BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

UM 1461

In the matter of	)
PUBLIC UTILITY COMMISSION OF OREGON	) **ECOTALITY'S COMBINED RESPONSE**) **TO OPENING COMMENTS AND**) **BENCH REQUEST**
Investigation into Rate Structures for Electric Vehicle Charging	)

Combined Response of ECOtality To Opening Comments and Bench Request

A. Introduction

ECOtality appreciates the opportunity to address the issues raised by the Commission, staff and other parties as part of this ongoing docket investigation. The Commission's effort to define policy goals and provide regulatory certainty is well placed, particularly in light of the serious investment now being made by foreign and domestic EV manufacturers, the rapid deployment of charging station infrastructure as exemplified by ECOtality's work on the EV Project, the accelerating societal drive toward energy efficiency and sustainability in buildings and transportation, and the transition of the electric utility industry's grid infrastructure through integration of smart grid technology. In short, now is precisely the time to identify and begin to solve regulatory and policy issues which might inhibit the innovation introduced by market-driven solutions and, in particular, prevent Oregon from capitalizing on its societal and economic leadership in these areas. The Commission must work to proactively reduce uncertainty to foster private investment in diverse business models while maintaining flexibility to respond to unintended consequences of this regulation and ever-changing technology.

ECOtality believes that Oregon's public utilities must play a critical role in this transition to electrified transportation. We have included them as critical key stakeholders in our EV Project planning and deployment. At the same time, as regulated monopolies, these same utilities must receive guidance in order to ensure competitive neutrality among all the interested stakeholders and potential third party EV Charging Service Providers (CSP) to encourage the development of innovation and flexible business models in the EV marketplace.

It is not our intent to comment on every item of the staff's proposal but to only provide detailed responses where relevant and drawing from our experience with providing private and public charging station infrastructure. To the extent that our comments on the staff's proposal dated August 27, 2010 also specifically apply to the Commission's Bench Requests, we will refer back

to them, unless additional comment is warranted. For ease of reference, we will organize our treatment of the issues consistent with the Staff's Opening Comments and Bench Request, and, where appropriate, offer comments about other parties' opening comments.

B. Response to Opening Comments

I. Goals and Objectives

1. Enable the development of both privately owned and publically available EVSE infrastructure in a way that is flexible and keeps all options open to different EV charging business models as the market matures.

ECOtality agrees the development of privately owned and publicly available EVSE infrastructure must be flexible in the early market to allow different EV charging business models to be explored. Although public utilities play an important role in facilitating an environment conducive to supporting EV charging, ECOtality is concerned that it is premature to concede the role of as the de facto provider of EV charging services to the incumbent utilities. Public utilities providing publicly available charging services in a competitive market should not have an advantage through rate structure, distribution infrastructure ownership, or operating scale which would suppress alternate business models from taking root. This level playing field is important to encourage the risk taking and innovation that will lead to an efficient and self sustaining industry beyond initial government subsidization. In order to create a more competitive marketplace for EV charging, the management and ownership of public utility infrastructure will likely need to be transferred to an affiliate interest because public utilities are precluded from rate recovery of utility investment in publicly available EVSE stations. Staff has identified that a number of companies, ECOtality, Coulomb Technologies and Better Place, are already entering the public EVSE business, and views this as evidence that a network of publicly available EVSE stations can be installed with or without the public utilities' direct entry into the public EVSE market. Through the EV Project, ECOtality is identifying business revenue models to support development of a robust public charging network and is committed to building its core business operations in Oregon and leveraging Oregon's leadership in other states as their regulatory structure evolves along these same lines. Any participation by utilities to provide publicly available charging stations must be done in a manner that does not create a barrier to innovative business ideas, does not aggregate the benefits accruing to the electric grid from EV loads to non-EV users, or unfairly competes with third party service providers' ability to build charging infrastructure networks that will provide benefits to EV consumers.

Impediments do exist in the current market, and we will discuss how they impact our business plan, and those of other charging station companies. In particular we want to highlight the negative impact of Demand Charges in the early phase of this market on potential commercial siting involving DC fast chargers (DC L2) and clusters of AC level two chargers (AC L2). Utilities typically use demand charges to address unusual load spot use and to discourage peak load use. The unintended consequence of demand charges, however, is to render placement of

charging systems uneconomical until sufficient vehicle usage occurs, creating a chilling effect for initial host adoption and siting of public charging facilities. Utilities will play a key role in mitigating this barrier as it exists in the early market, through: i) waiver or offset of the Demand Charge, ii) establishment of non-punitive EV only Rate Structures, and/or iii) providing significant financial support for establish new service drops with required transformers and distribution upgrades. Since Demand Charge tariffs are very common for commercial rate structures in the US, we encounter this issue in most other states in our attempt to site fast charge infrastructure for the EV Project and we will discuss this further under Section III(b)(1).

We agree with Northwest Energy Coalition's ("NWEC") comments that two general overarching PUC policy goals should be i) defining a utility's role in a manner that facilitates EV infrastructure development (thereby incenting broader EV adoption) and incentivizes technology and process that improve grid reliability and reduces utility cost for the ratepayers and ii) allocating costs and benefits in a manner that accommodates and encourages EV purchase and use. This is consistent with our belief that both utilities and existing rate payers stand to benefit substantially in the long term as a result of EV adoption, whether through better integration of renewable energy resources, reduced dependence on costly/polluting generation for peak load management, additional kWh sales with no concomitant increase in fixed and non-bypassable costs, or meeting state and Federal RPS mandates. EV users should not be unduly penalized through rate structure and rate recovery provisions that fail to account for benefits to the utilities through off peak sales and ancillary services such as demand response and or to society through emission reduction. Broader societal benefits of increased energy security from reduced dependence on imported fossil fuels, and the reduced carbon footprint of electric transportation should also be considered.

2. Manage the impact of EV charging on utility load profiles and infrastructure by encouraging charging at off-peak periods and anticipate the potential for EVs to provide ancillary services.

ECOtality agrees that the impact of EV charging on utility load profiles and infrastructure should be primarily managed to encourage charging at off peak periods. Provisions should be made for both Time of Use (TOU) EV rates as well as Direct Load Control for Demand Response, that do not require private utility networks such as AMI. Additionally, the Commission should recognize the inherent benefits of smart grid connected EVSE to help manage the impact of EV charging on the grid. We applaud the Commission for opening up a parallel docket on smart grid planning, UM 1460, and prompting Utilities to develop smart grid planning which proactively drives utilities to propose cohesive implementation plans and incentivizes their cost-effective implementation, with specific emphasis on EV/EVSE related applications. These applications should include third party provider internet connectivity to implement demand response actions, third party capability to utilize its charging network to selectively interrupt charging such that there is little or no impact to the EV owner, and third party capability to utilize its charging database to mitigate localized distribution clustering overloads. A robust and effective customer messaging/notification system is critical to ensure an educated, involved, and participating EV user community. The end result of a conscious smart grid plan will be significant cost savings in the form of deferred or avoided distribution hardware upgrades, and mitigated EV related rate impact to the overall rate base.

