Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Monday, August 26, 2019 2:12 PM
To: Larry Bean
Cc: VW Settlement Wisconsin
Subject: RE: EV charging stations

Good afternoon Mr. Bean,

Thank you for your message. 2019 Wisconsin Act 9 (2019-21 Enacted Budget) authorized the expenditure of $25 million in VW Settlement trust funds. Accompanying administrative direction (Governor's Veto Message) provides for expending up to $10 million on electric vehicle charging stations (EVCS). The Department of Administration is currently researching EVCS program design and no timeline for release of a funding solicitation currently exists.

Please consider registering for email updates for this program by visiting the bottom of the following webpage and entering your email address.
https://doa.wi.gov/Pages/vwsettlementwisconsin.aspx

Please let me know if I can assist further.

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Larry Bean [redacted]
Sent: Monday, August 26, 2019 11:46 AM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: EV charging stations

Ben,

I was told that some of the VW settlement funds were going to be used for EV charging stations. Is this so? The Town of LaPointe, WI would like to install a station for extensive tourist use on Madeline Island. It would be in or municipal parking lot adjacent to a solar array. Let us know if these funds are available for this purpose and how to access them. Thanks.

Larry Bean, Chair
Energy Committee
Town of LaPointe

Vondra, Benjamin H - DOA

From: Keri Solis [redacted]
Sent: Thursday, October 17, 2019 1:54 PM
To: Vondra, Benjamin H - DOA
Cc: VW Settlement Wisconsin
Subject: RE: EV Charging Station Grants

Thanks Ben….I will go sign up for notifications. Here is an email that sums up what I am hearing…. (Range anxiety between Madison and Stevens Point/Wausau)

I live in Sun Prairie, but travel through Marquette County quite often. I travel weekly to Stevens Point for work and occasionally up to Minocqua to visit family. Westfield is always my stop for gas, a drink or snack, and a restroom. I am considering purchasing an electric vehicle for my next car because they are super fun to drive and I like the idea of zero local emissions. A limiting factor is that the infrastructure to support longer drives isn't available yet in Wisconsin. Does Marquette County have any plans to add electric vehicle charging in the near future? Currently I39 between the Madison area and Stevens Point (even Wausau) lack any fast chargers (https://afdc.energy.gov/stations/#/analyze?region=US-WI&fuel=ELEC&show_map=true).

This man mentions Westfield, which a lot of people make their stopping point on their way up north because it is a very easy on/off on I-39 with a family restaurant, two fast food places, three gas stations, a strip mall with unique stores and a Family Dollar…. all right at the interchange. Thus far all I have heard about from people is the gap in places to charge on I-39. Other than fast charging (20 minute), nobody has mentioned a specific charger (Tesla, etc.)

I have spoken with the locally owned power company (Pioneer Power) who has this on their radar. At least wo places near the interchange in Westfield are open for putting one in. One of them already put in some of the infrastructure needed during a construction project (conduit, etc), knowing that some day this will be coming.

The other place I would consider being a fit for one in Marquette County is in Montello….for two reasons. Highway 23 goes east/west through the county. In the summer it is the route everyone takes from Sheboygan/Fond du Lac/Oshkosh to Wisconsin Dells, as Hwy. 23 ends up in the Dells. It is also a connector to get to LaCrosse/Eau Claire/Minnesota. Not only would Montello be a convenient place for a quick charge for people traveling east/west, but during the summer our county populations goes from 15,000 to 60,000. Most of this influx is tourists coming to campgrounds/camps/cottages. The majority of these people are from Madison/Milwaukee/Chicago.

While Marquette County residents may be slower to adapt to EV's….our tourists will be looking to bring their EV's here and I want to be sure we can accommodate them.

Thanks! Keri

From: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Sent: Wednesday, October 16, 2019 1:51 PM
To: Keri Solis [redacted]
Cc: VW Settlement Wisconsin <VWSettlement@wisconsin.gov>
Subject: RE: EV Charging Station Grants

Hi Keri,
Thanks for reaching out.

I appreciate hearing about what is happening in Marquette County with regards to EVs and the interest in charging stations.

We have not yet posted a funding announcement so you have not missed out on any opportunities. We are developing an EV charging station program currently.

I don't have a timeline for when a program will be announced but I would encourage you to register to receive email updates by visiting the following webpage and entering your email address in the Comments/Subscribe section. https://doa.wi.gov/Pages/vwsettlementwisconsin.aspx

Feel free to let me know if you receive further comments or have questions. I'd be particularly interested in hearing of requests that specify charging location or charger type. Thanks again for reaching out.

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Keri Solis [redacted]
Sent: Wednesday, October 16, 2019 12:47 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: EV Charging Station Grants

Hi Ben,
I was wondering if you knew when grants for EV Charging Stations may become available? I have received calls and emails asking about this from people who travel on I-39 to get to their cabins up north, along with people going to UW-Stevens Point for work purposes. I have a couple places along the interstate where there is interest for installing chargers and just wanted to be sure we don't miss out on the opportunity to apply! Thank you!

Keri Solis
Marquette County
Economic Development and Tourism Coordinator
[redacted] – PO Box 219
Montello, WI 53949
[redacted]

Vondra, Benjamin H - DOA

From: Alicia Leinberger[redacted]
Sent: Friday, October 25, 2019 12:11 PM
To: VW Settlement Wisconsin
Cc: Jennifer Shilling; Rep.Oldenburg - LEGIS; Jane McCurry; Michael Vickerman
Subject: EV charging infrastructure - VW Emissions settlement funds ($10M)

RE: VW Emissions settlement funds ($10M) to EV charging infrastructure.
From: Alicia Leinberger, Ethos Green Power
[redacted], Viroqua, WI

I'd like to take the opportunity to share with you the EV experience, and urge you to place reliability, affordability, and trust as your top priorities in shaping the program, while also generating revenue for maintenance and expansion. I'd like the funds to create a publicly owned and operated infrastructure, or possibly have utilities own the charging stations where they operate. With central operations, we have the best chance of attaining reliability, affordability, and trust. And with revenue of perhaps .02/kWh (not sure what that number should be) we will ensure that Wisconsin is a leader in EV adoption.

It's possible that later private companies will come into the market space. But at this point in time, at this level of personal EV market penetration, it doesn't pencil out. Which means the operators don't care a whole lot when the EVC breaks down. There's not enough profit lost to fix it, especially when they got a grant to put it in. I know this because I've been driving on pure solar generated electricity for two and a half years now. Too many charging stations are 'down' on arrival, complicating life considerably. Wisconsin could be 'known' for reliable abundant affordable EV charging infrastructure.

I've worked in renewables, solar and wind power, for two decades in Wisconsin. In that time, I've learned quite a lot about how to introduce a new technology that shifts us away from fossil fuels. At the beginning stages, more than anything it has to be affordable and reliable. This means safe and secure installation, monitoring and maintenance. It means someone to call when something goes wrong. It means we trust we'll be able to 'fuel up' with fast electricity, wherever we go in the state.

Ten million dollars is a lot of money. It can be a scattered collection of partially functional EV charging stations owned by a disparate group of "first adopters", OR it can be a well run public program that is revenue positive for the state and supports the transition to EV market penetration that is essential to avoid climate catastrophe. I urge you to consider the latter.

The program could consist of:

1) Bulk purchase of fast charging stations, to be deployed in a way that directs EV drivers to rural areas of the state as well.
2) State Employment of Technicians to install and maintain EVC stations.
3) State ownership of stations (electricity purchased at point of EVC) with Revenue from sales providing continual funding of operations.
4) Program also responsible for marketing charging stations and connecting with localities to drive EV users to tourist areas of the state (not just along major highways).

Thanks for your attention. Please keep me updated on the program details as they emerge.
Sincerely, Alicia

--

Alicia Leinberger - Firekeeper
[redacted] Viroqua, WI 54665
[redacted]
www.ethos.green

Vondra, Benjamin H - DOA

From: Jeff Springer [redacted]
Sent: Monday, January 27, 2020 1:33 PM
To: VW Settlement Wisconsin
Cc: Rob Palmberg; John Mc Williams; Brian Rude
Subject: Response to WI DOE EV RFI

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

A.) Dairyland Power Cooperative is a generation and transmission electric cooperative serving electric distribution cooperatives in western Wisconsin, southeastern Minnesota, northeastern Iowa, and northwestern Illinois. Dairyland has incorporated plug-in hybrid electric vehicles into our fleet over the past seven years and installed charging infrastructure at our facilities to support them. Our distribution cooperatives have purchased electric vehicles and installed charging infrastructure at their facilities. In addition, our cooperatives have offered incentives to their member consumers to install Level 2 charging infrastructure and have participated in projects to install Level 3 direct current fast chargers.

Dairyland contacts for electric vehicles are: Jeff Springer [redacted]
John Mc Williams [redacted]
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

A.) Minnesota has designated funds to build fast charging infrastructure "outstate" or outside of the Twin Cities metropolitan area. Charging infrastructure is relatively available in the Twin Cities area, however the rest of the State has virtually no fast charging available (with the exception of the Tesla proprietary charging network).

Wisconsin currently has a similar situation where fast charging is available in Madison and Milwaukee but not across the rest of the State except at Tomah and Eau Claire where Electrify America has placed stations. There are notable gaps in fast charging infrastructure in the upper 1/3 of the State. People who want to use their electric cars to visit the scenic northern reaches of Wisconsin will have difficulty finding a place to charge. One particular site that looks appropriate for fast charging development is the intersection of US Highway 63 and US Highway 53 as this would fill a gap between Eau Claire WI and Duluth MN.

Michigan has done a study of future charging infrastructure needs which is significant in that it also identifies the need for fast charging infrastructure across the entire state and not just in major metropolitan areas.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of. (Skipped see answer to #1)

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

A.) Dairyland currently has five plug-in hybrid vehicles in our fleet and we have two employees who drive pure electric cars and charge at work along with another four who drive plug-in hybrids and regularly charge here. To date, we have not been able to put any pure electric cars in our fleet because fast charging is difficult to find across the wide geographic area that we serve. We are considering pure electric vehicles in the near future as the fast charging infrastructure becomes more and more available. Four of our distribution cooperatives are currently working on fast charging installations, two in Minnesota, one in Illinois and one in Wisconsin.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property.
Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

A.) Funds should be prioritized for the development of fast charging infrastructure as that is the most critical segment to enabling electric vehicle ownership and long distance travel with electric vehicles. Level 2 charging installations are being installed at homes, multi unit dwellings, workplaces, hotels, shopping centers etc… All of these locations have an economic case beyond simply providing energy to vehicles. Fast charging is a pure play based on the economics of selling enough energy to cover the cost of the charger and the energy that it consumes. The business case for fast charging is difficult because of the low number of electric vehicles on the road. The conundrum is that people won't buy electric cars until they see fast charging and developers cannot afford to build fast charging infrastructure until there are more cars on the road. Subsidization is essential to developing fast charging infrastructure in the near term.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

A.) Because there are other economic reasons supporting level 2 charging, we would suggest limiting the cost share on those projects to 50% of cost and providing the maximum 80% share to fast charging projects

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

A.) Our experience has shown that finding a willing site host is a significant challenge when siting electric vehicle charging infrastructure. In view of this we would suggest that the grant applicants should find willing locations and the program should choose from the applications submitted with an eye toward distributing infrastructure across the entire State.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

A.) The incremental difficulty and cost of installing DCFC is an order of magnitude higher than level 2 charging so a split of 80% for DCFC and 20% for L2 seems appropriate.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

A.) Given the large number of new electric vehicle models coming in 2020 and for the next few years, heavy emhasis should be placed on doing as much as possible in the first round. Remaining funds can be used to fund additional rounds as needed.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required. N/A

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

A.) Wisconsin should focus on DCFC infrastructure along major highways beyond the Interstate corridor. Electrify America and others will develop the Interstate corridor, the greatest need is in outlying areas beyond the Interstates.

12. What options exist for funding EV charging stations?

A.) Private enterprises are beginning to install level 2 charging as a way of attracting business or employees. Utilities have some appetite for investing in DCFC charging infrastructure and might provide the balance of funding for some projects.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

A.) Electric charging infrastructure is a relatively small part of the consideration when electrifying a light-duty fleet. Primary considerations are the cost of the vehicles and the acceptance of the technology by mechanics and users. We have not seen a very strong appetite for our chaging incentives among commercial consumers or fleet operators.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

A.) Dairyland has worked with developers to install DCFC infrastructure. Securing willing sites hosts has been one of the major barriers to developing these sites. Our local distribution cooperatives contacts with their consumer members have been essential in paving the way to site host agreements. Even a DCFC takes 30 to 60 minutes to charge a car so having food, restrooms and other services available for the driver is essential.

Skipped questions 15 & 16.

Regards,

Jeffrey W. Springer
Manager, Innovation and Efficient Electrification
Dairyland Power Cooperative
3200 East Avenue South, La Crosse, WI 54601

[redacted]

Office: [redacted]
Cell: [redacted]
Fax: [redacted]

Dairyland Power Cooperative is an equal opportunity provider and employer.

"Zero By Choice - Everyone Home Safe Every Day"

Vondra, Benjamin H - DOA

From: Wayne Stroessner [redacted]
Sent: Monday, January 27, 2020 8:51 PM
To: VW Settlement Wisconsin
Cc: Wayne Stroessner
Subject: Charging Stations

Since mid-October of 2017, I've been driving an all-electric Chevy Bolt automobile. I am very please with its performance and economy. However, most of the driving with my car is not far from home even though during the summer months, without using many electric appliances, I can get up to 238 miles on a single charge.

I live in Random Lake and rarely have a need to travel farther than to Milwaukee, Sheboygan or Fond du Lac. If I want to travel farther, my wife drives a 2019 Toyota Prius that will allow us to travel anywhere in the country at about 58 MPG of regular gasoline with all-around driving.

There has only been one time when I wanted to use a charging station on a trip and I found it very unfriendly. I assumed I could use my credit card to pay for the charge. Instead, it indicated I could use my smart phone to charge my account. It just so happens that at 85 years of age, I got rid of the only iPhone I ever had because I never really had a need to use it. There has to be a better, more friendly way.

Secondly, there are at least two different types of chargers. One is designed strictly for Teslas. I need the other one. From my observations, I find that most charging stations are designed for either the Tesla or for most of the other electric autos. Most stations do not provide energy for both kinds of plug-ins at the same location.

If Wisconsin intends to provide the plug-in service, I would expect that the proposed stations could serve all electric vehicles or that, in some way, there be a UNIVERSAL connection so that all electric car owners could be serviced at all stations.

I would hope that Wisconsin authorities would work with the Tesla People and other auto manufacturers to see that this universal connection could be accomplished before the project becomes too dichotomous..

Wayne Stroessner
[redacted]
Random Lake, WI 53075-1608
PH:([redacted]
[redacted]

"Is this planet a garden to tend or a sponge to squeeze?"
- Moss Henry - Santa Rosa, CA in LETTERS in April 2011 National Geographic.

Vondra, Benjamin H - DOA

From: Ryan Waite [redacted]
Sent: Wednesday, January 29, 2020 8:45 AM
To: VW Settlement Wisconsin
Subject: EV charging station grant program feedback

I am strongly in agreement that this money should be spent on EV charging stations. Even Madison, which has a ton of EVs and PHEVs around town, is in need of charging stations around town. I can't imagine how few charging stations there are outside of Madison for long trips. I also help people with auto insurance and each month our clients keep adding more and more EVs and PHEVs. The next few years with Volvo going all electric and other companies going deeper into batteries (Volkswagen is coming out with a ton of new vehicles in the next 2 years) there will be more and more on the road with few places to charge. It's really limiting in Wisconsin.

Ryan Waite, CIC, CPRM, CRM | Insurance & Risk Management
Neckerman Insurance Services
6200 Mineral Point Road, Madison, WI 53705
T: [redacted] | F: [redacted]
[redacted] | www.neckerman.com

Let's chat! Book a time here.

Vondra, Benjamin H - DOA

From: Ralph Henry [redacted]
Sent: Thursday, January 30, 2020 7:45 AM
To: VW Settlement Wisconsin
Subject: Funds

I encourage you to use settlement funds to build more electric vehicle charging stations

Thanks
Ralph Henry
Monroe, WI

Sent from Yahoo Mail for iPhone

Vondra, Benjamin H - DOA

From: Pete Augustine [redacted]
Sent: Thursday, January 30, 2020 12:03 PM
To: VW Settlement Wisconsin
Subject: VW settlement comments

The main corridors in Wisconsin need to be covered with chargers. So locations at all of the following if possible. Here I would say are the top 12 locations needed in the state:

1. Oshkosh - middle of the Fox Cities
2. Door County - around Egg Harbor or in Sturgeon Bay
3. Stevens Point - nothing really there at all at this time
4. Lacrosse
5. Chippewa Falls
6. Halfway between Fond du Lac and Milwaukee and Madison right now there is really nothing
7. Green Bay
8. Wausau
9. Halfway between Chippewa Falls and Wausau on 29 possibly Abbotsford
10. Between Eau Claire and Hayward on HWY 53 right around Rice Lake
11. Between Eau Claire and Hudson on 94 so around Menomonee
12. Wisconsin Dells

I did not include Madison and Milwaukee because they already have some chargers and I think more will already be built.

Thank you.

Pete Augustine

Vondra, Benjamin H - DOA

From: Steven Kane [redacted]
Sent: Thursday, January 30, 2020 4:19 PM
To: VW Settlement Wisconsin
Subject: Charger installation

Tesla has the lion's share of electric vehicles. More than half the chargers should be compatible with those cars.

Steve Kane
Egg Harbor

Sent from my iPad

Vondra, Benjamin H - DOA

From: DuPont, Crystal - DOT
Sent: Thursday, January 30, 2020 4:43 PM
To: VW Settlement Wisconsin
Subject: EV charging stations

My suggestion would be to add charging stations at the parking lots supporting the Milwaukee Intermodal Station (MIS) and the Milwaukee Airport Rail Station (MASRS) to continue encouraging multimodal transportation.

CRYSTAL DuPont | Wisconsin Department of Transportation
Project and Marketing Manager/Passenger Rail Management
o : [redacted] | c : [redacted] |e [redacted]
433 W. St. Paul Avenue, Suite 300 | Milwaukee, WI 53203-3007

Vondra, Benjamin H - DOA

From: John Jacobs [redacted]
Sent: Friday, January 31, 2020 9:13 AM
To: VW Settlement Wisconsin
Subject: EV Charging stations

Good morning.

As an owner of a Tesla Model 3, the news of additional charging stations is exciting. I'm hearing however, the name of these charging stations as 'light duty'. If it is similar to the one I installed at my house, 240 Volt, the time of charging is 32 miles per hour. I feel that may be okay in certain situations, but I would encourage you to look at other means to provide charging at a much faster rate similar to the Tesla Superchargers to be installed throughout the state.

In addition, please consider Wisconsin Contractors who employ Wisconsin people, that are electrically licensed in the State of Wisconsin, are part of the Wisconsin apprenticeship program, and pay the wage/fringe rate that prevails in the area using the Federal Davis Bacon rates of Construction/Highway.

Thank you.

