

Alvey, Noah

From: Richard Caputo <rcaputo@mail.sdsu.edu>
Sent: Friday, January 09, 2015 3:00 PM
To: Alvey, Noah
Cc: Peder Norby; Douglas Kot; Anna Lowe; Ken Parks; Kat Donnelly; Eric Brandt; John Reaves; Rich Caputo; Tylke, Melanie; Alvey, Noah; Nicoletti, Vince; Wardlaw, Mark; Craig Benedetto; Gretler, Darren M; Susan Freedman; Farace, Joseph; Corinne Lytle Bonine; Smith, Stephanie; Erin Malcolm Brandt; Jason Anderson; Ddonna Tisdale; Carranza, Patricia V.
Subject: Input to CREP TAC Meeting

Noah,

Sorry I couldn't attend our first meeting in October. When I read the minutes, I thought the TAC did a good job coming up with ideas. I would like to add some new items and try to avoid redundancy. I do this without discussion or justification at this time. I think that all of these items are worthy of consideration and would be quite willing to get into the details. The only exception to my self-imposed restriction of no discussion or justification at this time, is for waste to energy (WTE).

I would like this project to consider the following:

- WTE

- off-the-shelf clean technologies developed in Europe are now available
- for wastes that are not recycled and make it to a land fill, it reduces the volume of land fill needed
- it generates:
 - 6 times less CO₂ equiv. than using land fill gas to energy (LFGTE),
 - 2 times less SO₂ and NO_x than LFGTE,
 - 11 times more electricity per pound of waste than LFGTE
- sponsor assessment studies for the San Diego region
- if a favorable outcome, mediate all parties (include public) and strive to the goal of having RFPs generated for commercial proposals

- Solar Hot Water

- represents 12% of residential energy use
- mandate for all new construction and when building sold (within 1 yr)
- use current subsidies and PACE options

- **Smart Inverter** on User Side of PV systems
 - simplifies electric grid stability at minimal cost increase
 - mandate for all new construction

- **Energy Upgrade** when residential or commercial building sold
 - mandate within 1 yr to meet current Title 24 of building code or up to 2% of building selling price
 - encourage use of CA Energy Upgrade Program subsidies
 - encourage use of PACE financing

- **Mount significant Public Outreach program for PACE programs** for residential and commercial buildings
- **Push for Renewable Energy Credits (REC)** for distributed renewable
- **Push for Time of Day (hourly) pricing** of electricity for both buying and selling distributed renewable energy
- **Review Wind zoning ordinances** to make them more wind friendly for residential, commercial and small utility systems

- **Generate Significant Outreach Program for East County** to discuss distributed energy use (wind and solar electric and hot water) as well as small utility systems

- **Generate Significant Outreach Program for at the entire County** to discuss energy upgrades and PACE programs

- **Re-visit Community Choice Aggregate** for San Diego County based on recent experiences of other CA municipalities

- **Use voting seat on SANDAG to push for reversal of transportation related spending** to support non-highway options such as public transport including subsidies for car pools, bikes, single trip electric cars, and significant out-reach programs for all these options

- **Use zoning powers to strongly encourage high-density land use** along all transportation corridors

- **Be an advocate to form a coalition** of other San Diego municipalities and other municipalities in the rest of the state, **to push for vehicle-to-grid (VTG)** capability to be available in all pluggable vehicles sold in the state as well as in all charging location

- Also us above coalition to **push CPUC to have all state utilities move to set up VTG system**

- Use above coalition to **push CPUC to publish studies of desirable future state energy systems** as the state increases the percentage of renewable energy for all uses (electricity and heat). These studies would show the likely desirable mix of energy supply and storage. These favorable system combinations should then be used as a guide for utility purchase of renewable energy projects.

This is suggested because there doesn't seem to be much beyond percentage renewables electricity goals in utility planning. (see Mark Jacobson studies at Stanford)

For example, there is no benefit granted solar electric systems that have significant inherent storage such as desert solar thermal electric with 6 to 12 hours of thermal storage.

I hope these suggestions can be added to those generated by the TAC.

Rich

Richard Caputo
Env S 301 Lecturer
Center for Energy Studies
College of Sciences
RCAPUTO@mail.sdsu.edu
760-765-3157 home
760-533-5879 cell