Embedded metering, or metering integral to the EVSE, offers a host of benefits including conservation, cost savings and flexibility to adapt to forthcoming changes in electricity access/use and energy management. Embedded metering allows timely interval energy transfer recording (both charge and discharge), and addressable remote access to this data that best enables efficient future smart charging technology integration and electricity market services participation. It can measure energy directed to (or from) EVs separately from all the electrical energy transfer to/from other loads. This arrangement would be the most attractive to EV customers who contract for an EV-specific rate separate from their home rate, preferably with time of use differentials that provide incentive for deferred off-peak charging. This meter can either communicate with the home AMI meter or the third party can backhaul required data via the internet, then sending it to the utility if required for billing and customer service functions. Strongly supporting the Commission's desire to cost effectively launch these EVSE service markets, based on ECOtality's experience the additional cost for this meter adds less than 3 percent to the installed costs of the EVSE.

Embedded meters are available now and are part of our metering products as well as some of our competitors. Using our robust platform, our charging stations can manage data generated on either the customer or utility side of the meter. The Blink network will be able to adapt itself to virtually any rate structure, TOU, EV specific, or whole house rate and capture data for purposes of measuring usage and generating revenue. Embedded meters can be synchronized with existing meter infrastructure. They also conform to the streamlining process for residential charging station installation promulgated by Oregon's Building Code Division known as the minor label program. They offer a simple solution for handling different rate designs and allow the Commission to adapt new policy based upon evolving consumer behavior/utility research, such as the comprehensive EV Project that ECOtality is managing. We agree with Staff that a separate docket on submetering should be opened to more significantly investigate rate design and implementation issues that exceed this docket's current scope. A separate docket will also provide the Commission with more information, and reassurance, about the capabilities of existing embedded meter technology and how it aligns with consumer choice over possible rate structures to fit the consumer's lifestyle.

Based on its current experience with embedded metering and smart charging technologies, ECOtality disagrees with other commenters that it is premature to measure the nature and potential value of EV ancillary services to the grid. These are logical extensions of the growing trend for integrated fixed storage (and distributed generation) along with the EVSE, where ISO and market signals can be tied into aggregated resources for coordinated regulation signal response while servicing the load balancing needs of the premise.

We have already begun discussions with utilities in Tennessee, Arizona and California about the prospects of joint pilot projects to collaboratively explore the implementation and capabilities of our Blink product with utilities' systems. We anticipate additional industry based data relevant to embedded meters and smart charging technologies to come from PUC based pilots projects and will provide it as it emerges. As evidenced in OPUC's Smart Grid Planning Docket, UM 1460, in their closing comments, Staff has proposed content guidelines for utilities designed to initiate testing and adoption of proven, cost-effective SG technologies, including:

> "… [their] assessment of actions (along with any actions investigated and rejected) to increase ancillary services including, but not limited to, those designed to enhance customer distributed resource interconnection, coordinated management of distributed resources, optimized electric vehicle charging and dispatch from electric vehicles or other storage."

(Emphasis added). Staff Closing Comments, UM 1461, Appendix A, *Guidelines for the Utility Smart Grid Plan (SGP)*, S. 6 (B)(4). As a result of the SGP process, ECOtality is confident that utilities will agree with its appraisal of the current state of smart charging technology and identify the necessary steps to implement it.

EVSE capable of supporting demand response and smart charging is readily available today. The competitive services market that this would create would in turn foster innovation, drive standards for interoperability, promote robust EV adoption rates and corresponding EV services industry development, and create many new and valuable clean energy jobs in Oregon. Although this scenario will call for some degree of process integration between EVSPs and utilities, it should prove to be the most flexible and cost-optimized arrangement for the industry as it moves toward sophisticated data gathering methods and smart grid integration. Accordingly, the Commission should direct utilities to include cost effective smart charging targeting PEV charging in their next DR application and as part of their IRP and SGP planning processes. This direction should include request for a clear position statement on acceptable third party meter performance specifications, enabling bi-directional power flow through net metering, as well as justification for continued application of demand charges on commercial electricity rate schedules. We note that the state of Delaware already has lawmaking processes underway to facilitate net metering for EVs and suggest that the reality of EVs providing ancillary services is close at hand.

3. Ensure no undue shifting of EV related costs onto non participating ratepayers.

ECOtality agrees that in the early market there should be no undue shifting of EV related costs onto non-participating ratepayers. On the other hand, those true EV related costs need to be fairly identified and covered without providing windfall profits to the infrastructure providers. It is anticipated however that all customers and ratepayers, whether vehicle drivers, building owners, or both will benefit from a vibrant market in EV service options and smart charging. As EV market penetration increases, appropriate estimation, documentation and allocation of distribution upgrade costs will need to be examined closely. In the near term, metering options (i.e. single metering, separate metering, submetering) will play a key role for measuring how early adopters use the system. The Commission should encourage consumer education and choice in the early market, including information on costs and tradeoffs of all metering options. As much as possible, the true costs reflecting energy market rates (net of monetized societal and grid benefits) should be presented to consumers along with the required management tools for executing EV charging/discharging decisions that reflect understanding of, and reaction to, those true costs.

Although single whole-premise metering may continue to be an option available by utilities, this currently does not provide a mechanism for separately metering the EV load, thus preventing effective allocation of EV-related costs and benefits as well as customer participation in advanced grid service. ECOtality encourages the Commission to provide EV consumers choice in metering and service options, especially in the near term. Separate metering (in which a new, separate line and meter are installed for EV charging) addresses some of these problems, but brings significant financial burden and logistics complexity and delay which may increase adoption barriers to EVs.

In the rate option where an EV customer may be required to use a separate meter, the customer should bear the cost for the dual-meter set up. During this transition, customer assistance tools should be provided to help consumers that may require or prefer a dual-meter option to access a PEV rate. On-bill financing should be explored to give customers additional flexibility in deferring upfront costs of PEV adoption in the early market. However, on-bill financing of separate meters is a small part of the solution, and the Commission should look to enable submetering as quickly as possible to foster consumer choice in PEV services and rate options. Furthermore, the rate design for a PEV rate should reflect significant savings over the whole house rate for the use of off peak power for EV loads. These savings come from both the direct benefit of deferring a load that would otherwise reinforce system peak, and the indirect benefit of having more addressable load for consumption of off peak renewable energy (especially wind and hydro). Without incentive significant off peak rate differential, the additional costs of separate metering will inhibit the adoption of the PEV rate and forego the benefit of the data such use would generate.