John M. Jacobs
Assistant Business Manager
International Brotherhood of Electrical Workers
Local Union 494

Office: [redacted]
Cell:
Fax: [redacted]

Follow us on:

Vondra, Benjamin H - DOA

From: Terry Wiggins [redacted]
Sent: Friday, January 31, 2020 10:36 AM
To: VW Settlement Wisconsin
Subject: Vehicle charging stations

I am writing to let you know that I am very much in favor of spending as large a portion as possible of the VW settlement money on vehicle charging stations in Wisconsin. Building charging stations is a key step in encouraging electric vehicle sales and purchases, things we need to do here. We must reach out to the transportation sector in every way possible if we are going to meet the target of 100% renewable energy. Right now, most of the energy for renewable vehicles might come from carbon-heavy sources, such as coal-fired power plants, but I hope that will change as more renewables come on line.

I was in the market for a new car a couple of years ago, and went to my local Chevy Dealer, hoping to look at a Bolt. They told me they would not be getting any in, because we didn't have the infrastructure to support electric vehicles. Let's change that situation!

Terry Wiggins,*she/her/hers* [redacted]

Vondra, Benjamin H - DOA

From: Michael Weinand [redacted]
Sent: Friday, January 31, 2020 2:08 PM
To: VW Settlement Wisconsin
Subject: EVCS grants

To whom it may concern:

As a PHEV (2013 Chevy Volt) owner and someone who plans to only buy PHEV or BEVs in the future, I fully support grants to increase the Electric Vehicle charging network in Wisconsin. I do 95% of my charging at home, mostly because there aren't any convenient charging options near my work. Thankfully this continues to get better, but I think grants would help accelerate this. With Wisconsin's current charging network, my family's next vehicle will likely be a PHEV SUV to replace our current ICE SUV. Do to the lack of a robust charging network, it isn't ideal for our main family car to not have gas backup.

A few other ideas for this money:

- In Milwaukee and other parts of the state that have HOV lanes (at least for highway access), allow PHEVs and BEVs to use those lanes
- Grants for low income households to make a PHEV or BEV more affordable

Thanks!

Michael Weinand
[redacted]
Menomonee Falls, WI 53051

Sent from Mail for Windows 10

Vondra, Benjamin H - DOA

From: Nick Hylla [redacted]
Sent: Saturday, February 01, 2020 10:10 AM
To: VW Settlement Wisconsin
Subject: Comments on Use of VW Settlement Funds

Please consider the following concept for the distribution of the $10 million of VW settlement funds:

Host a matching grant program for private entities to deploy fast charging and workplace charging solutions in priority commuter locations throughout the state. A matching grant program would extend the impact of the funding by leveraging private investments. The program criteria could be used to define specific geographies, consumer access, procurement, etc.

We have had numerous requests from private individuals concerning this type of program. The economics of deploying EV charging solutions are currently not attractive for most investors and this type of program could help stimulate investments and define sustainable business models that increase consumer access.

Thank you for the consideration,
Nick

--

Nick Hylla
Executive Director
Midwest Renewable Energy Association (MREA)
www.midwestrenew.org
[redacted]

Vondra, Benjamin H - DOA

From: Dan Barth [redacted]
Sent: Saturday, February 01, 2020 12:18 PM
To: VW Settlement Wisconsin
Subject: I support spending VW Settlement money for charging stations.

As a more than satisfied PHEV owner I fully support spending VW settlement money for charging stations. The only reason I drive a Chevy Volt and not a Chevy Bolt is the current uncertainty about charging on longer trips. Ninety nine percent of my charging takes place in my garage and that's fine for the majority of my driving from just east of Mosinee to and from Wausau and Stevens Point but to make longer trips we need charging stations we that will be convenient, working and available. Eventually the reluctant majority will discover the benefits of electric cars and when they do the charging stations had better be there. I will never go back to the "infernal" combustion engine. We have solar panels on our house and do most of our driving on sunshine.

Thanks,
Dan Barth
[redacted]
Mosinee, WI 54455
[redacted]

Vondra, Benjamin H - DOA

From: Brian Bushnell [redacted]
Sent: Saturday, February 01, 2020 7:40 PM
To: VW Settlement Wisconsin
Subject: funding EB charge stations with VW settlement

This is to state my strong support for EV charge stations paid for with VW settlement monies. I live in an apartment building, want an EV but cannot plug in where I live. There is only 1 charge station that I am aware of in the Wausau metro area that is 5 miles away in a parking lot. There are Tesla charge stations at a local motel again 5 or more miles away and only for Tesla EVs. There is a strong need for charge station availability to encourage EV ownership and use, without that kind of infrastructure, ownership of EVs is restricted and cannot grow at the pace needed to meet demand. With 60% or more of trips in the US being 30 miles or less there is no reason why at least 1 of the vehicles in driveways cannot be EVs. Employers and store owners need encouragement to install charge stations, provide employee perks for workers, provide a reason for shoppers to spend more time in stores to spend more. Both of these things are happening in other parts of the country, WI needs to join the rest of the world instead of acting like horse and buggy holdouts 100 years ago. This is the 21st century, our state needs to act like that is recognized and act accordingly.

Vondra, Benjamin H - DOA

From: Barbara Richards [redacted]
Sent: Sunday, February 02, 2020 2:28 PM
To: VW Settlement Wisconsin
Subject: RFI Response

Dear Wisconsin Department of Administration, I support the use of the VW settlement funds for mass transit EV uses. This paragraph concerns me:

"VW Trust funds may be used for electric vehicle charging stations (EVCS) at government properties, workplaces, *multi-family unit dwellings*, businesses and *other locations*. VW Trust funds may not be used for EVCS costs at private residential dwellings other than multi-family unit dwellings and cannot be used to purchase EVs. "

The italisized text about is too broad. I do not support providing support for automobile use unless it is a ride share. Charging stations for Mass transit and small EV vans for last mile service to employers would be fine.

However, supporting the Addiction to the Automobile needs to end.

Barbara Richards
[redacted]
Wauwatosa WI 53226

"Your life is a sacred journey . It is about change, growth, discovery, movement and transformation....It is continuously expanding your vision of what is possible, stretching your soul, teaching you to see clearly and deeply, helping you to listen to your intuition." Mother Janet Erskine Stuart (1857-1914)

Vondra, Benjamin H - DOA

From: Dan Herscher [redacted]
Sent: Wednesday, February 05, 2020 10:28 AM
To: VW Settlement Wisconsin
Subject: Public Comments for EV Charging

I'm an EV driver in the Northwest corner of the state (I live in Birchwood) and the owner of a fishing resort that has a level 2 EV charger.
The lack of DC Fast Chargers (50kW or more) is a major problem to getting more EV drivers to visit our part of the state. There is a fast charger in Eau Claire and then, if driving north, nothing until Duluth. This "dessert" should be filled to allow EV drivers to commute between major cities like Eau Claire, Steven's Point, and Madison to/from the Twin Cities, Ashland, and Duluth/Superior. It would also draw visitors to communities like Rice Lake, Spooner, Shell Lake, or Hayward - which are located on major state highways - should they have a DC fast charger.
EV drivers making long trips plan their journeys ahead of time and plan to stop where they can get a charge. Having chargers in communities is an economic benefit for them as EV drivers often visit nearby restaurants, coffee shops, and stores while charging. Our part of the state relies heavily on tourism so anything we can do to draw more tourists to our area is beneficial. With EV's being more and more common we need better charging options so EV drivers feel confident they can visit our area and not run out of "juice".
I believe Rice Lake, at the intersection of Hwy 53 and 48, as well as Hayward (which is already a major tourist destination) at the intersection of Hwys 27, 77, and 63 would be excellent locations for DC fast chargers funded by this VW settlement money in the Northwest corner of the state. Spooner would also be a great location.
More fast chargers would also help potential EV buyers in our part of the state feel confident they could fill up quickly in a pinch and remove one more obstacle to buying an EV.
Gratefully yours,

--
Dan Herscher
Citizens' Climate Lobby
Birchwood Blue Hills Chapter
www.citizensclimatelobby.org
[redacted]

"Our weapons are truth, nonviolence, and respect and admiration for those who would oppose us." - CCL founder Marshall Saunders

Vondra, Benjamin H - DOA

From: Tyler Stieber [redacted]
Sent: Sunday, February 09, 2020 10:49 AM
To: VW Settlement Wisconsin
Subject: Electric Vehicle Charging Stations

It seems to be biased to provide the charging stations. There is only a small sliver of the population that use EV, but you want to spend over 15% of the VW settlement on this small portion of people. EV's don't necessarily offset the pollution required by the settlement. Most of Wisconsin's energy still comes from fossil fuels and the battery's in EV are very bad for the environment.

Sent from Yahoo Mail for iPhone

Vondra, Benjamin H - DOA

From: John Ukura [redacted]
Sent: Sunday, February 09, 2020 1:49 PM
To: VW Settlement Wisconsin
Subject: Public Electric Vehicle Charging Station Comments

I'm a retired Electrical Engineer residing in Luck, WI. I recently purchased a BEV (a Tesla Model 3 AWD Long Range) and home charger. I've driven the car routinely back and forth to the Twin Cites, to and from Florida and locally. I have used nearly every possible charging option.

At home ...

This is my primary charging method. My LV2 charger (running on off-peak electricity overnight {230V/48A - 11.5kW} adds 44 mi/hr to the battery. I use LV2 chargers for "topping off" and DCFC chargers for "travel".

On the road ...

1. At my daugther's townhouse in the Twin Cities and at several hotels, I have utilized a standard outlet {1.0kW-1.5kW) which adds a meager 3-4 mi/hr but does keep the battery pack warm on cold WI nights !
2. At various "free" LV2 chargers {6.0kW - 7.5kW} which adds 16-24 mi/hr. Market Place Foods in St. Croix Falls, Legacy Solar in Luck, various Goodwill stores, Lunds Food, Rosedale Mall, various public parks ...
3. At Tesla Supercharging stations (DCFC) across WI, MN, IL, ID, KY, TN, NC, SC, GA & FL {120kW-150kW} which adds between 100-500 mi/hr depending upon the car's current level of charge - very fast charging when the battery is low and moderate charging if the battery is above 50%.

I see two very distinct scenarios - destination charging vs. travel charging. For destination charging, a LV2 charger is a viable option since you can afford to charge for at least an hour or longer. For travel charging, a DCFC is the only viable option.

Comments:

1. The Tesla Supercharger network is awesome. We were able to find a functioning charger at every location and were only forced to change charging ports (at the same location) twice. Reliability and proper charger maintenance are critical. Normally, when you arrive at a supercharger, you have less 50 miles of range remaining and need to be confident the charging station will be fully operational.
2. Destination chargers are only useful for "topping off". They are not particularity reliable and it's dangerous to depend upon these for charges required to reach your final destination. Several times I have arrived at a LV2 charging station only to find it not operational - broken connector, not powered, unable to charge OR ICEd. The problem of ICEd chargers (blocked by non EV vehicles) is very prevalent. It happens most often when the charging station is located at a "prime" parking spot (near the front entrance for example). EV charging stations should always be located in a "non-prime" parking area, well signed "EV only" and violators should be notified to move or ticketed. These spots need the same respect given to handicapped parking areas.
3. A perfect place for adding DCFC for travel charging would be existing wayside rests. The traveler would normally be stopping for a quick break and could add a meaningful charge in less than 30 minutes.

4. It is currently impossible to travel in NW WI due to the complete lack of charging stations. There are no DCFC and very few LV2 chargers.
5. Any DCFC public chargers added by the state should charge a nominal fee. Any LV2 chargers added by the state could be free of charge since they can't deliver a substantial charge in short period of time.
6. BEV aren't fond of cold temperatures. When parked or driven in extremely cold temperatures (below 10 degrees), their range is significantly reduced. This is where LV1 and LV2 charges can provide value - keeping battery packs warm and happy !

Hopefully these comments are helpful. If you have any feedback or questions please don't hesitate to reply or call.

Good luck ... John Ukura [redacted]

Vondra, Benjamin H - DOA

From: Leeman 928 [redacted]
Sent: Monday, February 10, 2020 8:17 AM
To: VW Settlement Wisconsin
Subject: Feedback
Attachments: Screen Shot 2020-02-10 at 7.49.02 AM.pdf

Hello,

I'm a EV owner in Wisconsin for the past 5 years, starting with my first EV car in 2013. I currently own a 2014 Nissan Leaf. I travel 76 miles one way, to Rockford,IL once a week, at work I can recharge my battery for the trip back home. However in the winter I'm not able to make it without stopping somewhere to charge. What I'm getting at it, I have lots of experience using public chargers. There is a charger in downtown Madison in a parking garage that I use often.

It would be nice to have some level 2 or level 3 chargers located at Rest Areas along interstate or parking garages. Don't even bother with level 1 charging, nobody is going to sit for 12 hours at a rest area to charge. Kwik Trip has some level 1 charging, while it's a nice attempt its poorly executed. I've included a PDF to explain the differences between level 1,2,3. Make sure you have the most common electrical connector for Level 2 which is the J-1772 connector, that will fulfill a majority of the EV's in Wisconsin. My Nissan leaf has a level 3 charge that uses a CHAdeMO connector, not every EV has that and I would be ok if it wasn't available, just as long as you provided a J-1772 connector. The next popular level 3 connector is the CCS/SAE, these are becoming more popular as well. Telsa has their own connector and for the most part has already built a network of chargers to get from coast to coast. Tesla vehicles can also just the level 2 J-1772 connector, so I wouldn't waste my money on Telsa's charging system.

Payment: yes I would be happy to pay a fee to charge. I feel its only fair. At one time Kohls offered free charging and I would make it a point to go inside and buy something. Now they switched it so you have to pay by the hour to charge, OK, I'm still fine with that, but now I go to Starbucks since I don't feel I need to spend money at Kohls. You also need to take into consideration that if you make it free, then people will leave their cars parked there all day. Festival foods in Janesville for example will allow you to charge for free but will charge you a fee after 4 hours for leaving you car parked there too long! Perfect, that was an issue that employees were plugging in their car and occupy the charging space all day.

Please please please pass a law that will ticket/fine cars when people with normal ICE (internal combustion engine) cars park in charging spots. Oconomowoc does this perfectly, they have a level 3 charger in a parking lot near main street, there is a sign saying you will be ticketed if you aren't charging and the local ordinance number at the bottom. Similar to the well known handicap signs that we have seen for years. I've gotten into a few verbal not so niceties in the past when I'm waiting to charge and an ICE car is in the spot, I politely inform them that they are not allowed to park here and I usually hear back that I wont get a ticket anyway.

Last but not certainly least, mark the spot to inform people that it's a charging spot. A few businesses execute this well, by painting the whole spot green on the parking lot along with having a sign. This might help with the problem I just describe in the previous paragraph. I just can't believe that a business will spend all the money on installing a charger and then fail by not painting the stall green or at least installing a sign. A few times when an ICE car is in a charging spot, they simply say I didn't know it was for EV's. I can't blame them, they aren't looking for a charger, they are looking for an empty parking spot.

If you have any questions please reply back and I'll be more than happy to offer additional feedback on the phone or in person.

Thank you,

Lee Bely

Difference between Level 1, Level 2 and Level 3 Charging

LEVEL 1 CHARGING

120 Volt Cordset

+ 120 VAC standard outlet

+ Delivers power from the wall to the vehicle's on-board charger

+ Time from fully depleted to fully charged: average 7-29+ hours

+ Typically provided with your Electric Vehicle

LEVEL 2 CHARGING

240 Volt PortableCordset or Wall-mounted Charging Station

+ 208-240 VAC installation

+ Delivers AC power from the wall to the on-board charger

+ Time from fully depleted to fully charged: average 2-10+ hours depending on vehicle.

LEVEL 3 CHARGING

High-powered DC Fast-charge Station

+ 400-600 VAC installation

+ Delivers DC energy bypassing the on-board charger

+ Time from fully depleted to fully charged in about 30 minutes

Vondra, Benjamin H - DOA

From: Russin, Mike [redacted]
Sent: Wednesday, February 12, 2020 3:32 PM
To: VW Settlement Wisconsin
Subject: Wisconsin EV Charging Station RFI - Gilbarco Veeder-Root Response
Attachments: RFI Response - Gilbarco Veeder-Root.pdf

All – Please see attached. Thank you for the opportunity to respond and let us know if you have any questions!

Thanks,
Mike

Mike Russin | e-Mobility Product Marketing Manager | M: [redacted]
GILBARCO VEEDER-ROOT
www.gilbarco.com/e-mobility

State of Wisconsin

Request for Information

for

Electric Vehicle Charging Station Grant Program

Response

February 17, 2020

For all questions, provide a clear and concise response. Not all questions must be answered. Include illustrative examples where appropriate. Clearly indicate the question number that you are providing a response to. Where possible, please limit responses to each question to 100 words or less. Reponses may be emailed to: vwsettlement@wisconsin.gov.

1. **Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.**

Gilbarco Veeder-Root is the worldwide technology leader for retail and commercial fueling operations offering the broadest range of integrated solutions from the forecourt to the convenience store and head office. For over 150 years, Gilbarco Veeder-Root has earned the trust of its customers by providing long-term partnership, uncompromising support, and proven reliability. Expanding on our more than 150 year history of transportation expertise, we also offer EV charging and e-Mobility solutions to support transportation and mobility for the future. For more information, please visit https://www.gilbarco.com/e-Mobility. We are pleased to respond to Wisconsin's RFI with the information below. If any additional clarifications are needed, please contact:

- Name of Organization: Gilbarco Veeder-Root
- Organizational Point of Contact / Title: Brian Kuebert, Director, e-Mobility Global Product Management
- Phone Number: [redacted]
[redacted].

2. **Describe your experience and observations with how other states are implementing EVCS programs.**

Gilbarco Veeder-Root's e-Mobility team closely tracks state and utility sponsored EVSE funding programs. One key learning for us is that the option to charge drivers for EV charging sessions is an important consideration for site hosts (especially for DCFC installations). Past funding programs in other states have mandated that DCFC charging be provided for free from site hosts. In removing the opportunity to create a new revenue stream, these programs have been negatively received by prospective applicants (particularly for-profit businesses) who view EV Charging as a potentially attractive offering to their customer base. The preference for revenue opportunities is especially strong in the retail space, where site hosts are asked to dedicate valuable parking space for EV drivers only. In our experience, the most well-received programs are those that allow prospective site hosts to determine the revenue model themselves and let the competitive market ultimately determine end price to EV drivers. Another consideration for site hosts is the risk and related impact of unanticipated demand charges from utilities; accordingly, Gilbarco suggests that this program includes some mechanism to mitigate such charges for a period of time (we suggest 3 years).

5. **The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?**

Yes, both market research and industry thought leaders contend that a primary obstacle to widespread EV adoption is public access to charging infrastructure (particularly along high-traffic corridors). Accordingly, Gilbarco believes that the focus of the Wisconsin program should be on providing charging options that are accessible 24/7 to all EV drivers. In our view, the most effective programs with this goal are focused entirely on Public Charging (and do not include Workplace and Multi-unit Dwelling funding).

