DOCKET
02-REN-1038
DATE 7/31/2009
RECD. 8/4/2009

innovo
energy solutions group, llc

To: *Docket 02-REN-1038*
From: *Rick Margolin*
Date: *July 31, 2009*
Re: *Staff Workshop on Possible Changes to the Emerging Renewables Program Guidebook*

Innovo Energy Solutions Group, LLC would like to thank the California Energy Commission for conducting its review of the Emerging Renewables Program (ERP) small wind incentive program. We would also like to commend KEMA for a well-written report, however, Innovo believes KEMA's recommendations are grossly inconsistent with its report's findings. More importantly, we do not believe KEMA's recommendations for proposed changes to the program will yield the desired results. We, therefore, urge the CEC to consider an alternative examination of the evidence regarding whether the ERP is achieving its stated objectives, and whether significant program changes are warranted.

It is important to note the stated goal of the ERP is *"to reduce the net cost of on-site renewable energy systems to end-use consumers, and thereby stimulate demand and increased sales of such systems."*[1] A thorough examination of the small wind industry in California and performance of the ERP indicate these objectives are not being met. The KEMA study itself confirms this.[i] However, using past performance as a guide, Innovo believes increasing the rebate level for small wind may be an effective solution.

What follows is Innovo's comments on the KEMA report, followed by Innovo's recommendations for changes to the ERP to meet its stated goals.

Comments Regarding KEMA's Recommendations

Innovo is concerned that KEMA's recommendations for helping the ERP meet its stated goals are inconsistent with the report's findings.

- Payback Alone is Not A Sufficient Criteria. KEMA does not believe the rebate for small wind should be increased because "the average small wind system payback is generally shorter than photovoltaics."[ii] Innovo believes CEC needs to consider more than the simple payback of a small wind system because that's obviously not the only consideration a consumer takes into account. Otherwise, sales would be strong (or at least not declining). Obviously wind is a smaller resource than solar, so not as much energy can be created. We believe the upfront cost for a system that may not produce a lot of energy, as a whole, is intimidating

[1] *Emerging Renewables Program, Final Guidebook, ed.8*, California Energy Commission. December 2006. Page 2.

to a consumer despite a reasonable payback rate. KEMA writes: "The large number of respondents who reported paying cash suggests that owners are generally those with extra money available outside other investments, rather than people who require a loan or home re-mortgaging to pay for the system." [iii] Since the typical buyer is not financing the system, they're likely not factoring in payback on the system, and instead considering upfront costs. This is where an enhanced rebate would help stimulate sales by decreasing the upfront purchase price.

- ITC Itself Will Not Be Sufficient To Spur Sales. Instead of increasing the rebate level, KEMA recommends CEC allow consumers to take advantage of the federal Investment Tax Credit (ITC) and wait to see if that spurs sales. Innovo does not believe the ITC – by itself – will spur sales enough to meet ERP program objectives. KEMA notes that AWEA and California's small wind industry expect the ITC to stimulate demand for small wind, but "the expected increase in demand does not lead to an equal expectation in sales increase. Most expressed a belief that sales would increase by a much lesser percentage than the expected increase in demand or even stay the same. In fact, one retailer/contractor estimated that wind sales would decrease by 50 percent." [iv]
- KEMA does not adequately explain how its proposed alternative recommendations will achieve the program goals:
    - KEMA Recommendation 1: Update Performance Certification. "KEMA recommends CEC include, as an eligibility *requirement*, certification to IEC 61400-12-1." [v] KEMA explains why the IEC standard is worthy for eligibility, but fails to explain how requiring its use will reduce costs. While Innovo welcomes the inclusion of certification to IEC standards for the ERP program, we do not believe it should be the only applicable standard. We do believe its inclusion offers a clearer certification route for some manufacturers, but if others wish to adhere to different accepted standards they should still be eligible. A wider array of applicable standards will help reduce costs by giving manufacturers more options.
    - KEMA Recommendation 2: Adopt New Quality, Durability, and Safety Certification. While Innovo is not opposed to the concepts presented herein, we do not believe this will help meet ERP program goals. In fact, the ambiguity and period of adjustment to new standards may increase costs and stunt sales, as intoned when KEMA writes: "Any changes to ERP equipment certification protocols must consider the additional cost burden on equipment manufacturers as it relates to incentive rates that will be

provided." Innovo is not opposed to this recommendation because we feel it may help the survivability of the ERP program itself by helping ensure a return on its investments. However, we must reiterate that we do not believe this recommendation will lead to the accomplishment of ERP goals because we believe it may actually increase costs.