As we have discussed, submetering offers the best option for enabling direct metering of PEVs to ensure that PEV load can be accurately monitored, dispatched and managed to achieve environmental and grid reliability goals either by the utility itself or by a third party service provider. Submetering also appears to be the best approach to avoiding the costs and complexities associated with whole-house and separate metering, but the Commission must take some immediate steps in order to enable submetering for EV customers. Enabling submetering of EV load across residential, commercial and public settings will require that the following issues be addressed:

- Certification of embedded metering or meters located inside of EVSE, including verification that meters meet applicable standards, process for "sealing" the embedded meter against tampering, and addressing any variability in metering requirements across residential, commercial and public settings, and utility territories.
- In the case of third party certification process, identifying and authorizing an appropriate entity to supply this service, without overly restrictive certification procedures.
- Subtractive billing, starting with determining cost-effective solutions to enable utilities to support integrated billing of EV load.

In the case of embedded metering, there would be no separate costs to consumers for the hardware, as the cost of the meter would be included in the EVSE equipment cost. For this

reason alone, embedded meters offer an opportunity to greatly expand our ability to refine electricity consumption and provide important consumer behavior feedback signals. These types of meters are essential to the EV market because they enable a separation of the consumer from the rate payer. For example during any particular day, several different consumers may use the same publicly available EVSE. In such a case, a smarter meter is demanded, one that knows the application and knows who is using the electricity. Embedded meters are these smarter meters. The opportunity currently exists to introduce this new, smart and efficient application to the grid, for EVs and for other future applications. Embedded meters offer a host of benefits, including conservation, cost savings and the flexibility to adapt to coming changes in electricity access and use.

II. Legal Issues

a.) Is an EVSE provider a "public utility" under Oregon Law?

ECOtality concurs with staff's analysis that an EVSE provider is not a utility and for reasons previously stated.

b.) Is an EVSE provider an ESS under Oregon Law?

ECOtality concurs with staff's analysis that an EVSE provider is not an ESS and for reasons previously stated.

c.) Are there any legal constraints to an EVSE provider selling electricity to the EV owner?

ECOtality agrees with staff's analysis that there are no statutory constraints preventing an EVSE provider from selling electricity to EV owner. Should the Commission allow public utilities to participate in the competitive marketplace for EV ownership and operation of EVSE, it is strongly recommended that whatever manner it prescribes does not place independent EVSE providers at a competitive disadvantage. A primary goal of the Commission's policies should be to ensure that utilities do not unfairly compete with nonutility enterprises using ratepayer funds and the advantageous capital terms that comes from that.

If the utilities are permitted to own and operate EVSE on customer premises, they should not be permitted to rate base EVSE. Rate basing creates an uneven playing field upon which independent and innovative EVSE providers would be unable to compete. This important principle should also be carried into the revenue allocation and rate design discussion to clarify that a utility's ability to recover EVSE related costs would not be through its general service or EV rates and tariffs.

Staff also raised some concern over existing territorial rate tariffs maintained by each utility within its respective service territory which essentially prohibits the resale of electricity by their customers. Both PGE and Idaho Power reiterated this concern and asserted that such tariffs could apply to electric charging stations depending upon the facts involved. Given that the transaction

between the EVSE and the EV charging customer is not fairly characterized as a "sale" of electricity, this should be eliminated as an issue with a decisive PUC ruling. ECOtality agrees with Staff's and CUB's recommendation that each utility be charged with amending their territorial tariffs to specifically exempt publicly available and privately owned EVSE charging of EVs. ECOtality also believes that the Commission should construct its order with neutral language in describing the potential business models underpinning EVSEs, specifically avoiding reference to any "sale" of electricity except between the utility and the EVSE provider.

d.) Is the sale of electricity by a Utility to an EVSE provider subject to FERC regulation?

ECOtality believes that the sale of electric energy by an investor-owned utility to an EVSE provider is a retail sale of electricity, not a wholesale sale or a "sale for resale" and would fall under the jurisdiction of the Commission, not FERC. ECOtality agrees with Idaho Power that how the transaction between the EVSE and the EV charging customer is characterized may be an important element in determining the retail nature of the transaction between the EVSE and the utility. To the extent the transaction between the EVSE and the EV charging customer avoids reference to the sale of kWh, it sidesteps potential jurisdictional issues involving wholesale transactions between the utility and EVSE.

ECOtality recommends that the Commission further clarify this issue by establishing a PEV rate for sale of electricity to EVSE providers. This rate should recognize the system benefits that EV loads can provide the gird, incorporate demand response requirements to ensure that these EV loads never contribute to peak demand (either locally or globally) and provide significant economic incentive for EVSE providers to adopt such EV rates using smart EVSE.

It must be noted that many of the underlying concerns that drive this policy against reselling of electricity were created by the potential for diverting energy under the special tariff rate into loads that were not intended for this rate. An example of this would be the "subdivided/sublet" residential dwellings under a single utility account. Another example would be a special hot water tank rate that reflects benefits of a thermal storage DR program being used for powering lighting load. Specific to EV charging, this diversion is highly unlikely due to the requirements of the SAE J1772 connector specification which requires a valid EV to be present before power is allowed to flow from the EVSE.

III. Regulatory Policies and Guidelines

a.) Policies related to developing charging infrastructure

1. Utility Ownership and Operation of publicly available EVSE stations.

ECOtality encourages the Commission to develop policies that will lead to a competitive marketplace for EV charging services. ECOtality and the Citizen's Utility Board ("CUB") share similar concerns regarding the participation of regulated utilities in a competitive market where

third party providers are developing different business models and services that could fill a potential void for publicly available charging in certain utility service areas. Although this is a nascent market, private industry is already demonstrating the ability to provide private and public charging infrastructure along with developing business models to make this a self-sustaining industry. Utilities need to ensure their charging stations are self-funded through stand alone affiliates and not rate based. Electric rates and other connection charges need to be clearly defined and closely supervised to assure that third party EVSE providers are not put at a competitive disadvantage.

An example of a noncompetitive rate structure would be where a utility is permitted to use single metering. If the utility is permitted to own and install EVSE, and the utility can use single metering, a utility-served EV customer would incur no incremental "behind the meter" costs. If, however, an EVSE served the same customer, the EVSP or its customer would bear the behind the meter costs of separate or submetering. In making revenue allocation and rate design decisions, the Commission must place the goal of competitive neutrality high on its list of guiding principles.