6. **The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?**

Maximum VW funding share of EVCS eligible project costs

Site Location or Type	Available to the public	Not available to the public
Private residential dwelling other than multi-unit dwelling	0%	0%
Workplace	80%	60%
Multi-unit dwelling	80%	60%
Government owned property	100%	60%*
Non-government owned property	80%	60%*

**Assumes the property is a workplace or multi-unit dwelling*

The ROI for EV chargers remains low given current EV charging traffic; accordingly, programs with 80-100% funding of project costs (which includes make ready infrastructure, equipment, and installation) have a much higher probability of finding site hosts. Funding like this can be effective at getting the infrastructure in place to support increased vehicle penetration, ultimately driving self-sustaining markets without the need for external funding. Accordingly, Gilbarco suggests that Wisconsin funds projects at the maximum level to increase attractiveness of the program to the best-suited site hosts. As mentioned in the previous response, we believe that Wisconsin should only focus on publicly accessible DCFC installations at government and non-government properties.

7. **How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?**

Our research has found that EV drivers want the following characteristics in a charging site: 24/7 access; well-lit and safe premises; on-site access to food, beverage, and snack options while charging; and close proximity to major corridors. Additionally, we have also found that drivers would also prefer for these stations to have an attendant on-site at all times. Accordingly, we believe that this program should prioritize locations that meet those characteristics. We view convenience stores as ideal locations. Finally, based on feedback from EV drivers, we believe that any program in Wisconsin should allow for both network-supported and non-networked solutions.

8. **Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?**

Both market research and industry thought leaders contend that a primary obstacle to widespread EV adoption is public access to high-speed DCFC charging infrastructure. Given the high cost of such project for site hosts, we believe that Wisconsin should focus this program 100% on DCFC.

9. **Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?**

Yes, we think that the state should offer multiple rounds of funding over time. The process of applying for funding, purchasing, and installing EV chargers can be overwhelming and time intensive for prospective site hosts who often don't know a lot about electrification. Multiple rounds of funding will allow potential applicants much needed additional time to evaluate the program and research the benefits of electrifying their site. We believe that each round should be open to all qualified applicants and should not have a specific focus on charger or applicant type.

10. **If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.**

Being an EV driver in today's network driven landscape requires memberships to many different network payment apps and the added step of figuring out which network a specific charger belongs to. A key finding in our research and discussions with EV drivers is that most drivers do not enjoy this user experience and feel it is both cumbersome and inconvenient. Thus, we believe it is advantageous for this program to support both network-supported and non-networked solutions and not have a network software solution as a requirement for funding. Additionally, Gilbarco suggests that Wisconsin requires external credit card readers on the charger that allow EV drivers to replicate the familiar "pay-at-the-pump" experience that all drivers enjoy.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

- Recommended Charging Level: 100% DCFC
- Quantity: As many as the Wisconsin funding pool can support
- Location: First, all stations should be publicly accessible. Second, we believe the primary focus for the state should be to build out much-need charging infrastructure along highway corridors to support mass transit. After corridor needs are met, we believe the state should shift focus to city centers in major population areas.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, EVSE grants would absolutely encourage light-duty fleet operators to increase the speed of EV adoption. Wisconsin should target such organizations with a vehicle replacement program that offers funding to replace existing vehicles with all-electric alternatives (as well as funding to support necessary charging infrastructure).

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

Our extensive network of authorized service contractors install all DCFCs sold by Gilbarco. Electrical upgrade costs are the primary driver of installation costs (particularly for DCFC installations). For DCFC installations, the easiest way to minimize these costs is to give preference to sites with existing 3-Phase power and to minimize the distance of a 3-Phase power run (reducing trenching/boring costs). Additionally, costs can be minimized through product selection. Site hosts can lower installation costs by choosing products with a small footprint and lower weight (qualities which reduce construction expenses and maximize the opportunity to locate the unit as close as possible to the power source). Unit costs can further be reduced by choosing DCFCs that are entirely self-contained in the user unit (i.e. not a split unit with a separate power and user boxes). Additional barriers to DCFC installations is the permitting process which can last an extended period of time – we suggest that Wisconsin keeps this in mind when designing timelines for the implementation of this program.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

Regarding DCFC equipment requirements, we recommend that this program has a 50kW requirement so as not to preclude any interested site hosts from applying and because there are a limited subset of electric vehicles that can take advantage of higher powered chargers.

Regarding user experience, best practices start with selecting equipment that is easy to maintain and operate, such as the Tritium Veefil RT 50. With the Veefil RT 50, the majority of on-going maintenance or accessibility issues are minimal in nature and do not require technical expertise. A common example of this are debris pileup limiting access to the charger. Thus, to enable quick reporting and resolution of common user issues, it is preferable for charging stations to be at locations that have an attendant always working on-site. Sites like gas stations and convenience-stores are ideal site hosts in this regard, as store attendants can easily solve most customer issues and know who to contact in the event that a more technical issue arises. Additionally, our research indicates that EV drivers desire the same “pay-at-the-pump” experience that all other drivers enjoy. This desire is amplified where there is more infrastructure (requiring drivers to have multiple memberships to different network software solutions). Accordingly, we believe local payment via credit card reader (and without the requirement of a network membership) will be a well-received feature for this program.

Vondra, Benjamin H - DOA

From: Adam Mohabbat [redacted]
Sent: Friday, February 14, 2020 4:25 PM
To: VW Settlement Wisconsin
Subject: EVgo Comment Submission on VW Settlement 02.14.17
Attachments: 02.14.2020_EVgo Wisconsin Appendix D EVSE RFI.pdf

Hello,

Please find EVgo's response to the request for information attached. Thank you for the opportunity to provide comment.

If we can be of any further resource or provide additional information, please do not hesitate to reach out directly.

Warm regards,
Adam Mohabbat

Adam Mohabbat
Market Development Manager
[redacted]

February 14, 2019

Wisconsin Department of Administration
Division of Enterprise Operations
101 E. Wilson Street
Madison, WI 53703

RE: Request for Information – Electric Vehicle Charging Station Grant Program – Volkswagen Mitigation Program

EVgo appreciates the opportunity to provide written comments in response to the Request for Information as the Wisconsin Department of Administration (DOA) develops its Volkswagen Light-Duty Electric Vehicle Supply Equipment (EVSE) program.

EVgo commends Wisconsin for taking important steps in electrifying transportation by prioritizing electrification and utilizing the full 15% allocation permitted by the national settlement towards Light-Duty ZEV Supply Equipment, or approximately $10 million in Wisconsin.

Today, EVgo operates America's largest and most reliable electric vehicle (EV) public fast charging network, with nearly 800 DC fast charging (DCFC) locations across 34 states and 66 metro markets nationwide, including eight locations across the greater Madison and Milwaukee areas. Currently, more than 115 million Americans live within a 15-minute drive of an EVgo fast charger. In early 2019, EVgo was proud to announce that it was the first North American charging network to be powered by 100% renewable energy. EVgo looks forward to accelerating its deployments in Wisconsin upon successful implementation of its developing programs.

With the perspective of an experienced owner and operator of public fast charging, EVgo respectfully submits the following recommendations to DOA as it develops its upcoming light duty Appendix D EVSE programs:

1. **Focus charging infrastructure first in urban areas with high multi-family dwelling density to alleviate barriers to EV adoption.**

   Urban areas with high density of multi-family dwellings often go without access to home charging. Focusing on urban charging infrastructure, specifically DCFC with the ability to recharge a higher number of vehicles, would be consistent with DEP's goal of using funding deployment to serve areas hit hardest contaminants and poor air quality. Moreover, in urban cores, publicly accessible charging stations help alleviate the barrier of owning an electric vehicle when home charging is not an option. This ensures that multifamily communities and renters – not just homeowners – are able to take advantage of the benefits of an EV.

2. **Clarify funding allotments for DC fast charging (DCFC) and Level 2.**

   As stated in the RFI, Wisconsin DOA has not currently clarified how funding will be divided, if at all, between DCFC and Level 2. The significantly higher costs of DCFC stations - which is warranted by the much larger number of vehicles that each DCFC serves – should be taken into strong consideration. This would be consistent with other states' approaches to Appendix D, including New Jersey's decision to dedicate $7 million of its Volkswagen settlement funds to fast-charging infrastructure technology[1], and North Carolina, who similarly devoted $3.45 million of its first funding window to fast charging.[2]

[1] https://www.nj.gov/governor/news/news/562019/approved/20190603b.shtml
[2] https://deq.nc.gov/about/divisions/air-quality/motor-vehicles-and-air-quality/volkswagen-settlement/vw-settlement-0

Fast charging infrastructure is critical to reaching the state's increasing population of EV drivers and is especially crucial to enabling electrification for drivers without reliable access to charging at home or in the workplace, residents of multi-unit dwellings who rely on public charging for the majority of their charging needs3, drivers utilizing key transit corridors, as well as light duty vehicle (LDV) fleets, including car and rideshare applications. To ensure the share of each technology aligns with environmental goals, Wisconsin DOA should clarify the amount of funding that will be reserved for each technology, with a strong emphasis on robust investments in DCFC.

3. **Establish 50kW as the minimum for DC fast charging infrastructure, with "future proofing" as an eligible expense.**

   A 50kW *minimum* power rating for DCFC is consistent with other programs across the country, including California, Virginia, New York, Washington, North Carolina, and other states. It cannot be emphasized enough that DCFC is not purely a corridor technology, but also one of urban lifestyle charging in many cases. This creates an important role for the 50kW charger, which delivers real fast charging capability (at approximately 3 miles driving range per minute of charge) with low capital requirements and significantly streamlined siting and approval due to lower power requirements than higher power charging. Matching throughput to application is a strong principle for successful charger deployments, and the average dwell time for retail locations – some of the most popular locations for DCFC - is approximately 30 minutes, making 50kW chargers strong candidates for maximizing effective deployment.

   By establishing 50kW as the minimum power rating, DOA allows program partners to optimize the value of the settlement funding while delivering at charge rates that vehicles on the road can handle today.

   However, if an applicant requests higher power charging, DOA may consider a higher grant allocation for higher power charging, which will have higher costs. Additionally, EVgo also recommends that "future proofing" be made an eligible expense; this will allow for sites to be "upgraded" to higher power as vehicle battery and charging capabilities develop.

4. **Keep funding application windows continuous to accommodate a dynamic market.**

   As opposed to allocating all funding at once, EVgo recommends that DOA continuously open funding windows in order to ensure constant development in the state and avoid any disruptions in the market. Pennsylvania and New Jersey are two states taking such an approach. [3,4]

   It may even be advisable to "backload" funding into the future, with a significant but minority portion of funding allocated in the first year, with total budgets growing as EV penetration enables a smaller capital subsidy to be awarded as utilization expectations pick up more of a given project's financials.

5. **Develop balanced, quantifiable scoring criteria to score proposals.**

   DOA should develop scoring criteria that sends a signal to the market about which projects the state would like to see to meet its policy goals, and the relative balance between what can be competing priorities. EVgo has found that complete geographic coverage, for example, often comes at the funding expense of high utilization and environmental impact, and in turn, less-used chargers require higher subsidy.

   The "gold standard" for this practice to date has been North Carolina, which developed a balanced rubric to assess applications, and uses transparent, third-party measures such as driving range to

[3] http://www.depgis.state.pa.us/DrivingPAForward/
[4] https://www.drivegreen.nj.gov/plugin.html

extant DCFC, and measures of environmental justice impact to assess what could otherwise be difficult criteria to develop towards.[5] EVgo highly recommends that DOA review the North Carolina Request for Proposal (RFP) as a best practice.

6. **Value, but do not specify, charging station locations in program RFP.**

   While there are important considerations for DOA to make in regard to charging equipment and charger use cases, EVgo recommends flexibility in the RFP guidelines for site locations of proposed charging stations. The private sector is well-equipped to carry out site selection and development, and in many cases has national host relationships that can be used to deploy at scale and meet the state's public policy criteria.

   In a similar vein, the outright requirement for locations with 24/7 access without a pay gate may make the limited viable potential site locations for needed power unviable due to binary program requirements; in these off cases, preferential scoring for gate-less sites is a more balanced approach, and specific applications should be able to recognize unique geographic needs and parameters.

7. **A letter of intent signed by a host customer should be considered sufficient for project applications.**

   While EVgo does not advocate for funding programs that do not require developers to first identify a specific location for their equipment, a letter of intent should be sufficient to demonstrate site control in the case that the grant applicant is not also the site host.

   Such a letter demonstrates site control while allowing all parties to execute additional contractual requirements after, not before, funding has been secured. EVgo has found that this is often preferred for site hosts, and a similar approach by Wisconsin will ensure that certain sites are not excluded due to additional onerous paperwork requirements signed before funding is certain.

Conclusion

EVgo thanks the Wisconsin Department of Administration for the opportunity to provide input and commends the extensive work in moving transportation electrification forward in Wisconsin. As DOA continues to develop its Light-Duty EVSE program, please consider EVgo as a resource. We offer ourselves as a continuing partner to usher in a new era of transportation innovation in Wisconsin.

Sincerely,

Adam Mohabbat
Manager, Market Development
[redacted]

[5] https://files.nc.gov/ncdeq/Air%20Quality/motor/grants/files/VW/North-Carolina-Volkswagen-Settlement-ZEV-DC-Fast-Charging-RFP-Phase-1-061719.pdf

Vondra, Benjamin H - DOA

From: Paul Mullen [redacted]
Sent: Sunday, February 16, 2020 4:25 PM
To: VW Settlement Wisconsin
Subject: Public comment regarding EV Charging Stations

I'm writing in support of the ideas put forward in the Wisconsin.GOV web site regarding the use of VW mitigation funds for the purpose of growing the infrastructure that will promote the use of EVs in Wisconsin. This snippet, from the Wisconsin.GOV web site encapsulates my thoughts exactly:

The adoption of electric vehicles will significantly improve air quality, a prime objective of the VW Trust," said Wisconsin Department of Administration (DOA) Secretary Joel Brennan. "A statewide network of charging stations will support the growing number of EV owners residing in and visiting Wisconsin."

EVs are increasingly practical in Wisconsin as the manufacturers have improved battery life (traveling distance), charging time (not quite like a gasoline fill-up, but approaching it), and weather tolerance (batteries work in cold climates). To promote the availability of infrastructure for these vehicles will close one of the last remaining barriers to broad adoption.

Paul Mullen
[redacted]
Waukesha, WI 53188.

Sent from Mail for Windows 10

Vondra, Benjamin H - DOA

From: Kinshuk Chatterjee [redacted]
Sent: Monday, February 17, 2020 2:10 AM
To: VW Settlement Wisconsin
Subject: CSE Response to RFI on EVCS Grant Program
Attachments: CSE Response to WI RFI on EVCS Grant Program_Final.pdf

Hello,

Attached please find the response of the Center for Sustainable Energy (CSE) to the Wisconsin Department of Administration's Request for Information (RFI) on the Electric Vehicle Charging Station Grant Program. If you have any questions regarding this document, please feel free to reach out to me directly.

Best,
Kinshuk

Kinshuk Chatterjee
Transportation Policy Analyst
[redacted]

Center for Sustainable Energy®
3980 Sherman Street, Suite 170
San Diego, CA 92110

Learn more about our mission to decarbonize at EnergyCenter.org

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3980 Sherman Street, Suite 170
San Diego, CA 92110
Tel [redacted]
Fax
EnergyCenter.org

February 17th, 2020

VW Mitigation Program
Division of Enterprise Operations
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
PO Box 7867
Madison, WI 53707-7867
vwsettlement@wisconsin.gov

Response of the Center for Sustainable Energy® to the Wisconsin Department of Administration's Request for Information regarding the Electric Vehicle Charging Station Grant Program

The Center for Sustainable Energy® (CSE; www.energycenter.org) appreciates the opportunity to offer responses to the Request for Information (RFI) issued by the Wisconsin Department of Administration (DOA) regarding a forthcoming Electric Vehicle Charging Station Grant Program. CSE applauds Governor Evers and DOA for leveraging funding from the Volkswagen Mitigation Trust to issue up to $10 million in grants for electric vehicle (EV) charging infrastructure. This funding commitment will help catalyze the EV market in Wisconsin.

CSE is a 24-year-old national nonprofit dedicated to decarbonizing transportation and the built environment. We provide program administration, technical assistance and policy advisement to a diverse set of stakeholders across the energy and transportation industry. CSE provides the following responses based on our experience administering statewide EV and EV infrastructure incentive programs across five states. Specifically, CSE offers responses to the following questions:

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

2. Describe your experience and observations with how other states are implementing EVCS programs.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

12. What options exist for funding EV charging stations?

These responses are discussed in greater detail below.

Question 1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

As a nonprofit administrator and advisor, CSE serves as a trusted resource to help government agencies utilize public and ratepayer funds to implement successful clean technology programs. CSE has 24 years of experience in program administration, and currently administers EV and EV infrastructure incentive programs in California, Connecticut, Massachusetts, New York, New Jersey, and Oregon. To date, CSE has issued over 400,00 EV incentives, which is equivalent to approximately one-third of all EVs on the road in the U.S.

In California, CSE implements two landmark incentive programs: The California Clean Vehicle Rebate Project (CVRP), which offers rebates for the purchase or lease of EVs, and the California Electric Vehicle Infrastructure Project (CALeVIP), which offers incentives for the installation of EV charging infrastructure. Since 2018, CALeVIP has issued or approved nearly $36 million in incentive funding. Both programs have experienced accelerated incentive uptake over time, indicating greater consumer awareness and interest in participating in the EV market.

One key element of the success of CALeVIP has been CSE's incentive processing platform, which incorporates multiple functionalities into a single tool. This platform includes the ability to support incentives for multiple charging applications, offer various incentive payment structures, and ensure that EV chargers are placed in priority regions. While there are a number of challenges in deploying EV chargers, CSE's platform offers a streamlined solution for government agencies and EVSE vendors to deploy chargers in an efficient and effective manner.

Question 2. Describe your experience and observations with how other states are implementing EVCS programs.

A number of states have developed grants programs for EV charging infrastructure, including California, Colorado, Connecticut, Massachusetts, New Jersey, New York, Pennsylvania, and Vermont. These programs are generally funded through air quality improvement funds, Volkswagen settlement funds, and revenue generated through vehicle registration fees or surcharges.

With respect to EV infrastructure grant programs, CSE implements CALeVIP[1] in California and the Charge Ready NY program[2] in New York. CALeVIP offers incentives of $5,000 to $7,500 for Level 2 (L2) chargers and $80,000 for Direct Current Fast Chargers (DCFC). Incentives in this program are limited to 80 percent of total infrastructure costs, with site hosts responsible for paying the remaining 20 percent of costs. Charge Ready NY offers incentives of $4,000 per L2 charging port, which corresponds to savings of 30 percent to 80 percent of total project costs.

According to the U.S. Department of Energy's Alternative Fuels Data Center,[3] California has more EV charging stations than any other state. This is attributable to California's large EV population and dedicated state resources for funding EV chargers. But despite these factors, California is still well-behind its goal of deploying 250,000 zero-

[1] California Electric Vehicle Infrastructure Project (CALeVIP).
https://calevip.org/
[2] New York State Energy Research and Development Agency (NYSERDA). Charge Ready NY.
https://www.nyserda.ny.gov/All%20Programs/Programs/ChargeNY/Charge%20Electric/Charging%20Station%20Programs/Charge%20Ready%20NY
[3] U.S. Department of Energy, Alternative Fuels Data Center (AFDC). Electric Vehicle Charging Stations Locations.
https://afdc.energy.gov/fuels/electricity_locations.html#/analyze

emission vehicle charging stations by 2025. According to the most recent estimates by the California Energy Commission,[4] the state is projected to miss this goal by approximately 80,000 chargers. Additional funding for EV infrastructure will be needed across the country to support the transition to an electrified transportation system. CSE commends DOA for dedicating funds from the Volkswagen Mitigation Trust to deploy EV chargers, and recommends that DOA identify additional funding to support this policy objective.

