



California Energy Commission
1516 Ninth Street
Sacramento, California 95814

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April 18, 2011

California Energy Commission,

Thank you for this opportunity to present and thank you to the committee for your diligent efforts in reinstatement of the ERP.

California created the Renewable Portfolio Standard (RPS). Under the RPS, the Renewable Energy Program's focus is twofold as published;

- To increase, in the near term, the quantity of California's electricity generated by renewable energy resources, while protecting system reliability, fostering resource diversity, and obtaining the greatest environmental benefits for California residents.
- To identify and support emerging renewable energy technologies with the greatest near-term commercial promise that merit targeted assistance.

In 1996 ERP was established as an initiative to promote "wind" but later was re-invested in to promote energy conservation. Then after very few qualified recipients the program evolved into an incentive to promote new technology. This is the current modern direction of the plan. With the recent economy downfall and more direct financial crisis in CA, I think that, now today, the program is also in place to promote jobs and economy within CA.

- Companies like DyoCore are the intended target of the program.
- DyoCore's SolAir is New innovative Technology
- SolAir applies to the largest majority of CA residents who directly funded the program
- DyoCore both as a CA company and through its organization of professional distributors represents 100's of jobs and millions into our economy.
- DyoCore is the forefront company for the momentum created within local communities towards the acceptance and installation of Wind power technology throughout CA and the US.
- SolAir combines wind and solar, this is again the most innovative development of technology towards the ERP's intended objectives.



Summary concerns with the current ERP:

On March 4th the CEC sent notice that it suspended the renewables rebate program so it may address deficiencies with the program requirements.

The goal of the ERP is to increase the installation of small wind systems and fuel cells

Though the suspension notice indicated “deficiencies with the program requirements”, this does not fit well into the intention of the program as outlined.

The most current intention of the program, the state and our country is to promote the development of new technologies.

The concern is the recent large activity of ERP reservations from a single company whereas only a few months ago only a very few manufacturer products applied to a very few qualified recipients. Additionally these products are priced at significantly higher price points.

Now that products are available to a larger quantity of participating recipients Attention is now being placed on the production of energy at installation sites and the method of rating products qualified for the program.

Solution overview:

Separation of wind into specific qualification categories. Currently a power/wind rating incentive applies equally to a vague range of installation sites regardless of the wind conditions. A turbine qualified at 2kW @ 25mph and a turbine qualified at 2kW at 35mph apply to the exact same incentive regardless if either are installed in wind conditions substantially less than the rated wind speed.

By defining wind categories and ratings based on qualified installed locations will strengthen the intended benefits of the program. A turbine should be qualified based on its location and based on the projected power production as applied to that location.

Unfortunately wind experienced at a location can change dramatically from day to day less year to year. A qualified site today might not be qualified next week, however, relevance at the time of qualification and good history data should present a foundation for future expectations. we recommend the consideration of wind, product categories (wind zone categories)

Wind zones specific to turbines in size and intended use can be created that build a foundation for qualifying the program as applied to specific expected conditions. Data is readily available for easy separation of these categories.



- Micro wind – turbines under 500w or under a specific blade size, usually less than 48" (more appropriate) can only produce so much power and intended use is typically at ground level.
- Low or small wind – Turbines again with a blade diameter under 70' and whereas the intended installation is under 50' fall well into this category.
- Medium wind – installation sites well above 50', typically large pole mount, and with blade diameters exceeding 70" typically apply to this category.
- High wind – greater than 5kW and installed on poles exceeding 100'.

Special circumstances can apply to any category whereas local wind conditions at the intended site could be greater or lower than normally anticipated for the original category. A smaller turbine can be applied to a pole mount application and increase it's expected normal applied performance. The solution is a simple application exception request that can be accompanied with supporting data, installation details and wind analysis.

Summary Conclusion:

The ERP program was designed and is in effect today to:

- make green energy available financially
- create green jobs
- promote green technology
- make CA a green community
- make green products accessible to everyone

Until small wind products like DyoCore the program did not fully accomplish any of these objectives. Manufacturers like DyoCore are the core of the ERP intended results and DyoCore has demonstrated significant success in accomplishing the ERP objectives.

Unfortunately without site qualifications any turbine can be installed in a location that does not meet the intentions of the ERP. If you create site specific guidelines and more specific product categories for incentive qualification you can distinguish between productive and non-productive installations.

An incentive that varies based on the installed location and turbine size creates a powerful tool that maintains the direction of the program as designated.



DyoCore notes from ERP workshop

Presentation moderator – Anthony NG

April 14, 2011

1. Primary stated barrier and cause to suspension of the ERP; Rebate amounts applied for in reservations covered most and in some all costs of the systems resulting in systems being installed that could possibly have little owner vested interest in the success of the application.

Response:

This is a direct correlation with over inflated Industry pricing / overpriced products. ERP was projected to bring down costs. New tech is less expensive and opens doors for greater deployment. New technology and resources for manufacturers present lower price point advantages and in turn will drive down pricing – this in turn is a benefit to the program and its success.