Publicly available EVSE could mean in the public right of way AND also commercial locations. As a result, ECOtality is concerned that this poses a risk to the expansion of business revenue models in the marketplace. As stated in Staff's proposal, public utility charging stations should not be rate based. If utilities in Oregon do not plan to recover costs in rates, they must disclose their plans to address the costs of designing, installing, operating and maintaining EVSE. Stated alternatively, are public utilities looking to "break even" or, if a business model is being considered, how can it be implemented by the utility to maintain competitive neutrality? In order to become a self-sustaining industry, normally revenue must be generated from services delivered at publicly available charging stations. Relevant services that support this model include; battery recharging and/or diagnostic services, location and reservation services, convenient and secure time-dependant parking space, and potential grid services including demand response and regulation services. As CUB suggests in their comments, if a business case shows that a utility, like a third party provider, can make net profit margin from any combination of these services from its ownership and operation of publicly available EVSE, then this automatically provides the cost recovery mechanism. As a matter of public policy, this is an area better served by the private sector, whose natural inclination is toward innovation, economic efficiency as well as developing, marketing and leveraging flexible and competitive business models. Utility ownership of EVSE would also represent a significant change in the traditional customer-utility boundary. The line between a regulated monopoly and open market forces can be best visualized at this traditional demarcation. The Commission should consider several factors in delineating this line with regard to submeters and EVSE, including safety, equipment ownership, customer service, customer privacy and competition in the market place which drives cost savings to consumers. While PGE would prefer the Commission regulate its potential expended EVSE infrastructure costs flexibly and allow rate recovery for "prudent" expenditures, the Commission should provide very clear guidance as to where this boundary is drawn and err on the side of competitive neutrality.

As previously stated, ECOtality is also concerned with public utilities' ability to provide DC fast charging at publicly available EVSE because of the utility's discretion to manage and mitigate

demand charges. Allowing utilities to impose demand charges under their current rate structures (especially in the early market adoption phase for EV) places third party service providers at a tremendous competitive disadvantage when providing this equipment in public and commercial locations. The recommended mitigation for this is availability of a universal opt-in EV only rate, preferably with TOU differential available and applicable to all EVSE providers. With this in place, the EVSP could effectively manage the education, outreach, communications, and technology platforms that would drive the most recharging load to the off peak hours, yet preserve the choice for customers who are willing to pay more for a daytime convenience charge.

2. Cost of Distribution Upgrades and Reconfigurations.

In the early market ECOtality agrees with the notion that EV consumers should bear the specific cost of their supporting infrastructure and, like PGE suggests, the construction of non-discriminatory pricing structures. ECOtality, however, strongly encourages customer choice and competitive neutrality be present to support a vibrant EV services market. Consumers should be given the widest range of choices in metering and related services as possible and sufficient education to understand the significance of these choices. For example, if a consumer chooses separate metering over single metering, they would be required to bear the cost of that additional meter. Utilities should be involved in educating their customers to select meters that will result in decreased short- and long-term costs to the consumer and the utility, whether through highly relevant and timely customer energy use information feedback, improved system efficiency and reliability, avoided cost of upgrades, environmental benefits, or other benefits of customer participation in demand response programs.

EV customers should not bear the cost to upgrade undersized or aging distribution infrastructure that does not meet current design standards. The installation of EVSE in and of itself should not provide a "blank check" for system upgrades to aging or inadequately designed systems. Further, ECOtality shares CUB's concerns about the potential difficulty in identifying the end-use responsible for the upgrade, where for example larger appliances might also be attributed to the changes requiring upgraded service.

For these reasons, ECOtality believes that submetering, and particularly embedded metering, allows for greater cost efficiencies for consumers through the direct metering of PEV. Direct PEV electricity metering is key to realizing the societal benefits of PEV adoption, including the ability to do the following:

- Provide timely energy consumption tracking data to EV owners
- Support price signals for off-peak charging through specific PEV TOU rates
- Enable participation in PEV specific demand response programs
- Support consumer choice in third party provider EV services
- Determine credits under LCFS
- Monitor and verify PEV charging provisioned for grid support services
- Support roaming and billing of PEV load across territories
- Support future technology applications for data gathering

b.) Policies related to the impact of EV charging on the grid.
1. Rate Schedules for supply of power to EVSE's.

ECOtality encourages the Commission to develop a set of guiding principles for use in utility applications at the conclusion of this proceeding.

ECOtality believes that a healthy and vibrant EVSP marketplace, including a network of commercial and public charging in addition to residential charging, offers significant benefits to all ratepayers, including (1) carbon reduction and the corresponding societal benefits, (2) demand response services to ensure electric vehicle charging that contributes to PEAK demand can be offset through load management, storage, or other methods of "smart charging", and (3) kWh sales contribution to fixed and non-bypassable costs. These benefits should be considered and monetized, and applied as offsets to these purpose-specific rates. Rate structures should then be developed in a holistic manner and integrated in a smart charging infrastructure environment (including recognition of EVSP capability to provide demand response independent of utility smart grid communications systems) that incorporates attractive commercial and public charging opportunities to enhance the breadth of the EV charging services industry.

ECOtality is particularly concerned over the potential for a strong adoption-chilling effect that high Demand Charge structures could bring to commercial charging. As an example, on of PGE's existing demand charge programs is $6 per kW which is triggered by usage over 30kW. If a charging station operator exceeded the 30kW threshold twice during a thirteen month period, they would move to a schedule with demand and capacity charges where they would stay through a thirteen month period. The demand charge for any given month is based on peak demand for that month. The capacity charge is based on peak demand during a thirteen month period. Thus, assuming a Level 3 DC fast charger draws 50kW, and the existing building load is 30kW, the demand charge alone equates to an additional monthly charge of $300 and carries over, at a minimum for a thirteen month period. For smaller scale commercial locations, early in the market, this additional cost on top of the equipment and installation itself, makes it very difficult to economically justify. In the initial phases of charging station roll out and franchising, there are too few cars in the "denominator" to sufficiently spread demand charges. This scenario is intended to illustrate the ramifications of an existing demand charge rate and not unduly single out PGE; in fact rates are similar for the other IOUs. Not surprisingly we have found that demand charges are a significant issue in many states.

As ECOtality has worked through the process of determining the setup and installation configuration for DC fast chargers, we have discovered that there are several areas of cost impacting the installation and operation of these stations including excess demand charges that will cost the charging host a fair amount (e.g. $10.00 per kW X 50kW= $500) of dollars above what they are accustomed to. Since we do not know the frequency at which the public infrastructure will use the chargers, it is difficult to determine what this exact cost will be. This has forced third party service providers to either cover the costs of the potential demand charges going off of the host existing meter or to invest the extra dollars for a separate utility service. For example, for the purpose of the EV Project, the excess demand charges could be e.g. $500 per x 18 months = $9,000. We have discovered from one utility in Tennessee that if a separate

service were installed they would charge $400 per month as the cost to simply provide the service to the area. Although we feel this is a high estimate, it is anticipated that each utility will have a service cost associated on top of the power dispensed. As a result, if the average install cost of a DC fast charger is around $18,000-$22,000 + the potential of either $9,000 (demand cost) or $12,000 (new service) the third party EVSP is spending in the area of $27,000-$34,000 per DC fast charge location for infrastructure alone on top of demand charges for the host. The incumbent utility is currently in a position to greatly manage and mitigate these costs.

Currently, ECOtality is trying to assess utility EV programs, demand charge parameters and mitigation potential in all of its targeted markets. (See Attached Exhibit A). Data from this research, and other potential solutions, will be made available as part of the EV Project.