Question 7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

It is important to ensure that EV charging infrastructure is sited in optimal locations. A robust charger network will provide reliable charging opportunities for EV owners and will increase consumer confidence in the wider EV market. Moreover, optimal siting will ensure that the public investment in charging infrastructure is fully utilized and grant funds are leveraged to the full extent possible. To achieve these goals, CSE recommends that DOA, or any future administrator of the EV Charging Station Grant Program, disburse funding on a county-by-county basis. This will ensure that funding is awarded equitably with geographic and socio-demographic considerations unique to each part of the state, including low-income communities or remote rural regions.

In addition, CSE has used the Alternative Fuels Data Center's Electric Vehicle Infrastructure Projection Tool (EVI-Pro)[5] to conduct EV infrastructure assessments for CALeVIP and other regional EV readiness planning initiatives. CSE encourages DOA or any future program administrator to utilize this tool when siting EV chargers. This tool can complement additional assessments that are conducted by the state.

Question 8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

Given the different charging times and behaviors associated with each type of charger, it is appropriate to split funding based on charger type. This is particularly true given the significant cost differences between L2 chargers and DCFC. To determine the specific level at which funding should be split, CSE encourages DOA to review the regional incentive projects[6] offered through CALeVIP. Four of these projects (the San Joaquin Valley Incentive Project, the Central Coast Incentive Project, the Northern California Incentive Project, and the Sacramento County Incentive Project) have offered incentives for both L2 chargers and DCFC. Each project's unique funding allocation for each charger type was determined based on funding availability and the specific infrastructure needs within each county. While there is no universal answer to how funding should be proportioned across charger types, the existing projects under CALeVIP may offer models for the design of future programs.

Question 9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

Issuing multiple rounds of incentives is an effective way to disburse public grant funding for EV charging stations. This will ensure that all stakeholders, not just those with sophisticated knowledge or exposure to the program,

[4] California Energy Commission. 2019-2020 Investment Plan Update for the Clean Transportation Program. https://efiling.energy.ca.gov/getdocument.aspx?tn=231247

[5] U.S. Department of Energy, Alternative Fuels Data Center (AFDC). Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite.
https://afdc.energy.gov/evi-pro-lite

[6] California Electric Vehicle Infrastructure Project (CALeVIP). Find a Project.
https://calevip.org/find-project

will have the opportunity to receive grants. In California, CALeVIP issues incentives through regional projects constituting one to four counties each. This approach has been successful in tailoring each project to the specific needs of each region and its respective population of EV drivers. In addition, this approach allows for the opportunity to offer increased rebates for priority population segments like low-income communities. CSE recommends that DOA consider a similar approach and issue multiple rounds of funding across distinct geographic regions.

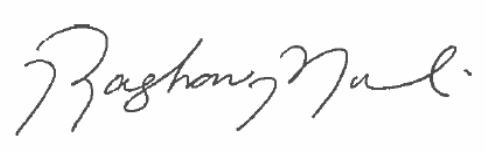
Question 12. What options exist for funding EV charging stations?

Public site hosts and business are often reluctant to invest in EV charging stations due to high upfront capital costs, which may include the costs of upgrading electrical infrastructure, as well as limited information on consumer demand. While grant funding can help alleviate these upfront costs, private capital will still be necessary to support the growth of the EV market. CSE recommends DOA consider adopting a statewide, block grant style program analogous to CALeVIP to deploy EV infrastructure in Wisconsin. This type of program would maximize the value of public grant funds, enable co-funding arrangements with local partners, simplify application processes for all program participants, and ensure the streamlined deployment of EV infrastructure.

Conclusion

CSE appreciates the opportunity to provide responses to this RFI and looks forward to the development of DOA's EV Charging Station Grant Program. Leveraging public funds for EV chargers will send a strong market signal to automakers, EV consumers, and charging infrastructure providers, and will ensure that these actors are confident in investing in this market in the long term.

Sincerely,



Raghav Murali
Senior Director of Policy and General Counsel
Center for Sustainable Energy®
3980 Sherman St., Suite 170
San Diego, CA 92110
[redacted]

Vondra, Benjamin H - DOA

From: Donath, Matthew [redacted]
Sent: Monday, February 17, 2020 10:39 AM
To: VW Settlement Wisconsin
Subject: VW Mitigation Program - EV Charging RFI
Attachments: WI DOT VW RFI- City of Milwaukee.docx

Good Morning,

The VW Mitigation Program EV Charging RFI from the City of Milwaukee Environmental Collaboration Office is attached. Please let me know if you need anything else.

Thank You

Matt Donath | Sustainability Program Coordinator
Environmental Collaboration Office
City of Milwaukee
200 E. Wells St., RM 603, Milwaukee, WI 53202
Office: [redacted]

ECO | ReFresh MKE | Better Buildings Challenge | PACE | Me²

3. INFORMATION REQUESTED

For all questions, provide a clear and concise response. Not all questions must be answered. Include illustrative examples where appropriate. Clearly indicate the question number that you are providing a response to. **Where possible, please limit responses to each question to 100 words or less.** Reponses may be emailed to: vwsettlement@wisconsin.gov.

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.
    a. Matt Donath | Sustainability Program Coordinator
    Environmental Collaboration Office
    City of Milwaukee
    Office: [redacted]

    b. Milwaukee is committed to increasing alternative fuel vehicle use for city operations and in the community. ECO is partnering with our Parking Service, Fleet Management, and other city departments to create a cohesive plan for EV use and charging infrastructure in the city.

2. Describe your experience and observations with how other states are implementing EVCS programs.
    a. I am not familiar with other state EVCS programs.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.
    a. I am not aware of any other RVCS program operating in Wisconsin.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

    a. The city currently owns one Chevy Volt that is part of our motor pool and is charged overnight in the pool garage.
    b. The City will be purchasing two Nissan Leaf's to add to our vehicle pool in 2020. We just completed a Fleet Audit and expect additional vehicles beyond 2020.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at non-government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

    a. Charging stations should be prioritized in locations with public access and municipal fleet operations. Municipalities cannot take advantage of the 30% federal tax credit and can have a larger impact on reducing emissions through electrification of their fleet.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

    a. The program share at privately owned property should be no more than 70% to tax advantage of the federal tax credit.
    b. Government owned property should be funded at 100% since the tax credit is not available. If the charging location is used for fleet use and not available to the public, it should still be a higher share than privately owned and not available to the public.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

    a. It may be helpful for the Program to create some framework or loose guidelines for location priorities. Ie. Level three chargers must be within a mile of a freeway or high traffic areas.
    b. Level 2 charging that is accessible to the public should be near

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?
    a. A 60/40 split would be helpful in accounting for the increased cost of DCFC.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

    a. It may be helpful to do separate rounds for DCFC and level two charging. Each with have different location priorities and criteria, so separate rounds could help eliminate confusion.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

    a. We currently have 4 EV charging stations at public parking locations. The cost of the electricity used it rolled into the utility bill for those locations and offset by the fees for charging.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

    a. DCFC should be prioritized along highway corridors and at higher density city centers or public attractions.
    b. Level two charging should be installed in public lots, workplaces, and multi-family residential facilities.
    c. In cities with higher volumes of renters, having public lots with level 2 charging can help with those who may not have charging at their apartment complex.

12. What options exist for funding EV charging stations?

    a. We have funded our stations through capital planning but additional funding is needed to make any widespread improvement.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

    a. This may be enough to incentivize some fleet programs to change. Perhaps it would be useful to have a separate round of funding for fleet programs.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.
    a. The city has installed 4 level II EVCS from Chargepoint using the state contract. We have an electrician on staff who is trained in installation of the chargers and hire additional electricians for running additional infrastructure to the location, if needed.
    b. The biggest barrier is the upfront cost.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

Station Level	Location	Cost range estimate	
		Low $	High $
2	Workplace or multi-unit dwelling, surface lot	$12,250	$29,250
2	Workplace or multi-unit dwelling, multi-level structure (e.g. urban parking garage)	$12,250	$29,250
2	Public surface parking lot	$12,250	$29,250
2	Fleet location (e.g. supporting municipal light duty EV fleet)	$8,883	$14,183
3 (DCFC)	Adjacent to highway corridor (e.g. convenience store near highway interchange)	$185,840	$242,350
3 (DCFC)	Urban area (e.g. parking lot within city or village commercial area)	$185,840	$242,350
3 (DCFC)	Destination site (e.g. tourist attraction)	$185,840	$242,350

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.
    a. Municipalities have the most opportunity to install chargers in a cohesive and planned way across a city and ensure there is public access. Workplaces and residential facilities are great for those that work/live there, but are often not accessible outside of that. The addition of potential fleet conversion and charging makes municipalities a natural partner.

Vondra, Benjamin H - DOA

From: William Bailey [redacted]
Sent: Monday, February 17, 2020 6:04 PM
To: VW Settlement Wisconsin
Subject: WI VW EV Responses
Attachments: WI_VW_EV_Responses.docx

Attached please find our responses to your RFI for the EV Charging Station Grant Program. I am sorry this is a few hours late, but hope you can include the information anyway.

William (Bill) Bailey
[redacted]
Bayfield, WI 54814
Ph. [redacted]

Cheq Bay Renewables
www.Cheqbayrenewables.org.

Division of Enterprise Operations

Request for Information (RFI)
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program

Responses Due: Monday, February 17, 2020, 2:00 PM CDT

Responses may be emailed to: vwsettlement@wisconsin.gov

Introductory electric vehicle charging station material, the VW Mitigation State Trust Agreement and the Wisconsin Beneficiary Mitigation Plan are available at the following webpage: https://doa.wi.gov/Pages/vwsettlementwisconsin.aspx

1. INTRODUCTION AND PURPOSE

Volkswagen Group of America admitted to violating the federal Clean Air Act (CAA) from 2009 through 2016 by selling nearly 590,000 2.0-liter and 3.0-liter diesel engine vehicles equipped with software designed to cheat on federal emission tests. Volkswagen entered judicial consent decrees to partially settle its civil liability for the CAA violations. Under these decrees, Volkswagen must pay more than $2.9 billion into an Environmental Mitigation Trust Fund (Trust). The State of Wisconsin will receive $67.1 million from the Trust to offset excess NOx pollution emitted by affected VW vehicles in Wisconsin.

The Environmental Mitigation Trust Agreement for State Beneficiaries (Agreement) allows Wisconsin to use up to 15% of VW Trust funds "on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment." Generally, eligible light duty zero emission vehicle supply equipment (ZEVSE) is used to refuel (recharge) on-road plug-in electric vehicles (PEV) including battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV).

VW Trust funds may be used for electric vehicle charging stations (EVCS) at government properties, workplaces, multi-family unit dwellings, businesses and other locations. VW Trust funds may not be used for EVCS costs at private residential dwellings other than multi-family unit dwellings and cannot be used to purchase EVs.

2019 Wisconsin Act 9 (2019-21 Enacted Budget) and Governor Evers' Veto Message direct DOA to spend up to $10 million in VW Settlement Trust funds for EVCS grants. The Wisconsin Department of Administration (DOA), Volkswagen Mitigation Program (Program) is releasing this Request for Information (RFI) in order to gather feedback from the public and other interested respondents regarding expenditure of up to $10 million in VW Mitigation Trust funds for the purchase and installation of light duty EVCS in Wisconsin. Specifically, responses to this RFI will be used to inform development of an EVCS grant program.

Responses to this RFI are for informational purposes only. Responses will be reviewed by DOA and may be used to develop a competitive procurement or grant announcement. DOA may elect to utilize existing available contracts to acquire a product and/or service that meets the business needs and requirements. The State will solely determine if a competitive procurement will be conducted or grant announcement issued. State selection for such product and/or services is not contingent on RFI responses. This RFI does not substitute a competitive procurement process or grant announcement, nor will it result in a contract.

Questions concerning this RFI may be sent to Ben Vondra, VW Mitigation Program Administrator, 608-261-6262 or benjaminh.vondra@wisconsin.gov.

2. PREPARING AND SUBMITTING A RESPONSE

Interested parties are encouraged to submit email responses to: vwsettlement@wisconsin.gov. **Emailed responses are strongly preferred.**

Hard copy responses may be sent to the following address and must be received by the Program prior to the deadline:

VW Mitigation Program
Division of Enterprise Operations
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
PO Box 7867
Madison, WI 53707-7867

Calendar of Events

Date	Event
Thursday, January 16, 2020	RFI posted
Monday, February 17, 2020, 2PM CDT	RFI response deadline
TBD	RFI summary responses posted

The receipt of an RFI response from a respondent does not imply any contractual obligation or competitive solicitation on the part of the State, nor does it create any further obligation by the State.

RFI respondents should organize and present the response using the applicable question numbers noted in the RFI.

Information received in response to this RFI that is marked "proprietary" (via the form DOA-3027 Designation of Confidential and Proprietary Information) will be handled accordingly. Information will only be kept confidential to the extent allowed by State of Wisconsin Public Disclosure Law. A copy of the form needed to designate portions of your submission as proprietary can be found as part of the RFI attached documents or at the following link: http://vendornet/vendornet/doaforms/doa-3027.doc.

The Department will provide reasonable accommodations, including the provision of informational material in an alternative format for qualified individuals with disabilities upon request.

The State shall not be responsible for any costs incurred by a respondent related to this RFI. Such costs include related activities such as demonstrations and/or presentations. All RFI responses become the property of the State upon receipt and are subject to the state's public records laws.

If you intend to hand-deliver your response be aware that the Department of Administration has established building security policies and procedures at the 101 East Wilson Street address in Madison. There is a security checkpoint in the first-floor lobby. All visitors are required to provide current identification and sign in for a visitor's pass. Security personnel will call the intended state employee prior to the visitor being allowed to proceed to their destination in the DOA building.

3. INFORMATION REQUESTED

For all questions, provide a clear and concise response. Not all questions must be answered. Include illustrative examples where appropriate. Clearly indicate the question number that you are providing a response to. **Where possible, please limit responses to each question to 100 words or less.** Reponses may be emailed to: vwsettlement@wisconsin.gov.

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics. We are Chequamegon Bay Renewables, a 501(c)(3) nonprofit dedicated to local sustainable initiatives, primarily, but not limited to, renewable energy. Our mission is to work with multiple entities, in the spirit of cooperation and community building, to reduce reliance on fossil fuels while promoting clean water, clean air, organic foods, and healthy living. We initiate projects, develop resources, and educate to make renewable energy more accessible to our community. We are currently working with the UW-Extension, Ashland and Bayfield Counties. One of our primary initiatives is EV education and implementation. We have also been collaborating with RENEW WI and held our first public information session regarding EVCS topics in Nov. 2019 with RENEW EV project manager Jane McCurry as our guest speaker. The event was well attended and shows interest in our area. UW-Extension also conducted a survey gauging EV interest which had a high response level and has documented results that can be used to further EV programs.

2. Describe your experience and observations with how other states are implementing EVCS programs.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year? We personally do not, but in our membership, there are a few EV owners. Three Chevy Bolts were recently purchased and we are taking note of how winter driving conditions are affecting battery life, traction, snow clearance, etc. Charging is currently done at homes as there are no public charging stations in the area. A round trip can be made from Bayfield to Duluth on a single charge, in winter. The problem becomes when someone from outside the area comes here and there is nowhere to charge.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at non-government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how? Yes, public access on main highways, and destination locations like motels, restaurants and stores should be prioritized. Particular notice should be taken regarding locations throughout the state where round-trip drives between charging nodes are more than 150 miles as this is a limiting distance for current technologies in the winter. Northern Wisconsin in particular is an area bereft of charging options which affects tourist and business opportunities. This critical deficit effectively limits EV opportunities throughout the state.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in

the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds? We would recommend maximum cost share. Even if installation costs were at a minimum, the cost of electricity, specifically demand charges, in a rural setting with minimal daily use are detrimental to a successful business model. The operating costs of charging stations in our area will likely need to be subsidized by the owner and justified as attracting customers.

Maximum VW funding share of EVCS eligible project costs

Site Location or Type	Available to the public	Not available to the public
Private residential dwelling other than multi-unit dwelling	0%	0%
Workplace	80%	60%
Multi-unit dwelling	80%	60%
Government owned property	100%	60%*
Non-government owned property	80%	60%*

**Assumes the property is a workplace or multi-unit dwelling*

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations? The VW Mitigation Program should definitely prioritize location. The stations need to be equally spread throughout the State and priority given to "end of the road" or destination locations. It should not be based on population centers as dense populations already encourage EV investment options based upon positive economic models.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)? Not necessarily. Geography should determine the split. Ashland might need a DCFC as drivers pass through on Hwy. 2, but Bayfield and other "end of road" locations might need a L2 as a destination location.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)? There is an immediate need to attain a critical level of chargers in place. Don't spread it out over too long a time frame. The first round of funding should be the largest, with subsequent rounds to fill in missing areas discovered by driver input.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions). In our local area, DCFS need to be placed along Hwy. 2 in Ashland, Iron River and Hurley and Hwy. 13 in Cornucopia, Mellen and areas south. Also, along Hwy. 63 in locations like Cable and Hayward. L2 chargers are appropriate at businesses in Bayfield, Washburn, Ashland and other small towns. All chargers should

be placed in locations that permit 24/7 access.

12. What options exist for funding EV charging stations? This is the biggest challenge and why the funding level needs to require the smallest match. It will be challenging enough for area businesses to cover the electric bills or be able to pass on the cost to charging customers. We believe from our public discussions that utilization of this resource will be moribund or at least grow slowly unless there is a comprehensive network that serves the entire state. DCFS which require a 3-phase grid with high demand challenges should be located where that option is already available, with financial support linked to installation costs.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted? Yes. Target through organizations like WI Counties Association and RENEW WI. RENEW will get the word out to installers; the installers will solicit businesses.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter. We are working with Bayfield County who is working with our local Bay Area Rural Transportation (BART). They have received a grant for two electric busses and two DCFC to be installed this summer. Access to these charging stations will be limited due to fleet needs and access hours to the sites.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

Station Level	Location	Cost range estimate Low $	High $
2	Workplace or multi-unit dwelling, surface lot	$	$
2	Workplace or multi-unit dwelling, multi-level structure (e.g. urban parking garage)	$	$
2	Public surface parking lot	$	$
2	Fleet location (e.g. supporting municipal light duty EV fleet)	$	$
3 (DCFC)	Adjacent to highway corridor (e.g. convenience store near highway interchange)	$	$
3 (DCFC)	Urban area (e.g. parking lot within city or village commercial area)	$	$
3 (DCFC)	Destination site (e.g. tourist attraction)	$	$

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above. Cheq Bay Renewables responded to the Office of Energy Innovation's Zero-emissions Vehicle Pilot Test RFP in Nov. 2019 which placed on hold by the State. It might be reintroduced after more EVCS are installed and the EV industry gives more vehicle options.

