V2G Energy, LLC

V2G Energy, LLC, a startup company in Philadelphia, is pioneering Electric Vehicle (EV) charging for the urban environment. Up to now EVs have been mostly available to suburban drivers who have driveways and garages where their cars can be parked and recharged overnight. (Over 85% of recharging is done at home).

For city dwellers this isn’t possible. The only alternative has been public chargers, which are sparse, inconvenient and expensive. As a result the advantages of clean, high efficiency, electric-powered personal transportation have been out of reach of the people who can make the best use of it.

Now, with funding from the Pennsylvania Department of Environmental Protection under their Alternative Fuels incentive Grant (AFIG) program, V2G Energy is demonstrating solutions to this problem, namely Workplace charging and Multifamily Residential charging.

With workplace charging the normal routine is reversed. Instead of charging at night and driving to work, the employee drives to work and charges during the day. With modern high mileage EVs, a day’s charging can take the employee home and beyond for another 200 miles or more over the weekend.

Multifamily residences with assigned parking, such as apartment buildings, condominiums, and town house developments, can provide overnight charging facilities to tenants that are equivalent to those available to single family drivers.

V2G Energy offers a cradle-to-grave service to design, install, operate, maintain and manage these urban installations for the benefit of property owners, employers and EV drivers.
The EVs are Coming!

There is no question that electric vehicles will be a major factor in personal transportation in the future. The automotive industry is investing hundreds of billions of dollars in electric vehicles. Why? Because they are better!

Clean, quiet, fast, simple, reliable and rapidly getting cheaper, while offering longer range due to the remarkable reduction in cost of their lithium-ion batteries.

Managed Charging to Shift the Load

If everyone starts charging their EV at 5 PM, we will have a problem. Inadequate electric supply capacity will result in shortages and high electric energy prices at the peak load hours.

Advanced technology, enabled by the Internet-of-Things, lets you still plug in at 5PM while V2G Energy shifts the actual charging to the early morning hours when energy is cheap, mainly nuclear and wind. Off peak, the existing electric utility grid has ample capacity to power the automotive fleet without material additional investment, and with minimum greenhouse gas emissions.

Data Collection and Display

Data on your EV recharging is stored in the cloud, and a record of each charging session is retrievable for review and to pinpoint problems. Both Power and Energy are graphed to provide a visual description of each charging session.

Your charging history is available by the week, by the month, and for six months.

Ancillary Services

To maintain frequency and voltage, the grid has to supply a variable load with exactly the right amount of energy from second to second. Electric Vehicle batteries, which will aggregate to an enormous storage capacity, can provide a new regulation resource to the grid by instantly taking or delivering electric energy on command. V2G Energy has demonstrated the ability of the EVs on our network to follow the up and down regulation demands of the grid operators, (blue line follows orange line in the figure.) There is an existing market for this service, which can eventually result in valuable rebates to EV owners.