ECOtality supports the creation of some form of separate EV rate option as a reasonable first step in solving the demand charge issue in Oregon while offering consumers a choice that fits well within the capability of embedded metering technology. Creating a separate EV rate that is devoid of these demand charges would render the issue moot and inapplicable. Creating a mandatory separate EV rate at some point may be consistent with maintaining competitive neutrality as it levels the playing field for all EVSPs, including utility affiliates. Although ECOtality is reluctant to endorse this as a ***mandatory*** rate at this time, we believe that the separate rate is critical and should be proposed, leaving the mandatory vs voluntary (or opt in vs opt out) discussion worthy of ongoing study. In the end, OPUC should undertake serious consideration of segregated energy metering and alternative Demand Charge methods that will include demand response and not inhibit deployment of commercial charging stations; this would be an appropriate topic for a submetering docket and potential rate case. ECOtality strongly encourages the Commission to redesign PEV rates after establishing basic principles and examining early market data. Before revisiting existing PEV rates, the Commission should ensure that it has a sufficient understanding of PEV usage and charging by early adopters. The time to revisit PEV rate design should be after the resolution of critical early issues necessary for initial PEV market penetration. Some minor language change in existing tariff rules and rate schedules can ensure that third party service providers have access as retail customers to PEV rates and that such service does not additionally restrict or limit services behind the meter.

The Commission should work with ongoing research efforts, such as ECOtality's EV Project, to analyze available early market data to ensure that it is appropriately reflected in modifications to PEV rate design in all customer classes – residential, commercial and public charging. To the extent possible, the broader environmental and energy security benefits of EV adoption should be considered and monetized to offset the impact of financial barriers to adoption. ECOtality considers high demand charges as one such potential barrier that could prevent deployment of EV infrastructure networks, making them prohibitively costly in the early market before sufficient utilization rates to generate adequate cost recovery.

Given the time it takes to develop rates, we encourage the Commission in the near term to develop a set of principles for rate design, and work with the utilities to test and improve on innovative experimental rate designs. Collecting real world data from the early marketplace between 2011 and 2012 will enable the Commission to establish PEV rates based on actual market experience.

ECOtality believes that the Commission should explore special conditions that would require the installation of smart charging equipment capable of responding to grid and other market and environmental signals, including demand response. ECOtality would be supportive of the possibility of adding to existing rate schedules credits or discount rates for customer participation in demand response and, in addition to sharing its EV Project data with the utilities, would support further pilot studies focusing on the V2G cost/benefits. An important aspect of this last feature is the approval of a net metering requirement that can be trialed in these experimental programs.

Lastly, the Commission should encourage an aggressive program to support third party provider services. In the very near term the Commission needs to order changes to existing utility electric rules and PEV schedules to accommodate third party service providers as customers and the deployment of EVSE with embedded metering. These changes should allow, at the option of the customer, for this type of metering to be installed by a third party service provider in coordination with the utility, and the third party access to customer meter data. The existing PEV tariffs and electric rules need to specify that a third party service provider is an eligible retail customer. At the same time, the rules should not impose any limits or conditions on the charging services offered by a third party service provider. The Commission should instruct the utilities to make these necessary tariff changes, consistent with the notion that an EVSE provider is not a public utility or ESS under Oregon law.

2. Optional utility ability to control charging rate ("dispatchable charging").

Along with considering the constructive role of aggregators in dispatchable charging, ECOtality recommends the Commission proceed cautiously in allowing utilities to have unfettered discretion to control charging rates during peak load periods. As CUB warns, during the especially vulnerable period of early adoption of EV technology, utilities should not be provided the ability to show preferential load manipulation to the detriment of EV users. Nor is it clear dispatchable charging is of great interest to utilities, based on the very limited quantity of early market EVs and the generally restricted load presented with the first generation of vehicle battery management systems (BMS). We agree with PGE that the current emphasis should be on delivering a superior customer experience. Consumer choice can and ought to be an essential element of dispatchable charging, particularly when technology easily affords such choices however, unlike the impact of an HVAC demand response event (where the house temperature may simply rise by several degrees) the consequences of a vehicle charge interrupt for an event could be catastrophic (ie unable to get to the emergency room, for example). For this reason, it is very important that the third party provider has a robust message/notification system that is tightly integrated with the operation of demand response application.

ECOtality encourages the use of demand response to help mitigate grid load as well as allowing utilities the ability to delay charging to enable distribution of energy impacted by EV charging. The use of aggregators to assist in demand response is becoming common; for example, Idaho Power states that it uses such a configuration in one of its demand response programs. Given the expanding presence of third party EV service providers in the market, we recommend that the

Commission consider how to best incentivize the role of third parties in aggregating and managing PEV load centrally on behalf of their customers. The services so enabled could range from executing utility demand response events across a distributed customer base to optimizing PEV charging in real time based on driver requirements, price signals, renewable generation supply and utility/ISO signals.

Below is a diagram for this third scenario integrating the role of EVSE providers. This can apply across metering and Home Automation Network ("HAN ") scenarios, which are not included here but could be added. In this scenario, the EV owner or host allows its EV service provider to optimize PEV charging on its behalf and the EVSP becomes the point of communication with the utility on behalf of its customers. By operating across a network of customers, the EVSP provides additional functionality of aggregating and orchestrating PEV charging, which has multiple valuable applications to the grid.

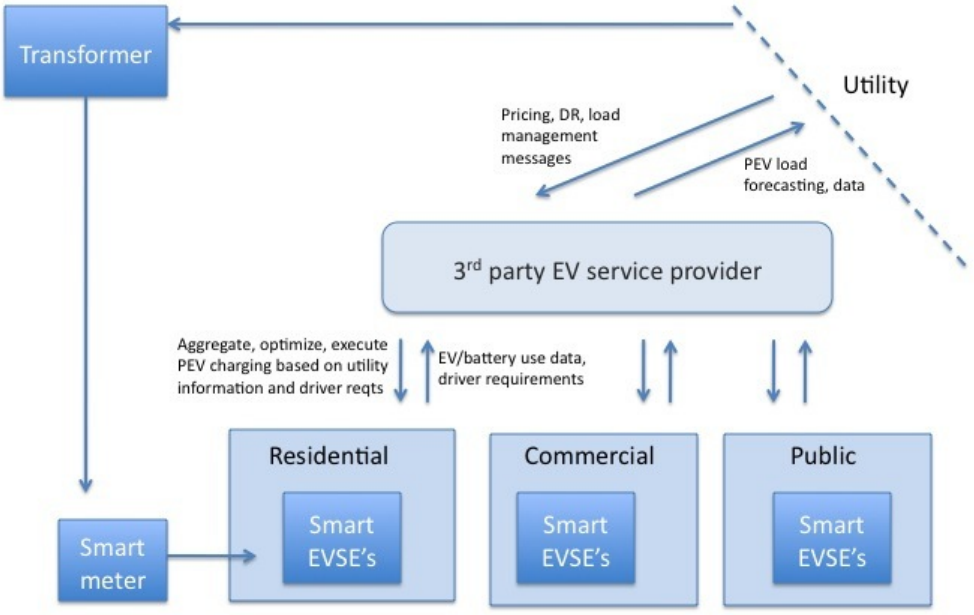

Figure 3. Smart Grid Communication with EV service provider (applies to across possible metering/HAN arrangements)