Vondra, Benjamin H - DOA

From: Nancy Mullen [redacted]
Sent: Monday, February 17, 2020 11:03 PM
To: VW Settlement Wisconsin
Subject: VW Mitigation Program

To Whom It May Concern,

I strongly encourage the VW Mitigation Program and the WisDOT to kickstart the adoption of electric vehicles (EV) by funding new charging stations with Wisconsin's VW Trust fund. It would be great to see Wisconsin as a more advanced state in encouraging residents to make wise choices for the environment. I feel like we're so far behind many other states in this area. We've been wanting to purchase an EV for a while and are really hoping Wisconsin becomes more EV friendly for the sake of both the environment and the economy.

Thank you!

Nancy Mullen

Vondra, Benjamin H - DOA

From: Alicia Leinberger [redacted]
Sent: Wednesday, February 19, 2020 12:12 PM
To: VW Settlement Wisconsin
Subject: responses on EV charging program

My #1 recommendation to this committee is that the program be a joint effort between utilities and DOA to identify localtions, install, and maintain a hearty DCFC network. The State should develop an app to inform drivers, collect info, and allow people to report problems. The State could collect revenue (in lieu of gas tax) to fund the continued operation of the network, which the utilities could help maintain as they have access to the best electricians in the state.
*see #16 as to why I believe the above

1. **Alicia Leinberger, owner Ethos Green Power solar, Viroqua WI**
3 years driving 100% EV - Ford Focus and Chevy Bolt
Also nearly 20 years in renewable tech and experience with different incentive programs

2. I've driven through MI, IL, MN, IA on EV charging infrastructure, even up into Canada
3. I'm aware of the LACK of EV programs in WI - we are behind. Though Iowa is worse.
4. We are in rural SW WI and I charge at our office, level 2 40A charger. There are a few level 2 chargers in the area, including Organic Valley locations that put in chargers before anyone else. But there are no level 3 chargers (except Tesla of course) within 60 miles, and barely any decent level 2 chargers.

5. *charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Should funds be prioritized among eligible installation locations? If so, how?*
Priority should be given to locations where there are other ancillary services, restaurants, shopping areas, parks, libraries, even gyms. Hotels can use level 2 chargers, though they should be open to public as well, if publicly funded. Actually I believe that the program should work with utilities to identify 480V service and utilities should "host" the chargers since they have the most motivation to keep them up and running.

6. Matching fund limits are fine
7. Grant program should prioritize level 3 chargers in rural areas to bring people off the highways and allow for movement between major highways.
8. DCFC chargers should be the bulk of the program, maybe even 90%. Level 2 chargers are not expensive and also not very useful for building EV infrastructure.

9. Probably best to have a pilot for year with 30% of total funds, learn from that, and have a second round the following year.

10. Payment happens either with an RFID card (chargepoint) or and app that connects the charger (much less reliable) and Electrify America actually accepts credit cards which is nice.

11. Probably 50% should be DCFC chargers should be along major corridors, every 30 miles or so. The remaining should be mix DCFC/level2 scattered as evenly as possible through rural areas. Urban areas can take care of themselves, as the penetration of EVs will happen fast enough to make charging profitable much faster. This program should concentrate on funding BETWEEN the urban areas.

12. Utilities should be the most interested as it means more sales for them, both at the chargers through the program, AND as EV market penetration in general.

13. No, the barrier here is the cost of the fleet vehicle not the charging infrastructure. Plus I think public funds should go to serve public in general, not specific fleets.

14. We install level 2 chargers for people in their homes when they get solar power at the same time.

15. Level 2 installs at public places cost about $700-$1000 depending on mounting and accessories. Though we can do it in people's homes for $500.
DCFC I'm not sure, but you do need 480V service which in rural areas must be identified by the utilities. We've never looked into the cost of this.

16. The MOST IMPORTANT factor of all is that the charger FUNCTIONS RELIABLY. This is a HUGE problem today as charging installed by private companies often are broken, and the income from them is not enough to prompt fast service. Nothing sucks so much for EV drivers than to get to the charger and find it broken. We really on Plug-Share app right now for reporting when chargers don't work. This is a HUGE barrier to EV adoption.

My #1 recommendation to this committee is that the program be a joint effort between utilities and DOA to identify localtions, install, and maintain a hearty DCFC network. The State should develop an app to inform drivers, collect info, and allow people to report problems. The State could collect revenue (in lieu of gas tax) to fund the continued operation of the network, which the utilities could help maintain as they have access to the best electricians in the state.

(why not do this as google form? or other survey type thing? this is very clumsy)

Thanks for listening, Alicia
--

Alicia Leinberger - Firekeeper
[redacted] Viroqua, WI 54665
[redacted]
www.ethos.green

Vondra, Benjamin H - DOA

From: VW Settlement Wisconsin
Sent: Thursday, February 20, 2020 11:25 AM
To: VW Settlement Wisconsin
Subject: Feb 20 EVCS RFI Phone Comments

Via phone message February 20, 2020:

Chris Litzow of Great Lakes Community Conservation Corps serving SE Wisconsin and based in Milwaukee and Racine.

Engaged in project to install a constellation of solar-powered EV charging stations in SE Wisconsin. Currently working in north Milwaukee and Racine. Chargers will be used by training participant's vehicles to charge during the day while engaged in work. Also available to the community. Contact [redacted]

Vondra, Benjamin H - DOA

From: zachary pernikliyski [redacted]
Sent: Thursday, February 20, 2020 3:12 PM
To: VW Settlement Wisconsin
Cc: [redacted] Neda Deylami
Subject: Electric Vehicle Charging Station Grant Program

Good afternoon,

If you can work with Tesla to add universal high-speed/powered chargers to their stations it could save about $150k in wiring cost per station/location. I believe the goal is to put as many chargers as possible at the best price available. One of the biggest frustrations for EV drivers when charging is to go to a station and it's not working. So if you work with tesla they already have a good support staff that maintains theirs. Also you should work with partners like volta, they are very good at deploying chargers. So maybe they will double growth for same $ and it'll be win-win.
On a side note, you should allow Tesla to sell their cars in Wisconsin. I know a lot of people who came to Illinois to get their teslas. When Wisconsin has more onerous regulations and unfriendly to businesses and customers than Illinois, you've gone too far.

Thank you,
Zachary Pernikliyski
[redacted]

Vondra, Benjamin H - DOA

From: Jack Ahr Design, Inc. [redacted]
Sent: Thursday, February 20, 2020 4:29 PM
To: VW Settlement Wisconsin
Subject: Electric Vehicle Charging Station Grant Program

1) I have been driving electric cars for seven years. Started with a Nissan LEAF in 2013, traded it for a Chevrolet Bolt in 2017 and currently we own two Tesla Model 3's. With over 107,000 miles pure electric driving we will never go back to gasoline~

4) EV's have a much lower cost of ownership for fuel and maintenance compared to ICE (internal Combustion Engine) vehicles. Any business using ICE vehicles will switch to EV's once they are made aware of this fact - for strictly financial reasons. Plus they are more fun to drive. Ford will introduce an electric Mustang later this year and electric F-150 soon after. Fords marketing department will create much more awareness (Tesla does not advertise) so many more will be aware of the advantages of driving EV. Half the population can install a charger at home and have a "full tank" by plugging in overnight. But a long commute means businesses must install chargers so employees can comfortably get to work and back in even the harshest winter conditions.

5. You need a mix L2 and faster charger options installed everywhere cars are driven. Partner with larger business to install a row of chargers in front of the building to make it easier for employees to switch. L2 would be sufficient for most with a couple of fast chargers added for those driving long distances every day. Shopping malls, movie theaters, restaurants, etc… where cars are parked or an hour or more also need L2 chargers. The fast chargers are needed more for drivers with longer commuting corridors and also for travel throughout the state.

Multi-unit dwelling installs are sorely lacking so this should be made a priority as well. State law should mandate all new construction include EV chargers installed at a 20% rate (minimum) of use of building residents. And if there is enough interest in an existing building tenants should have the right to get one or more stations installed with the building owner not allowed to say no. The growth of EV ownership will grow quickly in the next few years so plan NOW.

12. Contact Volta - https://voltacharging.com/ - to get chargers installed at malls and shopping corridors. Volta installs the chargers and offers free charging for EV owners so that will help get more drivers to switch to electric. Shop owners see an increase in business where EV chargers are installed.

END the boycott of Tesla stores in Wisconsin. The 100 year old "franchise" rules are antiquated and only protect entrenched interests while hurting consumers by denying freedom of choice. If legacy auto makers can't compete they should make a better product. Tesla electric cars are the best on the road and you do a great disservice to the citizens of Wisconsin to deny them the right to buy direct from the manufacturer as residents already do in almost every other state in the country.

Sincerely,
Mr. Tracy Ahr
[redacted]
Evanston IL 60201
[redacted]

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Friday, February 21, 2020 7:19 AM
To: VW Settlement Wisconsin
Subject: FW: Lt. Governor Barnes EV Charging Station Listening Session

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Chris Litzau[redacted]
Sent: Thursday, February 20, 2020 8:24 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: Lt. Governor Barnes EV Charging Station Listening Session

Hello Ben—

I will be unable to attend the Lt. Governor's EV Charging Station Listening Session scheduled tomorrow in Milwaukee, but I wanted to submit comments about the EV charging stations that we are developing in the central city communities of Milwaukee and Racine. Great Lakes Community Conservation Corps (Great Lakes CCC) is currently partnering with the City of Racine and the City of Milwaukee to develop a constellation of solar PV electric vehicle charging stations at project locations in neighborhoods where teams of Great Lakes CCC training participants will be working. These newly developed solar PV charging stations will complement the purchase and use of the Great Lakes CCC's light-duty battery electric vehicles and provide the venue for its students to learn first-hand about charging equipment, etc. The Great Lakes CCC training program provides experiential learning experiences at real project sites throughout southeastern Wisconsin where training participants—primarily young adults ages 17-24 who are re-connecting to the public education system and the AmeriCorps national service program--acquire firsthand knowledge and skills. Every weekday the fleet of Great Lakes CCC vehicles is deployed with teams of training participants to destinations within the seven counties of southeastern Wisconsin (Walworth, Kenosha, Racine, Milwaukee, Waukesha, Ozaukee, and Washington Counties). The intent is to have Corps members assist with the design and installation of the solar PV charging stations at locations where the Great Lakes CCC is completing community redevelopment projects. Electric vehicles will charge during the daytime while the Corps members are working. The vehicles will then become fully charged and return to the Great Lakes CCC's training facilities. While not in use by Great Lakes CCC vehicles, the solar PV charging stations would be available to neighborhoods residents. Solar PV charging stations placed in Milwaukee and Racine under-represented communities will serve to model the possibilities for sustainable energy solutions.

Great Lakes CCC is the co-lead for the Southeast Wisconsin Solar Group Buy Program that serves Racine, Kenosha and Walworth County residents.

Please let me know if you would like additional information.

Thanks,
Chris Litzau
President
Great Lakes CCC

Vondra, Benjamin H - DOA

From: Dennis Griffin [redacted]
Sent: Friday, February 21, 2020 12:27 PM
To: VW Settlement Wisconsin
Subject: Electric Vehicle Charging Station Grant Program

Dear Program Administrators,
The following are my comments related to the VW Mitigation Program.
I am retired resident of Brown Deer in Milwaukee County. We previously owned a 2017 Chevy Volt for three years and recently began a lease for a 2020 Chevy Bolt EV after trading in the Volt. We are on a time of use plan with WE Energies (8pm to 8am) and have been for many years.

With the Volt (50 mile electric range) we relied only on the 120V (level 1) charger provided with the vehicle and found that adequate for our driving needs around Milwaukee, charging only on the off-peak times. We never charged it while traveling, relying on the IC engine in those instances. We regularly exceeding the 50 mile electric range around Milwaukee and relied on the IC engine on those times also.

With the Bolt (250 mile electric range) so far we've relied only on the 120V (level 1) charger provided with the vehicle and are finding that adequate for our driving needs around Milwaukee, charging only on the off-peak times. However we are constrained when traveling beyond the Milwaukee area by EVSE charging availability. Our Bolt has DC Fast Charge capability (CCS) and would use the fast charge capability while traveling.

My priorities for charging infrastructure in Wisconsin are as follows:
1) Incentives for installing personal residential charging infrastructure (I realize that might not be possible under the rules of the program, but it's still my first priority).
2) Build out of a fast charging network (DCFC, others) across the state. Level 2 charging really is not that desirable while traveling as it may take several hours to charge up the vehicle. With DCFC I could charge up to a reasonable level within an hour and continue traveling. The chargers should be available on a 24/7 basis near a populated area such as a public rest stop or private travel plazas, shopping centers,etc. that are scattered at reasonable distances across an area.
3) Incentives for level 2 charger installations for businesses and apartment/condo complexes that are ideally placed where the general public could access (pay per charge).

It was unfortunate that WE Energies was denied implementation of the EVSE charger incentive proposed last fall, by the PSC. That would go a long way in providing individual potential EV owners an incentive to make an initial EV purchase.

Thanks,
Dennis Griffin
[redacted]
Brown Deer, WI 53209

Vondra, Benjamin H - DOA

From: Roger Aiken [redacted]
Sent: Sunday, February 23, 2020 3:28 PM
To: VW Settlement Wisconsin
Cc: Bill
Subject: Comments on VW settlement funds - Vehicle Charging in NW Wisconsin

I can not attend the listening session, and so would like to present my views regarding public charging as a current non-tesla electric car owner (Bolt 60KW) and user in Bayfield Wisconsin.
The power efficiency of electric automobiles requires 2-4 times less fuel in comparative btu values. The amount of total fleet power that needs to be supplied for electric vehicle buildout is proportionally less. When considering that most charging will still occur at home sites, electric charging is inherently much easier to site than traditional fuel transport/distribution facilities. These numbers will continue to improve with new battery technologies.

A key factor in siting charging stations is an amenity that people will want to visit, within walking distance. Siting CCS stations every 80 miles statewide should be a goal. We have no freeways in rural Wisconsin, just routes people use. People value there time and the charge station location can direct them to quality venues and enhance the local economy. In the future fast charging will be quicker, but there will also be increased volumes of people charging and private sector will want to get involved. GM, Ford and Volkswagen have committed more than 20 Billion in the next five years to an electric car future. It makes sense to use some of the VW money to help incentivize private businesses and public entities with the right power attributes to install chargers and manage them. The future potential for taking gross revenues away from the Oil majors and redirecting those funds into the local economy is a big opportunity for rural America. Existing jobs will need to migrate to other venues as this huge energy transition occurs over the next decade.

Most of my charging and driving is within 150 miles of my home. A majority of my trips are 50 miles or less, with some trips to Hayward and Duluth. I charge 95% at home with a level 2 charger. Trips to Duluth and the Twin Cities have chargers every 80 miles and many charging options are available in the Twin cities. It usually takes 45 minutes to an hour to reach 80% charge on my Chev Bolt (1/3 to full) using a CCS fast charger in winter. Two hours on a level 2 charger. My average efficiency at around 30 degrees F is about 4 miles per KWH. I would like to be able to travel to Minocqua, Wausau, Eau Claire, Madison and Menominee. Currently I can easily get to Duluth, Hayward and Hurley, but I need a charge to have a comfort level for return in the Winter. The routes frequently traveled in our area are down Hwy's 13, 51 and 63 into Wisconsin. Hwy 2 from Hurley to Duluth. Many people come and go from Madison, Minneapolis or farther. The only current non-tesla chargers are at campgrounds (summer only and require adaptors) the Chamber building in Cable (level 2) Level 2 in Hayward at the casino, and level 2 at the Chamber in Bayfield. These are only outlets and require a portable charger. Several hotels offer outlets for overnight chargers at Level 1. Most are currently free.

Local charging would be a plus eventually, but in my view our primary need is a system of accessible chargers to get people up to Northern Wisconsin to support our number one business - our tourist trade. The current nature of summer tourism is that people with limited time will come up to see many places for a short visit. They won't come unless they have a way to get back with less than a two-three hour charge time. So conveniently located CCS and level 2 chargers are essential. Every downtown area, Ashland, Washburn and Bayfield should have at least three level 2's that are walking distance to local restaurants, stores and museums. A charger located near lake access (eg. In Bayview, Ashland or marinas) would be a spectacular success. A couple of fast charger stations (CCS) in Bayfield and Ashland area would handle peak visitor load in the Summer. Power availability and ease of installation should be a factor as well as proximity to a venue where people can explore the area and enjoy the services. I usually spend a minimum of $20.00 or more traveling on my own even when the charge is free.

The potential downside of utility scaling for build out of charging electric infrastructure can be minimized by using power circuits in existing locations already. In our area many commercial power locations exist where business's that once used large amounts of power have closed. The former Dupont plant and several areas around the City of Washburn and Bayfield have these types of power installations. Additionally, Xcel energy is currently upgrading all the main power distribution circuits on the Bayfield peninsula. Our many large marinas are also compelling locations with existing power and places people enjoy being for an hour or longer. The National Park facilities in Bayfield and Little Sand Bay may also have some potential. There are also several sites with large solar installations that may consider a charging amenity, such as Bayfield County Court House, the Great Lakes Visitor Center on Hwy 2, Washburn West end park and the casino at Red Cliff. The avoidance of demand charges and the ability to have the space to expand the facility over time as vehicle charging becomes more popular may be a consideration.

Roger Aiken
[redacted]
Bayfield Wi 54814
[redacted]

Vondra, Benjamin H - DOA

From: rowen [redacted]
Sent: Sunday, February 23, 2020 6:30 PM
To: VW Settlement Wisconsin; benjaminhvondra@wisconsin.gov
Cc: baileys-bayfield@centurytel.net
Subject: Email comments in Lieu of Attending Feb. 26 Bayfield Couty Listening Session

Hello Ben:

Please consider these comments in lieu of in-person comments at the Bayfield County listening session on February 26.

I drive a 2019 Chevy Bolt EV, with a nominal range of about 238 miles.
Although I am a resident of Dane County most of the year, I often drive in Northern Wisconsin to and from my second home in Central Bayfield County.

My travel times on longer drives in Northern Wisconsin are prolonged by the absence of HVDC charging stations N of Eau Claire and Wausau. This is a big time waster for me because it takes about five times as long to charge at Level 2 than it does at Level 3 (HVDC). Outside of the warmer months, I generally do need to charge somewhere N of Eau Claire to reach my second home with an adequate charge level (20%). This is true even though I do routinely charge to 80% at the Eau Claire Walmart Electrify America Charging Station. In very cold weather, I may not be able to drive beyond approximately Hayward without a further charge.

A Bolt driver heading NE from the Twin Cities via Highway 8 or 63 (e.g., heading to the Birkebeiner) may be similarly constrained in winter range.