The program as it is priced today should remain the same and be a tool to reward companies that maintain lower cost margin products and an incentive for larger turbine manufacturers to reduce highly over inflated price points.

Manufacturers already have tremendous pressure to assure the success their products as installed and spend considerable resources to assure installations meet expectations.

2. It was presented that a \$ per kWh produced annually could be applied.

Response:

If backed by an upfront incentive as applied to an annual objective it could be a good solution. However, we caution that any program with a spread out rebate structure will provide barriers to financing for product sales. If banks are unable to provide financing for installation of proposed/qualified systems due to lengthy repayment of their funds the sales agents will not have the resources needed to maintain growth within the market.

A potential solution is the state initiates a direct funding incentive and provides the rebate based on pre-qualified conditions which then apply to a term loan or other method of payback over time that is funded through the existing program.



3. Bergey presented that they, Bergey, are the only qualified product. Bergey presented that the list should be scrubbed. Mike Bergey is on the SWCC board and has already demonstrated extreme bias towards the industry – specifically towards “small wind”.

Response:

All turbines installed in California by simple permitting standards have to present extensive 3rd party engineering, testing and performance proof prior to being issued a permit for installation. Even if a product acquires CEC listing, it will not be able to pull a permit until it can demonstrate it meets all the current applicable standards.

Proper equality in listing should be given to all companies. Manufacturers should not hold positions that allow discrimination against other companies. Any 3rd party certification body should be completely independent. To force companies to meet a standard that is enforced and managed by distributors directly is in conflict with the intentions of a fair program.

The ERP does and should encourage tech and its continued development. We cannot simply dismiss new development of tech and remove these tools from the eligibility, this is completely opposite of the ERP program. Without encouragement and resources of new tech there will be no new tech.

4. Listings at fixed wind speeds. It was discussed that turbines have arbitrary wind speed listings.

Response:

This is a valid point. Wind ratings are arbitrary and only effective if a turbine is installed in the rated conditions. This is highly unlikely. Most turbines will never experience the amount of wind they are rated for. 99% of the contributors to the program do not experience winds that most of the qualified products are listed at.

Ratings should be based on realistic expectations as related to the specific install site. A turbine size and intended use is a great indication of its performance.

Breaking up turbines into respective categories that label them for specific expectations and incentive consideration is a key method in the success of the program.

5. Site wind analysis reporting

Response:

Education is a primary solution, a wind turbine needs wind, an unqualified location damages the success of the program, distributors and manufacturers.



High variable wind conditions make it difficult to do site evaluate in dense areas most applicable to the majority

Simple tools are fairly readily available for local area conditions through accumulated wind data but not always specific to a site. Possibly within several blocks and if specific to turbines than only applicable to 60' poles. Tools like Wind Cad are very expensive and only applicable to larger pole mounted turbines. They have no relevance on low wind and the majority of intended applications in California.

Large costs of formal assessments could be greater than the cost of the power benefit and possibly the cost of the system

Qualified professional installers should be held accountable for bad decisions. Training and certification by the ERP or CEC will provide the resources for distributors to make smart installation decisions.

Great source for residential and small commercial low wind analysis:

<http://www.wunderground.com/wundermap/>

6. Certification qualification for ERP inclusion

Response:

Limited and expensive resources towards 3rd party testing, standards have not yet been formally accepted towards certification, no current standard exists or is agreed upon within the wind field directly. But readily available professional and recognized 3rd parties exist and are already required prior to a permit or installation being done in California.

Standards for safety already exist, are excepted by state codes and provide a solid foundation for qualification. Safety and quality should be the primary factor IEC standards present a very good guideline and 3rd party NRTL companies have done qualified testing for safety and engineering for years.

The current CEC qualification does not need to be changed. Any CA city or community already has a very stringent installation/permitting process to assure safety and quality standards are met. All of which already highly exceed any state minimums.

7. Combining solutions into the ERP (wind, solar, fuel cells)

Response:

DyoCore, Inc.
3125 Tiger Run Court, #104
Carlsbad, CA 92010

P/F 866.404.2428

www.dyocore.com



Simple process for applying Additional Benefits to tie together wind, solar as a combined application.

Separation of fuel cells that could substantially improve wind, solar performance. A direct incentive would encourage important tech development in this direction. Similar to solar now.

8. Add a cost cap based incentive

Response:

Avoid cost cap, this encourages overpricing. Lower cost turbines move the market in the right direction holding manufactures to fair market prices.

We appreciate your consideration in reviewing our comments towards your objectives in reinstatement of the ERP.

Sincerely,

David Raine
CTO, DyoCore Inc.
760-580-4271
dave@dyocore.com

cc
Assemblyman Martin Garrick
1910 Palomar Point Way, #106
Carlsbad, CA 92008