3. Information on emissions to customers

ECOtality is supportive of information being provided to EV consumers regarding the resource mix and emissions profile associated with charging to make more informed decisions regarding their charging behavior. Utility consumer education should focus on conveying the societal benefits of "responsible PEV recharging" such as utilizing off-peak charging. ECOtality does not offer a specific formula or guidance to the Commission other than recognizing the complexity of calculating the environmental impact in real-time increments of even base-load generation mixes. The best and most objective means for reducing this data to meaningful

summary remains unclear. Certainly, in order to ensure competitive neutrality in the marketplace, the Commission should not allow utilities unfettered authority to describe, interpret or offer opinions regarding the services of non-utility participants for customers as part of their consumer education programs.

c.) EV's as a provider of Ancillary Services.

1. Forecast the Demand for Flexible Capacity.

2. Forecast the Supply of Flexible Capacity.

3. Evaluate Flexible Resources on a Consistent and Comparable Basis.

Although it may take time for EVs to have a meaningful impact as a provider of ancillary services, ECOtality supports the introduction of smart charging into utility planning as currently being investigated under UM 1460. The Commission should direct utilities to include cost effective smart charging targeting PEV charging in their next DR application. As stated earlier, EVSE capable of supporting demand response and smart charging is readily available today. In addition, there are cost effective fixed storage and distributed generation systems that are emerging which provide the availability of integrated EVSE to deliver valuable grid reliability services. We agree with NWEC's comments that suggest more focused analysis be required in the utility IRPs as they relate to valuing probable ancillary services. While the proper place for this analysis may be in the IRP or, depending upon the Commission's final order, the utility's SGP, we agree it is an important consideration all utilities should undertake in their planning. We also agree with NWEC that once values can be assigned to ancillary services these benefits should somehow accrue to EV users and the service aggregators that enable them, whether in the form of tariffs or other incentives, which can be used to more fairly offset the associated costs of EV adoption and usage, and the infrastructure network that is built to enable these advanced services.

C. Response to Bench Request

1. Utility Ownership of EVSE Guideline

ECOtality agrees that utilities should be allowed to participate in EVSE ownership if done through their independent affiliates and subject to the same costs as their competitors. Rate recovery should only be allowed in circumstances where distribution and transmission related upgrades are necessary as a result of EV specific load growth or service issues. Even in circumstances where a municipality requests that a utility install EVSE in an outlying part of its service territory, ECOtality believes that this cost should not be borne by all ratepayers inasmuch as all ratepayers do not benefit. If a municipality sees the need for publicly available EVSE infrastructure, it can pay a third party service provider or the unregulated arm of a utility to do it. EVSE providers should not be considered part of a regulated monopoly but rather subject to the normal forces of the marketplace to determine where and when their placement makes economic sense.

If so, what standards of review should the Commission use to determine when rate recovery of utility investment is warranted?

If the Commission were to undertake review of utility rate recovery for certain EVSE placements, it should occur on a case by case basis and apply criteria designed to show that no other reasonable economic model would work for such a placement and clearly identify the benefits to the public interest sufficient to justify rate recovery. Criterion might include evidence that the municipality actually requested assistance, the number of EV users within the service territory involved, the number of EVSE's placed in service, and the actual usage rates of those EVSEs, and lack of profitability or availability of third party providers.

What are the implications of the "used and useful standard" for utility investments in charging stations?

ORS 757.355 states, in relevant part, that "a public utility may not, directly or indirectly, by any device, charge, demand, collect or receive from any customer rates that include the costs of construction, building, installation or real or personal property not presently used for providing utility service to the customer." While ECOtality believes this standard
applies to a utility seeking rate recovery for a publicly available EVSE and therefore rate recovery is not allowed for activities undertaken on the consumer side of the meter. The "used and useful" standard creates a brightline and clear expectations based on years of experience with its application. Accordingly, if the Commission were to conclude that the public interest required a utility be allowed to seek rate recovery for a particular EVSE, ECOtality believes even a narrowly tailored exception would run afoul of the "used and useful" standard.

2. Distribution System Upgrades Guideline

a. Cost Allocation for Distribution System Upgrades

Will it be possible to assign responsibility for a utility's need to make significant distribution upgrades to one or a limited number of last to the system EV customers?

ECOtality refers to its response under Section III (a)(2). If consumers are properly educated about meter selection it is likely that submeters or embedded meters will become the preferred technology. In the event that separate metering is chosen, those consumers should be readily identifiable. The larger issue may be whether an EV user or groups of users are singularly responsible for a distribution upgrade or whether it results from a combination of load demands, an aging distribution system or an inadequately designed distribution system. Nonetheless, smart metering should provide sufficient evidence of the extent of EV charging for a particular distribution point.

If so, should the last to the system EV customers be burdened with the full cost of the upgrade?

ECOtality recommends that regulatory policy create incentives, not disincentives, to the adoption of EVSE and EV technology. The benefits that accrue now and in the future as a result of saving on emissions, fulfilling state and Federal mandated

RPS and load balancing are potentially system-wide. Isolating EV related costs and placing them on the EV user-class may be inequitable if it fails to also recognize the benefits that accrue to all ratepayers as well as the utilities themselves.

If not, what are reasonable rate alternatives to assigning full cost responsibility to the last to the system EV customers?

ECOtality believes that assigning rate responsibility may be premature at this time. See our response to Sections I(3) and III (b)(1). ECOtality strongly encourages the Commission to remain flexible to redesigning PEV rates after early market data is collected and analyzed. It is likely that no additional distribution upgrades will be necessary for some time, given existing forecasts of EV penetration into the market. An alternative approach that could incent investment in fixed battery storage, in conjunction with smart grid enabled energy management systems, could provide the required resiliency to shift load away from reinforcing peaks, and thereby defer the required distribution system upgrades.

b. Cost Allocation for Implementation of Separate Rate Schedules

Explore alternatives to assign the costs of implementing a separate rate schedule for EV charging to all customers. Address pros/cons of assigning the metering, billing and data collection costs associated with implementation of a separate rate schedule for EV charging to the EV customer class.

ECOtality refers to its responses in Sections I(3) and III(b)(1). ECOtality believes that the initial costs of implementing a separate rate schedule for EV charging will be modest. Making PEVs attractive to consumers along with the concurrent need for rapid deployment of public and private charging station options should outweigh any immediate need for assigning costs until the market matures. ECOtality urges the Commission to make incentivizing EV use a fundamental policy consideration as it continues to define its mission of protecting the ratepayer's interest. At some point, equity may dictate that EV users bear some of the costs of a separate rate schedule. However, the cost/benefit analysis should be left until such time as the systemic, environmental and societal impact of a separate rate can be better assessed.