I have experience traveling from my Bayfield County home to and from the Twin Cities via highway 63 and to and from the Madison Area via Highway
53 and I-90/94. Both Highway 53 and 63 suffer from an absence of HVDC charging stations. HVDC stations in Hayward (Walmart?), Turtle Lake (Casino?), and Rice Lake
(Menards?) would address the most glaring holes in the charging opportunities in NW Wisconsin. Also desirable would be HVDC chargers in Ashland (Walmart?), Park Falls, Stevens Point, Marshfield, Minocqua, and Hurley. I also travel via I-90 through La Crosse en route to or from the Twin Cities. La Crosse is also an HVDC charging desert for non-Tesla owners.

I request that the state consider contracting for installation of at least individual 50-kW HVDC chargers at all of the above cities. Such chargers would greatly alleviate range anxiety for S Wisconsin EV owners like myself trying to reach NW Wisconsin and Rochester, MN. These stations should have both CCS and CHADEMO plugs to accommodate all non-Tesla EVs.

It is my understanding from talking to electrical contractors that a single 50-kW HVDC charger networked to a company like ChargePoint costs about $100,000 installed. A second charger at a site might cost about $80,000.

ChargePoint operates a number of such stations in Minnesota. I have used their stations in St. Paul (Macalester College) and Duluth (Canal Park), MN. Con-tracting with an outfit like ChargePoint to maintain such stations would be an efficient way for the state to go. ChargePoint networks its HVDC stations.
EV drivers can consult an app on their phones to check availability of the charger. It is very important that they be networked because, at least initially, they will probably be pretty far apart.

A relatively small VW settlement investment in a few well-placed HVDC stations could alleviate a lot of range anxiety in West Central, Central, and Northwest Wisconsin and facilitate EV purchases all over the state. A lot of "southerners" like to visit the north. Please consider helping them do so by EV.

Robert H. Owen, Jr.
[redacted]
Middleton, WI 53562

Vondra, Benjamin H - DOA

From: rowen [redacted]
Sent: Monday, February 24, 2020 11:24 AM
To: VW Settlement Wisconsin; benjaminhvondra@wisconsin.gov
Cc: [redacted]
Subject: Addendum to Prior Email Comment Relating to Feb. 26 Bayfield County Listening Session

Hello Ben:

I commented by email yesterday. Please add this to my prior comment.

On reflection, based on my experience with my Chevy Bolt to date, I think the state should contract for HVDC charging stations at three additional locations:
Abbottsford, Trego (possibly in lieu of Hayward), and Wausau. These address charging gaps on Highways 13, 29, 51, 53, and 63 and support N WI tourism as well.

Thank you for considering my comment.

Robert H. Owen, Jr.
[redacted]
Middleton, WI 53562

Vondra, Benjamin H - DOA

From: Clair Morud [redacted]
Sent: Monday, February 24, 2020 9:40 PM
To: VW Settlement Wisconsin
Subject: Northern Great Lakes Visitor Center: EV Charging Station Listening Session with WI Department of the Administration.

As I am not able to attend the listening session in our area I am offering these comments via email.

Note that my comments primarily apply to my residence in Ashland and surrounding regions of northern Wisconsin.

Our family did recently purchase an electric vehicle. I'm aware of several other electric vehicles in our area. My observations are as
follows:

1. While electric vehicles currently comprise a very small segment of vehicles, they are expected to rapidly become the norm. As such, a charging infrastructure is essential for any community that does not want to lose tourist business.

2. Charging infrastructure easily allows me to drive my EV to urban areas of Minnesota and even up the North Shore of Lake superior. I can easily drive out of Wisconsin to spend money in Minnesota

3. It is currently not easy to drive from my home to the populated areas of Wisconsin. There is virtually no public charging infrastructure between Ashland and Wausau and the closest level 3 charger in that direction is east of Steven's Point.

4. Despite the need to serve the tourist economy, there is no public charging available in Ashland or the surrounding towns.

My recommendation for charging infrastructure in our area:

1. Readily available level 2 charging in any city of more than 2000 population. It is in the interest of the city and city businesses to have charging in downtown areas so that visitors can plug in the car while spending time shopping downtown. I expect that the economic benefit of charging downtown is greater than the potential economic benefit of a charger at Walmart. These chargers do not need to be free but should not be overpriced. It may be in the economic interest of the cities to put chargers on Main Street that are free.

2. One level 3 charger in each area such that level 3 charging is available about every 100 miles between here and Madison. For example, a level 3 charger in Ashland and another in Minocqua. Exact location is going to be determined by proximity to a transformer. I would like to see a level 3 charger close enough to downtown Ashland so a tourist has several eating/shopping opportunities within easy walking distance from the charger. Duluth provides Level 3 charging at no cost, although the parking lot does require an entry fee during the summer. I don't think drivers have the expectation that charging should be free but it should not be overpriced. The charger should be affiliated with one of the charger networks such as Chargepoint, Greenlots, Electrify America, etc.
Perhaps for every dollar paid for charging 10 cents could be donated to local charities and in return the owner of the charger would not be expected to pay property tax on the charging infrastructure.

3. Every hotel should be encouraged to provide level 2 charging at low cost or even no cost. This infrastructure is not extremely expensive and should not require subsidy. It is appropriate to offer infrastructure guidance to hotels.

Vondra, Benjamin H - DOA

From: Hans Detweiler [redacted]
Sent: Tuesday, February 25, 2020 8:53 AM
To: VW Settlement Wisconsin
Subject: location of charging stations

Hello,

I lived in Wisconsin for a long time previously and now live in Illinois. Please don't fault me for the move, it is complicated! I have raised my only son as a Packers fan.

Our family car is a Nissan Leaf, and every year we vacation in Door County. We always stop in downtown Manitowoc in both directions on the way, and then take the scenic route up through Two Rivers and Kewanee, etc., to Sturgeon Bay.

In order to make the trip in the Leaf, we really need a downtown Manitowoc fast charger (CHAdeMO) and a fast charger in Sturgeon Bay. There are a few public low speed chargers in Sturgeon Bay, but those won't work well for vacation travel given that our family only has one car with us on the trip—hanging out for 8 hours waiting for a charge is impractical!

Sturgeon Bay is a gateway to Door County and I would imagine that a whole crop of electric cars would use different types of fast chargers in Sturgeon Bay. Put them reasonably downtown and then people will walk around the downtown area and hit the restaurants while charging. The same thing is true in Manitowoc—put fast chargers downtown near the river, at the Public library or the parking lot across from the library, and you'll drive EV traffic from the interstate to the downtown. Kewaunee and Algoma could similarly benefit. Because EV drivers don't want to sit in their car for 45-60 minutes while charging, the best plan is to locate the chargers in pedestrian-friendly areas as opposed to pedestrian-hostile strip malls on the outskirts of towns.

Generally speaking, if you want to use the settlement money to support tourism, then you should put all of the money into fast chargers rather than 220 volt J chargers, as well as avoiding pedestrian-hostile locations.

Thank you

Hans Detweiler
[redacted]
Chicago, IL 60660
[redacted]

Vondra, Benjamin H - DOA

From: Keri Solis [redacted]
Sent: Tuesday, February 25, 2020 10:02 AM
To: VW Settlement Wisconsin
Subject: EV Charging Grant RFI

1. My name is Keri Solis and I am the Economic Development and Tourism Coordinator for Marquette County. I am interested in EV charging stations for the residents and vacationers in our area. I am also interested in having charging stations available for those passing through the area on their way to other destinations. My contact information is [redacted] PO Box 219, Montello, WI 53949. 608-297-1000 (direct line) [redacted]
2. No experience
3. None that I am aware of.
4. None and not likely within the next year.
5. In Marquette County charging stations would be most beneficial in places that are easily accessible to the public. While at this time there may be few electric vehicles in the area, during the summer months our area fills with visitors from the Fox Valley, Madison, Milwaukee and Illinois. It is important that we have charging stations available for our visitors. In Marquette County specifically, having a station available at the Montello City Hall parking lot, located on Hwy. 23 would be a great place for people from the Fox Valley on their way to Wisconsin Dells to stop for a quick charge and enjoy the downtown. In Westfield, located on I-39 is a commercial area (gas, food, shops) that would be a good place to stop. Westfield would also have a convenient spot two blocks off the interstate in their downtown for a station. I can also see having a charging station for fleet purposes being beneficial for Marquette County businesses. I don't know that a blanket prioritization can be made state-wide simply based on which bucket a location falls in. I just gave examples of both private and public locations that make sense for installation. I think it is more about "does this location make sense" than accepting or rejecting an application because of the category it falls into.
6. In regards to match share, on government owned properties, especially in rural areas that do not have a large presence of residents with EV's (as opposed to tourists/people passing through), it would be a hard sell for the local government to install one if 100% of the project costs were not covered. I think if it was not 100% the reaction would be "we get it and would like to do it, but can't justify the expenditure over other needs at this time".
7. I believe that the VW Mitigation Program should look at the "big picture" of current charging stations, overlaid with proposed stations (grant applicants) to fill in the gaps. If a specific applicant has proposed several potential locations or there are several proposed locations in a general area by multiple applicants, it would make sense to have a dialogue to understand from a local perspective which of the locations would be the best choice for a station.
8. I would agree with putting more funding towards a DCFC.
9. Depending on how long you intend the grant application period to be open, it may be beneficial for more than one round of funding for government entities, since the decision to apply for a grant can sometimes take awhile to work through the process locally.
10. N/A
11. As I stated above, at this time the charging stations are more for the needs of visitors to our area and people passing through to other destinations. I, along with some businesses in the area, have been contacted by both people passing through and people looking to spend the night about charger availability. We are located between Madison and Stevens Point, which is a "dead zone" for chargers. One person that contacted me was considering purchasing an EV, but because he travels from the Madison area to the Northwoods on a regular basis was hesitant to do so because of lack of charging stations along the route. My concern is that rural areas may be overlooked as grants are awarded due to smaller populations and less residents with EV's. However, I

believe it is critical for our local economy that we have chargers available for those passing through to continue to be their preferred route and for those choosing Marquette County as a vacation destination.

12. Not aware of any.
13. Yes, I believe it would.
14. No
15. N/A
16. None

Vondra, Benjamin H - DOA

From: Anthony Sproehlich [redacted]
Sent: Tuesday, February 25, 2020 12:24 PM
To: VW Settlement Wisconsin
Subject: Charge placement

Hello,

Thanks for taking the time to consider our informational insights. I have over thirty thousand miles on my EV, I believe my wife has over twelve thousand miles on hers; they are awesome in so many ways. We have solar on our house and also have a home car charger; we didn't always have a home car charger, this can be of great concern for potential EV adoption. I have free Supercharging via Tesla's Supercharging network and my wife also used this for a few months. I would look at putting charges in places that make sense like grocery stores, malls, public parking downtown Milwaukee. I always wanted something in Grafton off of hwy 60; Costco, Kohl's,Target, or the like. I know once you build them people will learn of them and how long their vehicle will take to charge. Thanks again for asking your voters their thoughts and concerns.

Take care, Anthony Sproehlich

Sent from my iPad

Vondra, Benjamin H - DOA

From: Markham, Lynn [redacted]
Sent: Tuesday, February 25, 2020 1:29 PM
To: VW Settlement Wisconsin
Subject: EV charging stations

Hello,

I would like to see a EV charging station in the Portage area within a mile of the interstate. This would benefit EV drivers heading north or south along I-39. I live in Stevens Point and often stop in Portage anyway for a meal and/or stretch break when headed to Madison.

I currently drive a hybrid and plan to get an EV within the next year.

Lynn Markham
Stevens Point

Vondra, Benjamin H - DOA

From: Litchfield, Daniel [redacted]
Sent: Tuesday, February 25, 2020 2:18 PM
To: VW Settlement Wisconsin
Subject: Wisconsin EV chargers

Hello,

I frequently drive from the north side of Chicago into southern Wisconsin on business and am really interested in buying an EV but am deterred by the range I typically need (up to 350 miles in a day) and lack of conveniently located charging infrastructure. I would recommend more chargers located along I-94 between Madison and Milwaukee. And I would also recommend locating chargers in county seats in Jefferson, Walworth and Rock Counties. There I might be able to conveniently charge while in town on business.

Sincerely,

Dan Litchfield | Director, Renewable Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
[redacted] | @Invenergy

Note: As of 2/20/20, Invenergyllc.com has changed to simply Invenergy.com and my email address has changed accordingly. Emails will be forwarded for a period but please update your records and begin using my new email address.

Vondra, Benjamin H - DOA

From: William Bailey [redacted]
Sent: Wednesday, February 26, 2020 8:03 AM
To: VW Settlement Wisconsin
Cc: benjaminhvondra@wisconsin.gov
Subject: UV_EV_Listening Session Comment
Attachments: CBR comments.docx

Attached is a digital copy of comments I plan on sharing at the listening session in Ashland this morning.

Thanks,

William (Bill) Bailey
[redacted]

Cheq Bay Renewables
www.Cheqbayrenewables.org.

VW_EV Listening session, NGLVC, February 26, 2020:

- I think everyone would agree that Northern WI has woefully too few EV charging stations. In fact, there are no DC fast chargers or even level 2 chargers that are publicly accessible and open 24/7.
- It is fairly simple to identify major highways leading into the area and where to strategically place charging stations. The more difficult part is determining who is going to invest in them, maintain, operate and own them? This is because developing a successful business model is the ultimate challenge, especially in rural areas with limited daily use and when taking into consideration utility rate structures. Xcel Energy's current EV docket (#4220-TE-104) before the PSC addresses equipment and installation, but does not address commercial demand charge costs.
- For example, a single level-3 50kW charge would cost an Xcel customer with a commercial electric rate an average of about $600/month in demand charges plus kWh and facility charges. It would take many charges per day to offset this cost. In fact, it would take over 100 charges to break even or about 3.4 charges per day. This can be done in a major city with high usage, but in a rural area, it is unlikely to ever be cost effective.
- In the peak of tourist season (about 3 months/year) this might be profitable. The rest of the year, the charging station would be subsidized by the owner.
- The VW Trust Agreement allows funds to be used for the acquisition, installation, maintenance and *operation* of vehicle charging stations. I highlight the word operation, as this might include funding the unrecoverable costs in the electric bills associated with using the equipment.
- In summary here are Cheq Bay Renewables' recommendations:
    1. Provide as high a cost share as possible. Even with relatively low-cost equipment and installation, offsetting the electric bills is a challenge for the site owner.
    2. Focus on many level-2 chargers in destinations like the Bayfield Peninsula, and level-3 chargers to the south. We would love lots of level-3 chargers, but without a realistic business model, I'm not sure who would own and subsidize them.
    3. Consider how to deal with locations where no one has volunteered to install a charging station, but they are needed. Would the state consider subsidizing/co-owning key installations to get the network established?
    4. Set up a task force, if it doesn't already exist, to work with public utilities to reduce demand charges for EV charging stations. A program, like Focus on Energy, might be a solution, using collected funds to offset utility demand charges. The funds could be used at the utility level, subsidizing and reducing demand charges via new EV tariffs, or at the consumer level, giving operational incentives to charging station owners.

Thank you,

Bill Bailey
Cheq Bay Renewables
cheqbayrenewables@gmail.com

Vondra, Benjamin H - DOA

From: Chia Gross [redacted]
Sent: Wednesday, February 26, 2020 3:18 PM
To: VW Settlement Wisconsin
Cc: [redacted]
Subject: Ev charging locations ride share lots

Was not able to make listening session today but would suggest electric vehicle charging locations be placed in public ride share parking lots since they are already located adjacent to high volume traffic corridors, the land is already publicly owned, and there is existing electrical service to the sites. In particular the location in Appleton off Interstate 41 at Ballard Rd (Hwy E) would be ideal due to future I43 expansion plans and high volume corridor between Appleton and Green Bay. Additional site locations could be at Wisconsin State Patrol locations such as weigh station on I43 in Wrightstown, WSP headquarters, or Wisconsin Department of Transportation Offices (Appleton is located also off I43 and state hwy 47 (Richmond st). Thank you, Jeff Gross, Appleton, current ev owner and former hybrid owner). Jeffgross84@juno.com

Sent from my iPad

Vondra, Benjamin H - DOA

From: John Schott [redacted]
Sent: Wednesday, February 26, 2020 6:54 PM
To: VW Settlement Wisconsin
Subject: ChargePoint's Response to WI DOA RFI for EVCS Grant Program
Attachments: ChargePoint Response to WI DOA EVCS RFI.pdf

Dear Mr. Vondra,

Thanks for the opportunity to respond to this RFI. Please let us know if you have any questions about the information provided and we look forward to continued engagement with you on these efforts.

Regards,

John Schott
Sr. Grant Operations Manager
ChargePoint | chargepoint.com
[redacted]
ChargePoint, Inc. | 254 E. Hacienda Avenue | Campbell, CA 95008 | USA

ChargePoint, Inc.
254 East Hacienda Avenue | Campbell, CA 95008 USA
[redacted] or US toll-free [redacted]

February 26, 2020

Benjamin Vondra
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
Madison, WI 53707

Re: Electric Vehicle Charging Station Grant Program RFI

Dear Mr. Vondra,

ChargePoint appreciates the opportunity to respond to this RFI regarding the $10M of Volkswagen Settlement Trust funds directed to DOA to be spent on EV charging stations. We look forward to further engagement with DOA and other stakeholders on this subject and please do not hesitate to reach out should you have any questions about our responses below.

1. ChargePoint is the leading electric vehicle (EV) charging network in the world, with charging solutions in every category EV drivers charge, at home, work, around town and on the road. With nearly 110,000 independently owned public and semi-public charging spots and thousands of customers (businesses, cities, agencies and service providers), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every use case. ChargePoint currently has nearly 750 charging spots in Wisconsin. Leading EV hardware makers and other partners rely on the ChargePoint network to make charging station details available in mobile apps, online and in navigation systems for popular EVs. ChargePoint drivers have completed more than 73 million charging sessions, saving upwards of 85 million gallons of gasoline and driving more than 2 billion gas-free miles. For more information, visit www.chargepoint.com

2. ChargePoint has engaged with nearly every state in the development and implementation of Volkswagen Settlement funded grant programs for EV charging. While each state is taking a slightly different approach, most are making balanced investments in both Level 2 and DC fast charging (DCFC) through competitive or first come, first served grant programs. We recommend developing two separate programs, one specifically for Level 2 and the other for DCFC, with different funding levels and criteria tailored to their unique needs.

3. ChargePoint is aware of the Madison Gas & Electric Charge@Home Program which provides a ChargePoint Level 2 home charger to eligible homeowners in their territory. We are also aware of Electrify America and the DCFC sites they are building in the state. At the federal level Congress recently passed a tax credit for 30% of the cost of purchasing and installing Level 2 and DC fast chargers at residential or commercial locations.

4. Yes, many ChargePoint employees drive EVs. In general, as with many other EV drivers who primarily use their EVs for commuting, we use Level 2 chargers at work and home for up to 90%

of our charging needs. DCFC may be used occasionally for longer trips or for those without access to charging at home.

5. We recommend Level 2 grant programs that are open to all eligible location types as outlined in the Volkswagen consent decree whether they are on government-owned or non-government owned property including workplaces, multi-unit dwellings (MUD), and other publicly accessible locations. For DCFC, sites should be open and accessible to the public and provide drivers with access to onsite or nearby amenities. For Level 2 we recommend programs that are open to all eligible location types including workplace, MUD, and publicly accessible sites.