- KEMA Recommendation 3: Maintain Rebate Level and Structure. This recommendation provides no insight on how to achieve program goals of reducing costs and stimulating sales. Its recommendation to allow "system owners to take advantage of the newly uncapped investment tax credit" is ineffective because CEC has no stated intention of preventing owners from doing such. KEMA then goes on to recommend the ERP should ensure small wind systems are properly sited to ensure performance, yet KEMA later demonstrates that owner satisfaction with small wind systems is high and system performance is not a reason why sales have declined.[vi] Furthermore, as previously noted, KEMA's own findings show consumers regard the rebate as essential to their purchase. Most importantly, KEMA demonstrates that past rebate level increases were immediately followed by increased sales, and rebate level decreases were followed by decreased sales. [vii]
- KEMA Recommendation 4: Develop Production Estimation Tool. Innovo supports this recommendation, although we do not believe this will be a significant contributing factor to increased sales. KEMA states the tool will "dramatically decrease the uncertainty of estimated energy production numbers," yet they provide no empirical data to suggest the lack of such tool is what has resulted in declining sales, nor that the existence of such tool will stimulate future sales. In fact, the results of the customer satisfaction surveys suggest the exact opposite: "In general, small wind customers are satisfied with their systems."[viii] Innovo believes a tool can help facilitate a potential sale, but only after significant interest in small wind is generated first. Therefore, we believe this recommendation should be combined with a more comprehensive consumer outreach plan to stimulate sales.

- "…prices dropped through the early 2000s as manufacturers matured…" Coincidentally, the early 2000s also saw an increase in the rebate value, resulting in 2001 being the year of greatest activity for small wind in the ERP program history. "Whether small turbine prices will fall along with other commodity prices is yet to be seen." [ix]

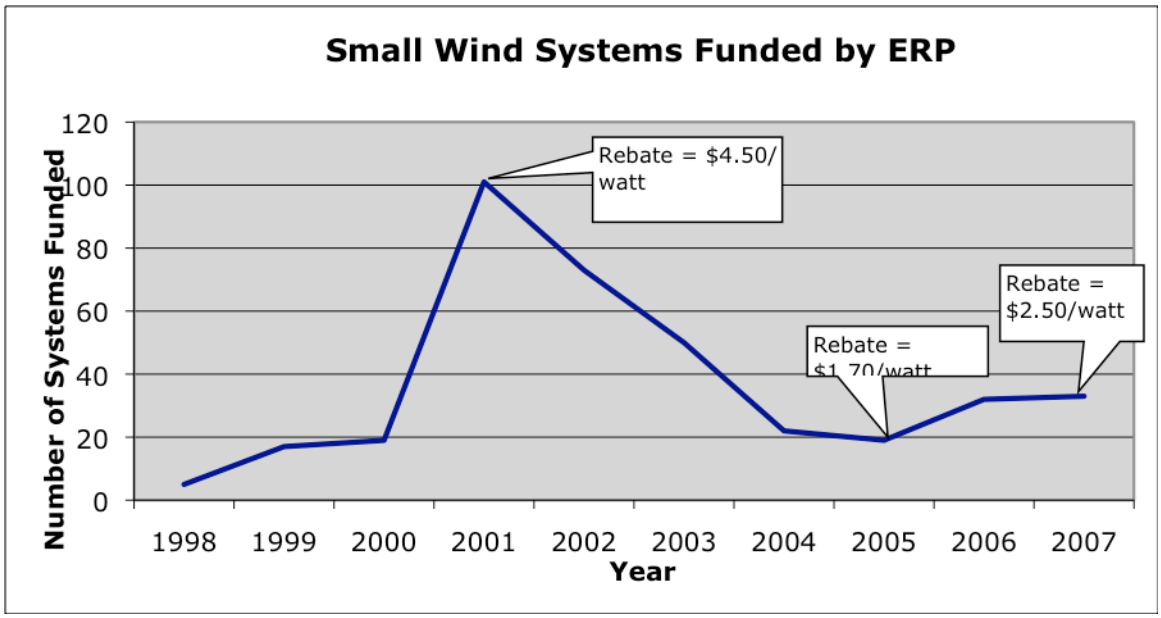
Additional Comments on the KEMA Report

- Page 22, Table 4-6: the Average System Cost and Median System Cost should be listed as $/W instead of $/kW.
- Page 28: The report writes, "Currently, none of these (urban wind) products are certified under the ERP." AeroVironment's AVX1000 building-mounted urban wind turbine was listed certified by CEC in April 2009.

