

4. Facilitating energy efficiency implementation
   a. Expand energy efficiency credit beyond three-year timeframe (Energy sector)
   b. On-bill financing for energy efficiency projects (Rothrock)
   c. Incentives and technical assistance for tenants and building owners to retrofit leased space for energy efficiency (Rothrock)
   d. Green building fast-track permitting (Rothrock)
   e. Improve policies to support Combined Heat and Power (Rothrock)
   f. Fertilizer use and efficiency (Cory)
   g. Industry/government partnership to improve industrial energy intensity (Rothrock)
   h. Reduce emissions from cement production and encourage use of reformulated cement (Rothrock)
   i. “California Climate Feebate Program,” expanded from vehicles to other equipment and appliances (Lloyd)

5. Financial structures for Carbon Market
   a. California Carbon Trust to fund “Carbon Moyer” style programs (Epstein)
   b. Auction GHG allowances or tax GHG emissions (Farrell)
   c. Price floor for carbon (Energy Sector)
   d. Market CA carbon credits out of state as revenue source (Farrell)
   e. Carbon valuation for early action (Energy Sector)

6. Financial structures for cleantech
   a. Municipal Assessment Districts to reduce end-user up-front costs (Kammen)
   b. Incentives and rebates to lower costs to municipalities for switching to LEDs (Energy sector)
   c. Provide utilities with rate-based reimbursement for all R&D expenditures on emerging CO2 technologies (Energy sector)
   d. California Clean Tech manufacturing incentive, including provision for worker training (Hawley)
   e. Small business “greentech” tax incentives (Rothrock)
   f. Extend the production tax credit and investment tax credit (Energy sector)
   g. Rebates for load reduction using non-generation technologies (Rothrock)

7. Revolutionize the transportation sector (and fuels)
   a. Prize competition (like CalSTEP proposal) as incentive to develop advanced biofuels (Hawley)
   b. Incentives for rollout of alternative fueling infrastructure (Hawley)
   c. Advanced biofuels incentives, including per-gallon incentives and revenue neutral “fee-bate” (Hawley)
   d. Revenue-neutral carbon-based fuel taxes (Lloyd)
   e. “Fee-bate” to benefit purchasers of PHEVs funded by highly polluting automobile sales (Energy sector)
   f. “California Climate Feebate Program,” starting with vehicles (Lloyd)
   g. Sell credits generated by sale of electricity as fuel to petroleum distributors; funds distributed to EV customers or utilities (Energy sector)
h. Begin to Develop a Sustainable Fuel Standard (Kammen)
i. Shift freight shipments to electric rail (Farrell)
j. Roll back warranty requirements on batteries for PHEVs/EVs (Energy sector)
k. Task force for vehicle batteries (Energy sector)
l. Lignocellulosic technologies (plant residues, dedicated energy crops and waste materials) (BP)
m. GHG performance standard for government and corporate vehicle fleets (Lloyd)
n. Congestion mitigation pricing (Lloyd)
o. Labor Laws: relax CA laws governing overtime pay to allow compressed workweeks and reduce commute times (Rothrock)
p. Combination of feebate and government fleet targets aimed at creating demand for electric drive technologies (Lloyd)

Somewhat related ideas:
- feebates for fuel: c,d (Hawley, Lloyd)

8. Dramatically Increased Renewable electricity generation
   a. GHG credit beyond RPS: Expand RPS to Environmental Portfolio Standard / Clean Energy Supply Standard (Energy sector)
   b. Feed-in tariffs for renewable energy (Kammen)
   c. Energy parks (Epstein)
   d. Renewable Resource Zones / Energy Sector
   e. Simplify permitting process for renewable energy generation projects (Energy sector)
   f. Siting of energy parks should consider biomass availability (Tuttle)
   g. Link biomass objectives with wildfire risk management (Tuttle)
   h. Biomass and biofuels (Cory)
   i. Continued scale-up of solar power deployment on new and existing homes, businesses and state structures (BP)
   j. Dairy digesters (Cory)
   k. Change gasification law to support waste diversion (Energy sector)
   l. Waste conversion permitting and siting (Rothrock)
   m. Improvement of regulatory processes and standards for landfills to increase capture and utilization of gases (Rothrock)

Closely related ideas:
- Renewable Resource Zones / Energy Parks (Energy Sector, Epstein); could also include Tuttle comments about siting of energy parks

9. Improving Energy grid/transmission
   a. Green grid/community power (BP)
   b. Information sharing for smartening the energy grid; smart grid as enabling technology (Energy sector)
   c. Investigate needed upgrades to distribution infrastructure due to DG and PHEV penetration, and accelerate ratemaking (Energy sector)
   d. Improve transmission for renewable energy (Energy sector)

Related ideas:
- smart grid / green grid: a,b,c (Energy Sector, BP)

10. More Energy storage
   a. Large-scale pumped hydroelectric storage facilities (Energy sector)
b. Utilities commit to purchase electricity storage capacity on annual basis (Energy sector)
c. Plug-in Hybrids as storage (Energy Sector)

11. Carbon storage
   a. Air capture of CO2 (assumes CO2 storage available) (Farrell)
   b. CCS (Energy sector)
   c. CCS (Cory)
   d. CCS for natural gas and biomass (Epstein)
   e. Reforestation and riparian habitat (Cory)
   f. Forest management, Reforestation, Avoided Deforestation (Tuttle)
   g. CCS Deployment strategy (BP)
   h. More funding to LLNL and UC research projects on CCS (Energy sector)
   i. Insurance/liability risk for CCS (Energy sector)
   j. Use of algae to make biofuels as carbon storage strategy (Energy sector)
   k. Support “capture-ready” requirements for all new generation facilities (Energy sector)

Related ideas:
- CCS: b,c,d,g,i (Energy Sector, Cory, Epstein, BP) “Capture-ready” requirements could be included as well (k)
- Forest management, reforestation, avoided deforestation, riparian habitat (Cory, Tuttle)

12. Land use
   a. Policy collaborative, like CalFED (Farrell)
   b. Smart growth: Link state infrastructure spending to regional smart growth plans (Hawley)
   c. Counter trend towards forest conversion by bundling carbon value with other incentive programs to keep landowners on the land (Tuttle)
   d. Account for forest loss as an emission (Tuttle)
   e. Account for carbon “embedded” in water in planning processes or directly via pricing (Kammen)
   f. Adopt established forest carbon metrics and carbon stock accounting principles (Tuttle)

13. Other
   a. Broad state participation to achieve GHG emission reduction goals: State agencies commit to reduce GHGs and report every 6 months (Rothrock)
   b. Improved analytical basis for planning: establish GHG inter-agency regulatory task force and GHG Policy Institute (Rothrock)
   c. Climate Adaptation Roundtable: Master planning and coordination for climate change adaptation to facilitate discussion and debate (Rothrock)
   d. Use carbon credits from Demonstration State Forests to offset CDF mobile equipment emissions (Tuttle)