6. DOA should align its program match share levels with the maximums allowed by the Volkswagen Trust. However, we encourage DOA to set funding caps for Level 2 and DCFC to ensure that cost effective projects are proposed and the $10M is leveraged with other public/private capital. We recommend setting a cap of $8,000 - $12,000 per dual-port Level 2 station and setting a DCFC site cap of approximately $250k for two (2) DCFC. The majority of states have aligned their match share levels with the maximums allowed by the Trust and also selected a maximum dollar amount per charging station.

   ChargePoint encourages DOA to allow for the following eligible costs to count towards the funding caps listed above:
   - Level 2 and DCFC equipment
   - Networking/Cloud plan (up to 5 years)
   - Extended warranty/maintenance plan (up to 5 year)
   - Construction and installation costs
   - Utility connection costs and upgrades
   - Design and engineering labor
   - EVSE signage and permits

7. We recommend different approaches for DCFC and Level 2:

   DCFC should be strategically placed for maximum accessibility and utilization considering the high cost associated with these projects. DOA should also require at least 2 DCFC per site to provide redundancy and build driver confidence. We support DOA prioritizing DCFC applications based on the following criteria:
   - Proximity to highway (1 mile or less preferred)
   - Nearby amenities for drivers
   - Public accessibility for drivers
   - Sites that are safe and provide dusk to dawn lighting
   - Room for future expansion

   For Level 2 projects we encourage DOA to develop a grant program that is open to any eligible workplace, MUD, or publicly accessibly site. Criteria for these projects can be based on the number of employees at a given workplace or residents of community, but generally DOA should encourage Level 2 chargers at all eligible locations. Level 2 projects are roughly 5X less expensive than DCFC projects, and thus DOA can fund the installation of hundreds of Level 2 stations with its funding compared to tens of DCFC sites.

8. Yes, we encourage DOA to take a balanced investment approach to Level 2 and DCFC projects. An approximate 50/50 funding split between DCFC and Level 2 can incentivize the installation of hundreds of Level 2 stations and tens of DCFC sites. ChargePoint data from more than 110,000 charging spots across the globe shows that the majority of drivers charge at home and work through the use of Level 2 stations. Ubiquitous Level 2 stations at all the places EV drivers work, live and visit can help support the growing population of EVs on the road. While DCFC is needed for long distance travel or for those without access to charging at home and work, DOA should take greater care in the placement of DCFC to focus on high utilization.

9. If DOA chooses to hold multiple funding rounds we recommend no more than 2 rounds to quickly and efficiently deploy charging infrastructure to support the growing EV population and immediate need for charging infrastructure. Grant programs with a robust budget help establish confidence and drive competition in the marketplace. Multiple DCFC grant program rounds could first target high traffic corridors while a 2nd could focus on more rural corridors and/or high density urban areas. We recommend that all Level 2 programs be open to workplace, MUD and publicly accessible sites to promote rapid Level 2 deployment which is greatly needed.

10. Drivers plug into the ChargePoint network approximately every 2 seconds. These sessions are activated through ChargePoint's mobile app, Apple/Samsung Pay, RFID card connected to a debit/credit card, contactless credit card or by calling our toll-free support line. We recommend that DOA require multiple forms of payment be accepted, including the use of a credit/debit card, but not require one specific type such as a physical chip and/or swipe at the station.

11. Level 2 charging stations should be installed at any eligible workplace, MUD, or publicly accessible location that EV drivers frequent to promote EV adoption. DCFC should be strategically located along highway corridors, both high-traffic and rural, and in pairs of two or more per site. We recommend that DOA identify the targeted highway corridors or communities where DCFC should be installed and the preferred spacing between each DCFC site.

12. We recommend providing grants aligned with the Volkswagen maximum cost share amount, not to exceed $8,000 - $12,000 per dual-port Level 2 station and up to $250k per DCFC site with two DCFC. Grants should be administered on a reimbursement basis after projects are complete and supporting documentation provided to DOA.

13. ChargePoint recommends that Level 2 charging infrastructure for light-duty fleets be eligible, which could also support workplace needs as well. While targeting light-duty fleet operators may help to encourage adoption, financial support through grant programs to offset the cost of purchasing EVs will also be needed.

14. While ChargePoint is not an installer, we maintain relationships with electricians and construction contractors across the state. Barriers encountered installing EVCS can occur during permitting with the local authority having jurisdiction or with the utility when requiring power upgrades to support EVCS, particularly with DCFC. Any efforts made by DOA to streamline the permitting process with local authorities and working with utilities to create awareness and build support for these programs can help to ease these barriers.

15. ChargePoint has provided general cost ranges for Level 2 and DCFC below. These include all project costs including hardware, network, extended warranty and installation. Please note that project costs can vary widely and often outside of the estimates listed below.

Station Level	Location	Cost Range
Level 2	Workplace / MUD (surface lot)	$15k - $30k per dual port Level 2
Level 2	Workplace / MUD (parking garage)	$15k - $30k per dual port Level 2
Level 2	Publicly accessible	$15k - $30k per dual port Level 2
Level 2	Fleet	$15k - $30k per dual port Level 2
DCFC	Highway	$100k - $150k per DCFC
DCFC	Urban	$100k - $150k per DCFC
DCFC	Destination	$100k - $150k per DCFC

16. We recommend review of other state EV charging infrastructure programs such as Pennsylvania's program for Level 2 charging stations and Florida's recently released program for DCFC. We also strongly recommend that DOA require all charging stations to be networked, and that all Level 2 charging stations be ENERGY STAR qualified. ENERGY STAR requires NRTL certification and on average use 40% less energy than a standard EV charger when the charger is in standby mode. DOA should only incentivize chargers that are safe and energy efficient, which ENERGY STAR ensures.

Thank you for your consideration. If you have any questions, please contact me at [redacted] or [redacted]

Sincerely,

John Schott
Sr. Grant Operations Manager
ChargePoint

Vondra, Benjamin H - DOA

From: Kristin Gilkes [redacted]
Sent: Wednesday, February 26, 2020 10:31 PM
To: VW Settlement Wisconsin
Subject: Customers First! Coalition RFI Response
Attachments: February 2020 DOA DFI Responses (CFC) Final.pdf

Please see attached and let me know if you have any questions!

Noting I will be out of the office Feb. 27-March 5.

Thank you!
Kristin

Kristin Gilkes
Executive Director, Customers First! Coalition
[redacted]
http://www.customersfirst.org

CUSTOMERS FIRST! COALITION COMMENTS
RESPONSE TO DOA RFI ON EV CHARGING STATION GRANT PROGRAM
FEBRUARY 27, 2020

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

The Customers First! Coalition (CFC) is an alliance of Wisconsin-based organizations and businesses that include consumer organizations, municipal electric utilities, rural electric cooperatives, wholesale electric suppliers, an investor-owned utility, renewable energy advocates, and utility workers. CFC is organized for the purpose of ensuring that proposals affecting the electric utility industry benefit consumers, safeguard reliability, minimize harm to the environment, and enable the people of Wisconsin to receive affordable electric service at stable prices over the long term.

The broad range of interests included in our coalition make CFC uniquely suited to help identify areas of consensus and highlight consumer issues for electric vehicle drivers and all utility customers.

CFC Contact Information:

Kristin Gilkes, Executive Director
Customers First! Coalition
10 E Doty Street, Suite 800
Madison, WI 53703
Phone: [redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

N/A.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

EV programs should be developed in a way that facilitates beneficial charging patterns and deploys public charging infrastructure in a way that benefits all customers. Each utility should work with their customers to design programs suited to their service-territory and specific customer needs. Several PSC-approved utility programs and pilots are already doing so, and others will likely follow.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

Several members of the CFC Board and staff own and operate plug-in electric vehicles for personal use, and frequently draw on that experience to contribute to discussions of the CFC Board of Directors.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

One of the perceived barriers to greater EV adoption is range anxiety due to a lack of public fast charging stations along travel routes. The state has an excellent opportunity to help address that barrier using VW settlement funds to reduce the upfront installation costs of DC fast chargers along travel corridors.

Workplace charging availability and chargers near downtowns, hotels, resorts, and visitor attractions also have the ability to serve the needs of EV drivers and increase electric vehicle adoption, thereby achieving the emissions reductions desired from the VW settlement funds. In many cases, chargers serving these needs are Level 2 chargers.

A thoughtful distribution of funds should be considered. While an emphasis on DC fast-charging stations makes sense due to their higher upfront costs and ability to help reduce perceived range anxiety, other projects can still help increase EV adoption and meet the needs of EV drivers.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

Maximum VW funding share of EVCS eligible project costs

Site Location or Type	Available to the public	Not available to the public
Private residential dwelling other than multi-unit dwelling	0%	0%
Workplace	80%	60%
Multi-unit dwelling	80%	60%
Government owned property	100%	60%*
Non-government owned property	80%	60%*

**Assumes the property is a workplace or multi-unit dwelling*

In order to get DC fast charger projects going quickly, coupled with the availability of tax credits, it is our view that at this time a 70% maximum funding share of EVCS-eligible project costs should be utilized for DC fast charger projects. Level 2 chargers at workplaces, multi-unit dwellings, and other locations are more affordable, less available for public use, and more attractive for private investment, so a lower percentage of VW funding may make sense.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

Grant applicants will make compelling cases for the need and rationale behind their requests, and the VW Mitigation Program should avoid being too prescriptive, as not to deter potential applicants.

However, putting chargers into under-saturated areas should be a priority.

Proper signage directing EV drivers to charging areas would be beneficial to help drivers find stations and increase visibility of the charging network. Additionally, signage at the charging area should clearly state that the spaces are reserved for EV charging, and non-charging drivers should not block the spots.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

Level 2 chargers in destinations where drivers are planning to stay for a few hours, such as workplaces, multi-unit dwellings, or downtown areas, are an important factor in helping facilitate greater EV adoption and should not be excluded from eligibility. As previously stated, these projects cost significantly less than DC fast charger projects and are more likely to attract additional private investment. With regards to Level 2 charger applications, projects should have a public benefit whenever possible. For instance, workplace charging station projects that are also available to members of the public may have a greater benefit that those which are available to employees-only.

Due to the higher upfront cost of DC fast chargers, using a greater percentage of the VW settlement funds for fast charging near highways seems to be a reasonable approach.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

Rapid deployment of chargers should be the priority for the state to begin realizing the benefits that EVs offer for drivers, all utility customers, and the environment.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

N/A.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

Level 2 chargers make sense in places where EV drivers want to spend longer periods of time, such as at multi-unit dwellings, workplaces, hotels, park-and-rides, and tourism areas.

DC fast chargers make the most sense along highway corridors statewide, and where there is something for drivers to do while charging, such as restaurants or shopping areas.

12. What options exist for funding EV charging stations?

In addition to the state's VW settlement funds, and efforts by Electrify America and others to fund charging stations, projects may be eligible for a 30% tax credit, not to exceed $30,000, through the Alternative Fuel Infrastructure Tax Credit. Those seeking to install projects should work with their local utility to determine placement and pricing options to maximize the investment.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, this is likely the case. It is likely that significant cost and emission reductions would be achieved if more fleets incorporated electric vehicles, and many are already reaching out to their local utility to begin this process.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

N/A.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications

(for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

N/A.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

Greater EV adoption could help keep electricity rates down for all electric utility customers. As more cars, buses, and fleets begin to electrify, they will drive electricity sales that help utilities spread their fixed costs over a greater number of purchased units and better utilize their energy generation assets. Benefits from increased EV adoption include downward pressure on electric rates for all customers; lower fuel and maintenance costs for EV drivers, fleets, and transit systems; and, environmental benefits from lower emissions.

Because the benefits from EVs are so widespread, reaching EV-owners and non-owners alike, the state should act quickly and thoughtfully to utilize the designated VW settlement funds to facilitate EV charging infrastructure.

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 8:13 AM
To: Office of Lt Governor Mandela Barnes; Langdon, James - DOA
Cc: VW Settlement Wisconsin
Subject: RE: Electric Car Charging Stations

Thank you, Fred.

I will add this to our comment file.

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Office of Lt Governor Mandela Barnes [redacted]
Sent: Tuesday, February 25, 2020 4:59 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>; Langdon, James - DOA [redacted]
Subject: FW: Electric Car Charging Stations

Thought I'd quick pass along

--
Fred Ludwig
Chief of Staff
Office of WI Lt. Governor Mandela Barnes
[redacted]
Follow Lt. Gov. Barnes on Twitter, Facebook and Instagram

From: Hunter Shawley [redacted]
Sent: Tuesday, February 25, 2020 4:46 PM
To: Office of Lt Governor Mandela Barnes [redacted]
Subject: Electric Car Charging Stations

Honorable Lieutenant Governor Mandela Barnes,

I heard on public radio that you and Governor Evers were interested in public comments on EV Charging Stations, so I decided to contact you to share some of my thoughts on this great opportunity for the state of Wisconsin.

I want to first say that I am a resident of Black River Falls and proud owner of an all electric Chevy Bolt. I frequently drive to La Crosse and Eau Claire and have found in my experience that La Crosse is in need of Level 2 chargers and desperate need of DC Fastchargers.

Eau Claire is doing a pretty good job at making chargers somewhat available and has a great start compared to La Crosse.

I went to a Packer game for the first time ever last year and while it was a great experience I was very sad to see the charging infrastructure in Green Bay is terrible. So I had to take a gas vehicle to the game. So I think Level 2 chargers and DC fast chargers in Green Bay and La Crosse would go a long way to improving EV adoption.

In Black River Falls, there is a free Level 2 charger at the Ho-Chunk Casino. I find myself driving out there to get coffee or eat at the buffet just because of the free charge and to support the charging infrastructure.

So, to summarize, I really appreciate you and Governor Evers for wanting to hear from the public on EV Chargers. I also think the cities of La Crosse and Green Bay are in need of Level 2 chargers and in desperate need of DC Fastchargers.

I wish you well and look forward to hearing from you,

-Hunter

Vondra, Benjamin H - DOA

From: Bubb, Nicholas [redacted]
Sent: Thursday, February 27, 2020 9:23 AM
To: VW Settlement Wisconsin
Subject: Dane County - RFI Response
Attachments: RFI EVCS - Dane Co Response.pdf

Hello,

Please see the attached response to the Request for Information. This response was compiled on the behalf of Dane County, WI.

Thank you,

Nick Bubb
Special Assistant to the Director
Department of Administration
Phone: [redacted]

Dane County Response to Request for Information

Electric Vehicle Charging Station Grant Program

1. **Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.**

Dane County has a deep interest in electric vehicles. Dane County Executive, Joe Parisi, created the Office of Energy and Climate Change in 2017 and that Office has led an effort to write a Climate Action Plan. Dane County's Climate Action Plan, which will be released in a few weeks, includes 15 specific recommendations on how to increase the adoption of Electric Vehicles. The plan also sets a goal of achieving 57% sales share for EVs by 2040. This will be the first comprehensive climate action plan at the county level in Wisconsin and we hope it will motivate and inspire other counties and municipalities to develop similar plans.

Dane County has organized this response across several county departments. Departments contributing to this response include: the Dane County Regional Airport, the Department of Administration, the Department of Waste and Renewables, the Department of Land and Water Resources, the Office of Energy and Climate Change, and Department of Public Works, Highway, and Transportation.

The information in this response reflects our shared experience installing Electric Vehicle Charging Stations (EVCS) at the Dane County Regional Airport, researching potential locations in Dane County for EVCS, and working to install EVCS at various locations around the County.

For questions about this response, please contact:

Nick Bubb
Special Assistant to the Director
Department of Administration
[redacted]

2. **Describe your experience and observations with how other states are implementing EVCS programs.**

Dane County does not have any experience with how other states are implementing Electric Vehicle Charging Stations. However, the State of Minnesota has done an admirable job of setting goals and identifying strategies for EV adoption. Their 2019 report – Accelerating Electric Vehicle Adoption: A vision for Minnesota – is a good overview of their effort including a section on building out EV charging infrastructure. The report's emphasis on fast charging corridors is an excellent point.

3. **Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.**

One of the utilities that serves Dane County (Madison Gas and Electric) offers programs for installing EVCS in public charging, fleet vehicle, and in multi-unit dwellings. The charging stations installed with these programs tend to be level-2 chargers. Other utilities may have similar programs, but the County has not had any experience with those programs.

The Wisconsin Public Service Commission's Office of Energy Innovation issued a grant solicitation in 2018 (Energy Innovation Grant Program) for proposals that would encourage innovation with some consideration to alternative vehicle fuels. Dane County received an award from the Office of Energy Innovation for our work to purify and clean landfill gas to be distributed in the CNG pipeline. The City of Madison received award to

purchase several electric vehicles. Our understanding is that the PSC's funding for this program have been exhausted.

4. **Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?**

Dane County has significant experience with alternative fuel vehicles. The County now has over 80 compressed natural gas (CNG) vehicles and the County operates a renewable CNG filling station at the Dane County Landfill. Dane County is committed to reducing its carbon dioxide emissions through the use of alternative fuel vehicles.

Dane County is currently in the process of procuring two electric vehicles (Chevy Bolts) for our fleet vehicle pool. The Chevy Bolts are being procured using the state contract. The County is interested in purchasing additional passenger electric vehicles and may be interested in other EVs as they become available.

5. **The EVCS grant program is limited by the State Trust Agreement to charging installations at non-government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?**

Yes - Funding should be prioritized towards based on size of the population near the EVCS and the total number of EV registered in locations near the proposed locations for EVCS.

The EVCS program should also establish clear goals and prioritize eligible charging stations that advance those goals. A possible goal would be to expand the EVCS infrastructure. If that were the goal, the program could prioritize applications that increase the number of Direct Current Fast Charging Stations (DCFC), expand access to core urban areas, install EVCS along major highway corridors, or expand access to educational institutions – among other possible actions.

6. **The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?**

Yes – the program should fund the projects at the maximum cost share. DC Fast Charging stations are expensive and may involve significant operating costs due to increased demand charges. Designing the program so that it covers the maximum costs should assuage concerns about the operating costs of the station.

The program should not fund EVCS that are not accessible to the public. The goal of the program is to make EVs more broadly adopted by the general public and conferring benefits to private entities limits the broad appeal of the program.

The state should be flexible about the matching requirements and should permit creative approaches. Applicants should be allowed to create partnerships to meet the requirements that could include grant funds, other entity funds, or public/private partnership arrangements.

7. **How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?**

Locations near large populations or with a significant adoption of EVs should be prioritized for this funding. Locations with larger traffic flow should also be given adequate consideration.

The program should also screen for successful locations: those with access to amenities (parks, coffee shops, retail locations, restaurants, etc.) that provide activities for people to do while their EV is charging. Even with DCFC, EVCS still take a bit longer to "fill up" compared to gasoline powered vehicles.

Applicants should propose locations. Even if the state were to designate target regions for EVCS grants, the nature of an application would ensure that the state receives the best proposals for that target region.

8. **Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?**

Yes – Funding should be determined by charging type. Dane County's recommendation is that this funding be **exclusively** used for DCFC stations.

The speed of DC Fast Charging Stations also makes them more efficient than Level-2 charging stations. If the goal of the program is to serve more electric vehicles as quickly as possible, then Wisconsin needs more DC Fast Charging Stations. More detail for this recommendation is contained in our response to Question 11.