3. Rate Design Guideline

Besides a separate TOU/seasonal rate for Level 2/3 chargers, what are other approaches? Consider Seasonal/TOU with separate or sub-metering for EV charging v. TOU for the entire home/business with an EV charging station.
What other alternative charging scenarios will encourage off-peak charging?

While TOU appears to be a compelling rate-based incentive for off-peak charging, ECOtality also believes many of the perceived issues that impede off-peak charging can be solved in conjunction with rate structure incentives. Solutions might be found in

concerted efforts to educate consumers about meter choice and charging behavior, through aggregators involved in demand responses programs and through the technology itself, such as the embedded meter in the EVSE . Further, smart grid technologies will likely provide additional solutions in the form of consumer energy management systems and utility-based control over load. Also, as several rate options likely will evolve, from a practical standpoint, embedded meter technology is easily adapted to fit what becomes the predominant rate structure. By this ECOtality suggests that the Commission view rate structures in the larger context of learning about consumer behavior change and take some solace in the ability of existing technology to adapt to changing information in this area.

As noted earlier, the Commission should work with ongoing research efforts, such as ECOtality's EV Project, to analyze available early market data to ensure that it is appropriately reflected in modifications to PEV rate design in all customer classes – residential, commercial and public charging.

Should a discounted rate class be created for demand response opt in EV chargers?

ECOtality refers to its earlier responses under Sections I(1) and III(b)(1) and (b)(2). As part of any rate design policy, the Commission should allocate the costs and benefits to the utilities through ancillary services provided by EV users. One of these benefits should be through a discounted rate class to those EV users who opt in to a demand response program.

Should any approach be implemented as a pilot project first?

ECOtality generally supports the use of pilots that include the broader community at a meaningful scale. In this instance, however, we believe that sufficient capacity exists to support the best rate profile, including whole house TOU and separate EV TOU rates, while gathering data which can be subsequently applied as the market matures. ECOtality has expanded its use of home energy controller technology such that it could tie the EV into a whole house TOU rate if desired. Indeed the early market scales much like a pilot project; and this early market is developing right now in many states, including Oregon. ECOtality would not support a pilot project that unnecessarily delays the build out of charging infrastructure in the present. We believe that the Commission opening a separate submetering docket to investigate and establish guidelines for possible EV rate structures is a perfect parallel activity complemented by pilot studies.

What is the role of customer education with regard to off-peak charging?

ECOtality recommends that utilities and EVSE providers work in collaboration to educate consumers about the new technologies available and their costs and benefits. See our earlier responses to Sections I(3) and II(a)(1) and (a)(2). We see broad consensus between the other stakeholders, specifically PGE and CUB, on this point. ECOtality believes that consumer education is a critical link in the successful adoption of EV

technology and that utilities can harness their consumer data and marketing leverage to greatly accelerate the adoption of this technology.

4. IRP Flexible Resources Guideline

Commission asks parties to adopt or reject staff's proposed integrated resource plan guideline for flexible resource planning.

ECOtality agrees with PGE's analysis that these guidelines should establish the starting place for regulation of utilities and EV-based issues, however, these guidelines should not be treated as a long-term strategy. ECOtality will be sharing results from the EV Project in 2012, which will provide Oregon with rich data on charging models, consumer behavior, and utility use of EV ancillary services. It would be premature to consider any regulation as governing the long-term framework for EV charging and infrastructure. According, while IRPs are significant utility planning processes, we agree with Pacific Power's comments that the Commission should consider how to best use consider the role of smart grid-related technologies such as smart metering, demand response and other V2G applications. This may be done through the utilities IRPs or through the proposed Smart Grid Planning process under UM 1460. See our earlier response under Sections I(2) and III(c)

5. Additional Planning and Reporting Guidelines

What should be required, if anything, in terms of additional reporting or planning by utilities?

ECOtality makes the following recommendations for additional planning and reporting guidelines:

- The utilities should propose tariffs that support multiple meter arrangements to allow customer choice in the early market. The three primary meter arrangements – single, sub-metering, separate metering should be available to customers, and utilities should design tariff and billing systems to support each type. Given the nascent stage of the PEV market, the Commission should allow as much choice and flexibility as possible until more information is available to revisit PEV rate design.
- The utilities should be directed to include cost effective smart charging targeting PEV charging in their next GRC application. EVSE capable of supporting demand response and smart charging is readily available today.

  The Commission and parties can be provided results learned from the EV Project identifying progress and lessons learned in the implementation of electric vehicle charging.

6. Additional Guidelines Related to Regulation of EV Charging

Other new guidelines with full explanations regarding the benefits and need for the proposed guideline?

ECOtality recommends the following additional guidelines:

- Enable consumer choice and facilitate a competitive market in PEV charging services:
    - Consumers should have the choice of assigning their PEV charging to a third party PEV service provider, and rate design and tariff rules should facilitate that choice. The tariff structure must clearly accommodate and provide options appropriate for third party providers of PEV services across residential, commercial and public settings. This will require rates that do not discriminate or create a skewed competitive advantage between utility and third party PEV customers. Otherwise, consumers will not benefit from competition and innovation and the ability for third party service providers to flourish in the marketplace will be negatively impacted.
    - We agree with Pacific Power that consumer choice necessarily requires consumer education. Whether consumers will respond to TOU pricing will in no small measure result from how utilities and EVSE providers collaborate in their efforts to provide information and have the capacity to measure its impact on consumer behavior. The Commission should expect some allocation of utility resources to drive consumer education, particularly as a major benefit will be increased off-peak charging, more efficient integration of renewables and emission reduction in the transportation sector.

- Facilitate dynamic pricing of PEV charging and tariff design that accounts for the potential of PEV aggregation and charge management to deliver system benefits
    - While TOU rates and off-peak pricing can play a role in guiding individual consumer behavior to avoid the worst on-peak impacts of PEV charging, pricing signals alone are not sufficient to ensure PEV charging is optimized for the benefit of the grid. The Commission should support the aggregation and managed charging optimization of PEVs by third party providers, which unlocks the opportunity to derive significant additional benefits from the significant investment made in smart grid technology.
    - Aggregated and managed charging across a PEV network by a third party operator enables balancing and staggering of PEV charging loads based on driver and grid requirements, helping achieve system-wide operational efficiencies and improved asset utilization that reduce costs for ratepayers. The use of a third party to provide these services also allows a competitive market to assign the value of these managed services in an extremely responsive manner.

- Implement sub-metering to provide a direct measurement and tracking mechanism of PEV load to facilitate appropriate tariff design, particularly as the PEV market expands and grows.