Innovo Recommendations

The KEMA report mirrors conclusions Innovo and other interested parties have presented to CEC demonstrating that sales of small wind systems have decreased during the program's duration, and prices have increased. Thus, the objectives of the program are clearly not being met. To reform the program, Innovo recommends the following:

- Increase the Rebate Level for Small Wind. An historical review of ERP performance for small wind relative to rebate level adjustments clearly demonstrates sales increase when the rebate level is increased, and sales decrease when the rebate level is decreased.



Source: *Renewable Energy Program: 2008 Report to the Legislature* [x]

Similar rebate adjustments for solar technologies (when they were part of the ERP) proved equally effective at affecting sales. In the case of solar, rebate increases were enacted specifically for the purpose of increasing sales.

KEMA declares the rebate level to be the most important consideration a consumer makes when contemplating purchasing a

system. "Respondents stated overwhelmingly that the rebate was either very important or essential to their purchasing the system…The results clearly show the dependence of emerging small wind systems on the incentives provided through the ERP."[xi] Furthermore, a review of the *Renewable Energy Program: 2008 Report to the Legislature*[xii] shows there is more than sufficient funding to sustain rebate increases proposed by Innovo.

Innovo recommends increasing the ERP rebate for small wind to $3.50 per watt for individual turbines up to 10kW, and $2.00 per watt for each watt in excess of 10kW up to 30kW.

- Apply Rebates Per Turbine Instead of Per System. Applying rebates per turbine instead of per system would reduce turbine costs by delivering economies of scale. KEMA writes, "The industry argues that there is no economy of scale in small wind."[xiii] Innovo has submitted this point to CEC in previous filings, however, it was made in the context of modular systems, not per turbine. KEMA demonstrates there are price-per-watt differences between different sized turbines but they do not address the fact that a modular system uses turbines of uniform size. In modular systems there are no price decreases for the system simply because there are more turbines in the system. The cost per-turbine in a 3kW system composed of 3 turbines is the same as it is for a 10kW system made up of 10 turbines.

- Base Future Rebate Reductions on Total Statewide Installed Capacity Benchmarks. Unfortunately, KEMA did not address this issue in its report, though Innovo feels it's important because it provides CEC defensible metrics to justify future rebate adjustments. Using total statewide installed capacity benchmarks - similar to the way the California Solar Initiative is structured – will provide a more accurate indicator of the ERP program's ability to meet its stated goal. Total installed capacity will grow as systems become more affordable, thus, providing an accurate barometer for when it is acceptable to scale rebates back.

Conclusion

Since 2001 sales of small wind systems have decreased while prices have increased. During the period of time small wind has been a component of the ERP, the only statistically significant uptick in sales occurred when rebate levels increased. Similar increases to solar technologies during their time in the ERP proved equally effective. Meanwhile, the small wind industry is on the brink: many companies have already left the space or gone defunct, yet those that remain could realize a potentially vibrant future. These

technologies can play a significant role in enabling the state of California to meet its energy, climate, and sustainability objectives, but only if sales increase and prices decrease. Being that these are the stated goals of the ERP, significant action must be taken. Innovo believes its recommendations are proven effective and there are funds available to sustain them. Therefore, we strongly urge the Energy Commission to increase the rebate value for small wind and other program changes to ensure the longevity and sustainability of this important industry.

---

[i] Table 4.7 pg. 24 and page 33, *Emerging Renewables Program Small Wind Incentives Study*, prepared for the California Energy Commission by KEMA. CEC-300-2009-003. July 2009.
[ii] KEMA, page 67
[iii] KEMA, page 55
[iv] KEMA, page 35
[v] KEMA, page 5
[vi] KEMA, page 2
[vii] KEMA, Figure 6-10, page 68
[viii] KEMA, page 33
[ix] KEMA, page 41
[x] *Renewable Energy Program: 2008 Annual Report to the Legislature,* California Energy Commission. CEC-300-2008-008-CTD. October 2008. http://www.energy.ca.gov/2008publications/CEC-300-2008-008/CEC-300-2008-008-CTD.PDF
[xi] KEMA, page 67
[xii] *Renewable Energy Program: 2008 Annual Report to the Legislature*
[xiii] KEMA, page 81