



CALCEF

*A Green Bank for California –
Prospects and Considerations*

E2 Webinar, March 6th 2013

Dan Adler, CalCEF

Recent Developments of Note

- 2012-13: AB 32 Permit Auctions 1 and 2 – clearing prices low, but moving upward
- 2012: CPUC Decision creates a “Climate Dividend”. Good politics, or a missed opportunity?
- 2012: Prop 39 passes - \$500 million/year for clean energy projects. Who controls?
- Feb. 22, 2013: SB 798 “California Green Infrastructure Bank Act” introduced



Policy Context – Components of AB32

- Comprised of more than 70 individual measures
- Economy-wide, unlike other national and international examples
- Blends mandates and market-based flexibility
- This is the easy part – the goals after 2020 get much more difficult.



The AB32 Challenge in Context – Components of the Scoping Plan

Table 2: Recommended Greenhouse Gas Reduction Measures

| Recommended Reduction Measures | Reductions Counted Towards 2020 Target (MMTCO ₂ E) |
|--|---|
| ESTIMATED REDUCTIONS RESULTING FROM THE COMBINATION OF CAP-AND-TRADE PROGRAM AND COMPLEMENTARY MEASURES | 146.7 |
| California Light-Duty Vehicle Greenhouse Gas Standards <ul style="list-style-type: none"> • Implement Pavley standards • Develop Pavley II light-duty vehicle standards | 31.7 |
| Energy Efficiency <ul style="list-style-type: none"> • Building/appliance efficiency, new programs, etc. • Increase CHP generation by 30,000 GWh • Solar Water Heating (AB 1470 goal) | 26.3 |
| Renewables Portfolio Standard (33% by 2020) | 21.3 |
| Low Carbon Fuel Standard | 15 |
| Regional Transportation-Related GHG Targets ¹⁶ | 5 |
| Vehicle Efficiency Measures | 4.5 |
| Goods Movement <ul style="list-style-type: none"> • Ship Electrification at Ports • System-Wide Efficiency Improvements | 3.7 |
| Million Solar Roofs | 2.1 |
| Medium/Heavy Duty Vehicles <ul style="list-style-type: none"> • Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency) • Medium- and Heavy-Duty Vehicle Hybridization | 1.4 |
| High Speed Rail | 1.0 |
| Industrial Measures (for sources covered under cap-and-trade program) <ul style="list-style-type: none"> • Refinery Measures • Energy Efficiency & Co-Benefits Audits | 0.3 |
| Additional Reductions Necessary to Achieve the Cap | 34.4 |
| ESTIMATED REDUCTIONS FROM UNCAPPED SOURCES/SECTORS | 27.3 |
| High Global Warming Potential Gas Measures | 20.2 |
| Sustainable Forests | 5.0 |
| Industrial Measures (for sources not covered under cap and trade program) <ul style="list-style-type: none"> • Oil and Gas Extraction and Transmission | 1.1 |
| Recycling and Waste (landfill methane capture) | 1.0 |
| TOTAL REDUCTIONS COUNTED TOWARDS 2020 TARGET | 174 |



Financial Backdrop – Public Programs

- Across multiple agencies, California currently operates approx. 12 major funding programs to advance clean energy.
 - Administered by the CPUC, CEC, ARB, Treasurer, etc.
 - Mostly ratepayer-funded
- Averaged @ \$1 billion year *for the last 15 years (Source: CA LAO).*



New Financial Developments of Note

- GHG Permit Auction results coming in
 - Initial estimates for 2012-13: \$600m - \$3b
 - Likely results: \$250-\$300m
 - Through 2020: \$10 billion? More?
 - The “nexus” use test
- Prop 39 - \$500m/year for 5 years
 - Public building EE/DG only?
- AB 118 transportation technology
 - \$100m +/-year; reauthorized?



What Could the Green Bank Fund?

- The mechanism of low-cost debt works best in markets with *long-term purchase commitments*:
 - The 33% RPS program
 - Governor Brown's Renewable DG goals
 - Appropriately structured EE programs
 - Enabling infrastructure like electric transmission, potentially charging stations, biofuels infrastructure
 - And high-speed rail...



The Green Bank – Funding our Policy Priorities

- Certain constituencies merit focused attention:
 - Historically disadvantaged communities: provide low-cost capital to local efficiency, DG, public transport projects using local labor.
 - “Trade-exposed industries”, e.g. those susceptible to “leakage”: maintain California’s industrial base by directly targeting low-cost capital to efficiency, DG and other projects to enhance our competitive position.
 - In both instances, emerging business models of providing efficiency and DG at no up-front cost should be embraced at scale.



The Continuum of Technology Development



- The Map is easy enough to draw – making it fit the territory each innovation faces is the challenge.
- The “Valley of Death” concept has moved from academic jargon to industry crutch over the past five years.
- In reality there are multiple valleys of death, each with their own risks, financing needs, regulatory interventions, and consequently:
- *As a policy matter, each stage requires different forms of capital, and there is a role of a public-private partnership entity at each point.*

Design Considerations – Innovation or Infrastructure?

- Both – a balanced Green Bank
 - Low-cost debt smartly deployed into stable markets will create steady earnings to the Bank.
 - Most should be re-deployed as revolving loans for proven technology, or returned as dividends to Californians
 - A portion of these funds could be used to deploy next-generation technologies and to support fundamental innovation
 - *Returns should be evaluated on a portfolio basis, so no single investment can threaten the Bank.*



Design Considerations – Role of Private Capital

- Lead or Follow Private Capital?
 - How can states establish an administratively achievable set of criteria whereby private investment participates consistently and share risks appropriately?
 - In addition to extending the reach of public funds, this technical and market diligence will be key to successful government investment.



Design Considerations – Role of Agency Reform

- Can successful new public finance mechanisms mask the inherent administrative inefficiency of our multi-agency morass?
 - Out to the aggressive climate and energy goals anticipated for our future?
- Or do we risk missing a major opportunity for reform, made potentially easier now with the presence of these new resources?



What, and Where, to Watch

- Development of the Greenhouse Gas Reduction Fund
 - Public comments due March 8th
 - ARB/Dept. of Finance craft the first investment plan for issuance Q2-3
 - When does investment actually begin?
- SB 798 and other Green Bank legislation
 - Will a new entity emerge with bonding authority? Tech risk appetite?
- How will the Legislature implement Prop 39?
- Will the politics sustain into the second compliance period (2015) and beyond, when caps get tighter?