    - There is no way to minimize the costs and maximize the benefits of PEV-tailored rate design without customer usage information. The most practical and cost-effective approach to obtaining customer usage information is by mandating submetering.
    - PEV load should be measured and billed directly to enable rate design options and to properly allocate costs and benefits. The Commission should require implementation of submetering arrangements and billing capabilities (i.e. subtractive billing) as soon as possible.

- Allow utility billing from non-utility owned meters.
    - This would allow flexibility to adapt to future market conditions, including meters located inside EVSE or embedded meters.
    - A certification process for meters in EVSE should be established. If third party service providers own metering within the EVSE, rather than the utility, because it is on the customer side of the meter, the Division of Measurement Standards may be an appropriate entity to certify meters. However, rules need to be specifically adapted to the needs of EV infrastructure and services, and the Commission needs to ensure that they do not create additional impediments to efficient charging infrastructure deployment.

CONCLUSION

ECOtality appreciates the Commissioners' interest and consideration of the policy issues discussed by the Staff and amplified by the parties. The Commission's bench requests suggest additional areas of concern and we hope we have been reasonably responsive to them. In many ways EVs are the first example of smart appliances, and as such are just the opening chapter of a book on smart grid applications to be written in the years to come.

There are several themes which we believe are worthy of interjection into any decisions the Commission will make going forward on these topics. We ask that if it errs, it err on the side of maintaining competitive neutrality. In this developing market the successful role of third party providers and their continuing innovations will be greatly impacted by policymaking from this proceeding. We do know that utilities have a long history of working in this regulatory arena and have concerns over the changes this will bring. ECOtality asks that the Commission recognize that development of a dynamic, open market requires equal voice by all interested parties and the development of that market is the best way to solve these concerns. We ask that incentivizing EV use and consumer choice, whether over rates or metering technology, be considered a broad policy goal in the best interests of consumers and utilities. We strongly support the creation of a separate rate for EVs coupled with broad-based consumer education as its necessary corollary. The process of empowering customers to adopt EVs requires a collaborative effort between everyone involved.

Lastly, we believe the technology available through our company and those of our competitors is ripe, adaptable, and well suited to offer consumers freedom to choose the charging systems and rates that provide meaningful benefits to them and the utilities. We look forward to continuing this dialogue with the Commission as it continues its investigation into rates for EV charging.

Dated: February 10, 2011

Respectfully submitted,

Donald Karner

By:____/s/ Donald Karner
President
ECOtality North America

Exhibit A

FUSE Community - Data Collection Form

Print Form | Submit by Email

Demand Charge Research

Utility [ ] Role [ ]

Thank you for taking the time to help ECOtality research and compile information on Demand Charge impacts to the adoption of EV recharging stations for public and workplace access. We are attempting to characterize the potential of various business models, and would greatly appreciate your specific utility's input. We will share the results of these findings within the FUSE community, in the spirit of keeping our best practice discussion going strong!

Please rate your utility's level of conformance to the following statements
1 = very strong 2 = moderately strong 3 = neutral 4 = moderately weak 5 = Weak or N/A

Utility EV Programs (General)

	1	2	3	4	5
1. We have an electric vehicle strategic program with planned deployment milestones ?	○	○	○	○	○
2. Rate case planned/pending for infrastructure deployment and cost recovery?	○	○	○	○	○
3. Existing/Planned/pending EV-only Time of Use rates for *Residential* ?	○	○	○	○	○
4. Existing/Planned/pending EV-only Time of Use rates for *Commercial?*	○	○	○	○	○
5. Smart Charging for EV integral to our Smart Grid program goals.	○	○	○	○	○

6a. Forcast for 2012 L2 ***AC*** EVSE is roughly as follows (place #.# K estimates) Res [ ] Comm [ ] Work [ ]

6b. Forcast for 2012 L2 ***DC Fast*** is roughly as follows (place # estimates) Comm [ ] HiWay [ ]
[Note: Forcast is for entire service territory independent of utility ownership status]

Demand Charge Parameters

	1	2	3	4	5
7. Demand Charges are primarily for covering reliability impacts to our distribution system.	○	○	○	○	○
8. Demand charges are intended to provide strong price signals to limit excess demand.	○	○	○	○	○
9a. What is the threshold (kW) for Commercial Rate demand charge (3=30kW) - round down **[NOTE this question is coded differently for the response scale ! Provide most common level]**	○	○	○	○	○

9b. What is the interval captured (min) and avg. charge ($/kW) for the Demand Charge Interval [ ] Charge [ ]

Demand Charge Mitigation Potential

	1	2	3	4	5
10. Utility offers construction allowances for new transformer/service drop?.	○	○	○	○	○
11. Utility offers Demand Charge waivers or effective alternate rate structures?	○	○	○	○	○
12. Utility offers Demand Response programs to help offset net operating costs	○	○	○	○	○
13. Utility offers incentives for Fixed Storage and/or local Renewable Generation	○	○	○	○	○

14. Briefly describe any available offset / mitigation programs and typical benefit level possible... provide URLs or contact points.
[NOTE: Please indicate the goals of any mitigation programs that could align with / support commercial EVSE deployment]

BARRY T. WOODS
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February 10, 2011

VIA ELECTRONIC FILING AND U.S. MAIL
Oregon Public Utility Commission
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550 Capitol Street NE, #215
P.O. Box 2148
Salem, OR 97308-2148

RE: UM 1461- Investigation into Rate Structures for Electric Vehicle Charging
ECOtality's Combined Response to Opening Comments and Bench Request

Dear Sir/Madam:

ECOtality encloses for filing its Combined Response to Opening Comments and Bench Request in the above referenced docket.

Please contact me at the above mentioned address and at (503) 504-6492 should you have any questions relating to this filing.

Sincerely,

Barry T. Woods
Counsel for ECOtality
OSB# 951332

Cc: Service List- UM 1461

CERTIFICATE OF SERVICE

I hereby certify that on this day, February 10, 2011, I served a true and correct copy of the foregoing document in Docket No. UM 1461 upon each party listed in the UM 1461 OPUC Service List by email and, where paper service is not waived, by U.S. Mail, postage pre-paid.

Dated at Portland, Oregon, this 10th day of February, 2011.

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Summary Report

UM 1461 INVESTIGATION INTO RATE STRUCTURES FOR ELECTRIC VEHICLE CHARGING

Category: Miscellaneous

In the Matter of
PUBLIC UTILITY COMMISSION OF OREGON
Investigation of matters related to electric vehicle charging.

(Staff report for December 8, 2009, Public Meeting [Item No. 4]; filed by Ed Durrenberger.)
(Public Meeting Information is located...

Filing Date: 12/8/2009

Case DURRENBERGER, ED (503) 373-1536

Law Judge(s): KIRKPATRICK, TRACI (503) 378-6683

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Summary Report

UM 1461 INVESTIGATION INTO RATE STRUCTURES FOR ELECTRIC VEHICLE CHARGING

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