9. **Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)**

Multiple rounds of funding would allow the EVCS program to learn from past experiences and improve.

10. **If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.**

Dane County does not have a response to this question.

11. **How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)**

To maximize the impact of the VW Settlement funding, Dane County recommends that the state should exclusively use the funding to increase the development of DC Fast Charging stations (Level 3) in targeted areas.

Range anxiety is a significant attitudinal barrier to a wider EV adoption. Additional DC Fast Charging Stations could directly confront range anxiety by offering charging experience that is similar to a stop at a gas station. At DC Fast Charging Stations, individuals can get 60-80 miles of range in 20 minutes of charging. A Level-2 station is much slower, providing 10-20 miles of range per 1 hour of charging. Because of the slower rate involved in charging at Level-2, additional level-2 stations are not likely to abate real or perceived issues with the range of electric vehicles. The slow speed of Level-2 chargers in publicly accessible spaces means these chargers can serve far fewer vehicles.

Further, the costs of installing Level-2 charging stations have been falling and many businesses and organizations have been able to install Level-2 charging stations without needing an incentive. In Madison, there are ample level-2 charging facilities in City of Madison parking garages, grocery stores and other retail outlets, gyms, and some government buildings. Incentives do not appear to be necessary in order to install level-2 EVCS.

12. What options exist for funding EV charging stations?

Some of the electric utilities have programs designed to facilitate the installation of EVCS. Dane County's experience with MG&E is described in response to Question 3. In order to avoid duplicating the efforts of electric utilities to install Level-2 chargers, Dane County recommends that the state use this funding to fund DCFC stations.

Any EVCS charging program should be comprehensive in the costs that are covered. This means that funding from the VW settlement fund should cover the cost of the hardware, the commissioning and final installation of the EVCS, any related trenching or boring related to running electricity to the station, the rough electrical work of running conduit to the EVCS, and any cost of the electric utility service extension. If the State follows the recommendation to install DCFC stations, then consideration should also be given to costs to operate these charging stations. Due to the large voltage in a short period of time that these kind of stations provide, these charging stations may incur significant demand charges.

The state may also want to consider several other important questions: Would entities that install EVCS be permitted to use these stations? Or would they be reserved for exclusively public use? How would fees be collected from these EVCS? Would the entities that install these stations be permitted to retain the revenue that is associated with the cost of charging?

Dane County also recommends that there be minimal post-funding reporting requirements associated with the installation of EVCS. Many of these EVCS could be configured to provide data directly to the State of Wisconsin.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

No – offering light-duty fleet operators financial assistance with a charging station is unlikely to convince the fleet operator to convert portions of their fleet to electric vehicles. The cost of an EVCS for fleet use is relatively low (less than $15,000 all installed) and the cost of an EV is much higher (about $30,000).

Further, in our response to Question 6 we indicated that funds should not be used for charging stations that are not accessible to the public. To the extent that light-duty EV fleet operators are not accessible to the public, these groups should not receive a grant from the VW Settlement.

If permissible under state law, an alternative idea might be to allocate some of the funding for publicly owned fleet operators (e.g. Cities and Counties) to apply for funding to assist with the purchase of Electric Vehicles.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

Yes – Dane County allocated $305,000 to install 15 EVCS at several locations around Dane County. Given the locations and potential use cases for the EVCS, the county has mainly considered Level-2 charging stations.

15. **Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.**

During Dane County's research for the 2020 Budget we found the following cost generalizations:

- A 50kW DCFC changing bank that incorporates two Level-2 charging stations cost between $70,000 to $90,000.
- A 150kW DCFC charging bank that incorporates two Level-2 charging stations cost between $150,000 to $170,000.
- A charging bank that includes two 150kW DCFC stations and two Level-2 charging stations cost between $275,000 to $300,000
- A Level-2 Charging Station with two ports, costs around $15,000 completely installed.
- Costs vary depending on the specific site condition and access to power

16. **Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.**

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 9:45 AM
To: VW Settlement Wisconsin
Subject: FW: Ev charging locations ride share, WSP, DOT lots

Ben Vondra | VW Mitigation Program Administrator Department of Administration Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

-----Original Message-----
From: [redacted]
Sent: Wednesday, February 26, 2020 3:23 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>; Langdon, James - DOA [redacted]
Subject: Ev charging locations ride share, WSP, DOT lots

---------- Forwarded Message ----------
From: Chia Gross [redacted]
To: vwsettlement@wisconsin.gov
Sorry forgot to cc in the email sent below.

Was not able to make listening session today but would suggest electric vehicle charging locations be placed in public ride share parking lots since they are already located adjacent to high volume traffic corridors, the land is already publicly owned, and there is existing electrical service to the sites. In particular the location in Appleton off Interstate 41 at Ballard Rd (Hwy E) would be ideal due to future I43 expansion plans and high volume corridor between Appleton and Green Bay. Additional site locations could be at Wisconsin State Patrol locations such as weigh station on I43 in Wrightstown, WSP headquarters, or Wisconsin Department of Transportation Offices (Appleton is located also off I43 and state hwy 47 (Richmond st).

Thank you, Jeff Gross, Appleton, current ev owner and former hybrid owner). [redacted]

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 9:53 AM
To: VW Settlement Wisconsin
Subject: FW: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sig

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Jerry Tribbey [redacted]
Sent: Wednesday, February 26, 2020 5:14 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sign...

https://electrek.co/2020/02/26/tesla-signs-supercharger-deal-nj-turnpike-charging-stations/amp/#referrer=https%3A%2F%2Fwww.google.com&amp_tf=From%20%251%24s

Vondra, Benjamin H - DOA

From: Jane McCurry [redacted]
Sent: Thursday, February 27, 2020 10:42 AM
To: VW Settlement Wisconsin
Cc: Robin Lisowski; Scott Blankman; Peter Skopec; Gregg May
Subject: Electric Vehicle Charging Station Grant Program RFI Response
Attachments: Volkswagen Mitigation Program EV Charging Station RFI _ Coalition Response.pdf

Dear James Langdon and Ben Vondra,

Please accept our RFI response for the Electric Vehicle Charging Station Grant Program. Thank you for your commitment to this important program!

Sincerely,

1000 Friends of Wisconsin
Clean Wisconsin
RENEW Wisconsin
Slipstream
The Wisconsin Public Interest Research Group

VW Mitigation Program
Division of Enterprise Operations
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
PO Box 7867
Madison, WI 53707-7867

February 27, 2020

Subject: Volkswagen Mitigation Program Electric Vehicle Charging Station Grant Program RFI

Dear James Langdon and Benjamin Vondra,

Thank you for accepting our comments about the VW Mitigation Settlement Electric Vehicle Charging Station Grant Program. We are very excited about the future of electric vehicles in Wisconsin and believe this program can help to accelerate the clean transportation market.

Please reach out to any of our organizations with questions about our responses to this Request for Information. We are happy to provide additional information and sources to support our response.

Thank you for your commitment to electric vehicles in Wisconsin!

Sincerely,

1000 Friends of Wisconsin
Clean Wisconsin
RENEW Wisconsin
Slipstream
The Wisconsin Public Interest Research Group

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

1000 Friends of Wisconsin was created in 1996 with the primary focus of promoting legislation that led to Wisconsin's Smart Growth Comprehensive Planning Law. Our goal now is to help people make the connection between sound land use and transportation decisions which lead to a healthier, cleaner environment.

Gregg May is the Transportation Policy Analyst at 1000 Friends of Wisconsin
[redacted]

Since 1970, Clean Wisconsin has been a nonprofit organization focused on policies supporting renewable energy, the transition away from fossil fuels, and decarbonization of the transportation sector and is a trusted voice in Wisconsin for clean energy policies.

Scott Blankman is the Director of Energy and Air Programs
[redacted]

RENEW Wisconsin is a nonprofit that works on collaboration, education, and advocacy for all renewable energy technologies and electric vehicles. Since 1991, RENEW has been the trusted voice in Wisconsin for clean energy information.

Jane McCurry is the Electric Vehicles Program Manager
[redacted]

The Wisconsin Public Interest Research Group (WISPIRG) is a nonpartisan nonprofit organization that uses organizing, advocacy and research to protect public health, promote clean transportation and defend consumers in the marketplace.

Peter Skopec is the Director of WISPIRG
[redacted]

Slipstream is a nonprofit that creates, tests, delivers, and scales next generation energy efficiency and renewable energy programs. Since 1980, we've partnered with utilities, governments, regulatory agencies, and other organizations toward a clean energy economy for all.

Robin Lisowski is Director of Research & Innovation
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

Midwest states are prioritizing DC Fast Charging (DCFC) and allotting a smaller amount of funding for level 2 chargers. We can provide a summary of these programs upon request.

A non-Volkswagen EV charger program of note is Consumer's Energy PowerMIDrive. The program launched in 2019 and in less than a year, the utility approved rebates of up to $70,000 for 24 DCFC along highways and travel routes in Michigan, working with statewide entities to ensure a unified network across the state. One of the reasons for success has been the amount of funding offered per station.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

A number of third parties, including EVgo, Electrify America, and Tesla are making investments in DCFC across the state. Utilities are also working to provide charging options for customers, both in public and in their residences. Despite these investments, there are still areas across Wisconsin that lack adequate charging capabilities, exacerbating range anxiety which creates barriers to EV adoption. This program could fill gaps in rural and underserved areas to ease range anxiety and allow everyone to be able to travel with ease in an electric vehicle.

Our organizations collaborate to promote EV adoption through education and advocacy.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

Our organizations do not own electric vehicles, though many of us drive electric vehicles for personal use. These vehicles are primarily charged overnight at home. Meanwhile, some of us have not yet purchased personal EVs due to lack of charging in our multi-unit homes or at work.

We would prefer to see these limited funds used to address the lack of adequate EVCS infrastructure across the state, including rural areas and along key highway corridors, as highlighted in the response to question 3 above and as explained in questions 7 and 8, rather than for privately owned fleet use.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

We believe these funds are best used to stimulate the private market for EV charging and believe the bulk of EVCS spending should be along highway corridors across Wisconsin and be accessible to and for public use. However there may be instances where placing chargers at public locations, mobility hubs, workplaces, and multi-unit dwellings or on government property would best serve an electric vehicle market. Level 2 stations (which offer slower charging) could be deployed in areas of concern for environmental justice, and target underserved populations. For example, Minnesota allocated 10% of funding to the Level 2 category.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

We recommend maximizing leveraged funds, while keeping in mind that DCFC are expensive assets. We recommend granting up to 70% of the project cost for DC Fast Chargers, or $70,0000.

Level 2 chargers are much less expensive to purchase and install, and thus should be funded at a much lower cost share. We recommend granting up to 25% of the total project cost for level 2 chargers.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

DCFC location preferences include:

- Within a mile of high traffic corridors and interstate highways.
- Ensuring a state-wide network and filling gaps in current infrastructure.
- Places where drivers gather and stay for a short period of time, like places to eat or shop.

Level 2 location preferences include:

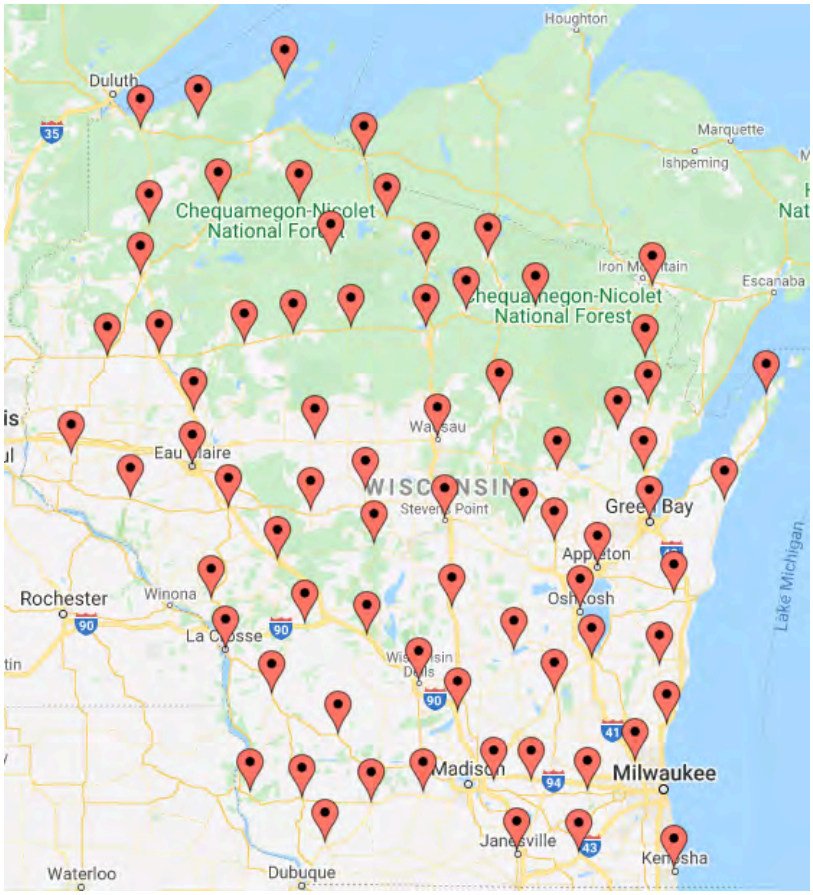
- High traffic areas with a high potential for use.
- Areas of higher than expected air pollution.

For all EVCS, consider underserved areas. Underserved areas have limited public charging, limited access to public transit and bike routes, have especially long commute distances, and/or high amounts of garage-free and multifamily housing.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

We recommend that at least 90% of the funding be used for DCFC. Due to the high upfront cost of DCFC and the ability for DCFC to reduce range anxiety and kickstart the electric vehicle market, this funding could build a comprehensive network of DCFC to allow EV drivers to travel across the State with confidence.

Distributed as a competitive grant program with 70% cost coverage, and assuming an average cost of $87,500 as listed in Question 15, 90% of the funding could cover 2 DCFC at 74 locations. This investment could blanket the State with charging options almost every 25 miles.



Each pin represents a potential DCFC location with 2 stations, based on assumptions as noted above.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

Most states have proposed using multiple rounds of funding. It may be wise to have a first round of mixed DCFC and Level 2 charging. Then, evaluate the state-wide network and use the second round to fill in gaps. We do not recommend more than two rounds, to make sure we use this funding in a timely manner to kickstart the EV charging network.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

Options for payment include: being a member of a station and using their app or RFID card, using a credit card through touch or swipe, or calling a phone number to pay for the charging. All are acceptable forms of payment for EV charging as long as options are available. To ensure ubiquitous access to charging, stations should have the option to pay directly with a debit card without becoming a member.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

To enable travel through and within Wisconsin, DCFC along high traffic corridors is necessary. This could be an opportunity to establish a limited number of "clean energy corridors," which could be developed with key stakeholders, to help Wisconsin deploy the limited grant resources to the areas of the state most in need. Highways to target may include: Interstate highways that connect to neighboring states Minnesota, Iowa, and Illinois: I-90, I-94, I -39, I-43, US 151; and state highways that see high demand for business and leisure travel: I-41, US 51, US 45, US 53.

Federal Highway Administration Electric Vehicle charging corridor map (2017)

12. What options exist for funding EV charging stations?

Private businesses and utilities typically invest in EV charging stations. For this funding, we would like to see a number of parties collaborate to ensure there is wide support for their use and maintenance. Ideally a private business will own the charging station, with support from their utility, federal tax credits, and the VW Program.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Targeting light-duty fleet operators may encourage them to adopt light-duty fleets. However, we believe these limited funds would be best spent as described in questions 7, 8, and 11.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

N/A.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS

According to *Reducing EV Charging Infrastructure Costs* by Rocky Mountain Institute, a 150 kW DCFC cost range is from $75,600 - $100,000. Some new DCFC stations, like those that Electrify America is installing, can charge at speeds of up to 350 kW. Those faster stations are much more expensive, so to balance cost with speed, we recommend installing DCFC with a minimum of 150 kW capability.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

We believe other core EV charging criteria to consider are:

- Cost effectiveness.
- Awarding funds to multiple grantees to encourage a competitive marketplace.
- Encouraging DCFC stations that are powered with electricity generated from renewable sources (wind, solar, or energy storage) through a renewable program, purchasing renewable energy credits, or via on-site generation.
- Requiring DCFC stations be capable of upgrades.
- Stations that will be recognized with proper signage to alert drivers that EVSE is available. This includes highway signage for DCFC stations and “EV only” parking spot signs to reserve the spots for EV drivers. This will aid in solving “range anxiety” and educating the public about EVSE availability.

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 12:56 PM
To: VW Settlement Wisconsin
Subject: FW: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sig

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Jerry Tribbey [redacted]
Sent: Thursday, February 27, 2020 12:47 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: Re: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sig

Hi Ben,
What was cut off was the introduction to the article at the link. The article itself is what is important. Spoiler alert - Tesla will be putting in more superchargers on the turnpike but also providing infrastructure for non Tesla fast chargers. Do please read the article though for the details.

Jerry

On Thu, Feb 27, 2020 at 9:49 AM Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov> wrote:

> Jerry,
>
> Thanks for your note and for attending the Listening Session. I'll review the article you provided.
>
> It appears the note you sent was contained in the Subject line of the message and has been cut off. I received only the following:
>
> "RE: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sig…"

Ben Vondra | VW Mitigation Program Administrator

Department of Administration

Division of Enterprise Operations

benjaminh.vondra@wisconsin.gov

(608) 261-6262

From: Jerry Tribbey [redacted]
Sent: Wednesday, February 26, 2020 5:14 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: Hi Ben, I just met you in Green Bay at the vw presentation. I coincidentally also just saw this article on electrek about Tesla working with New Jersey to increase charging infrastructure. Thought you might find it interesting. Jerry Tribbey Tesla sign...

https://electrek.co/2020/02/26/tesla-signs-supercharger-deal-nj-turnpike-charging-stations/amp/#referrer=https%3A%2F%2Fwww.google.com&amp_tf=From%20%251%24s

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 12:56 PM
To: VW Settlement Wisconsin
Subject: FW: EV charging

Ben Vondra | VW Mitigation Program Administrator Department of Administration Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

-----Original Message-----
From: Clair Morud [redacted]
Sent: Thursday, February 27, 2020 12:56 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: EV charging

Mr. Vondra:

Thanks for taking the time from your schedule to hold the "listening session" in Ashland. My wife was able to attend the session. As I was not able to attend, I did send the following to the "vwsettlement@wisconsin.gov" email address. As such, it may already have been appropriately received. I opted to resend it to your email to be sure that it was received.

I do want to add one point to my initial thoughts. Specifically, I suggest that purposefully locating level 3 chargers near the intersection of major cross state highways would allow the state to have adequate coverage for through state travel with minimal infrastructure redundancy. For example, by having a level 3 charger within five miles of the intersection of US HWY 2 and State HWY 13 in Ashland would allow that charger to serve traffic on both highways.

Another additional suggestion is in regards to state funding for charging infrastructure. I think that state funding should prioritize level 3 charging. This infrastructure is prohibitively expensive for small communities to provide. Level 2 charging is much less expensive.
Furthermore, level 2 charging in a downtown can be seen as an investment as it encourages shopping in the downtown. As such, it is appropriate to help facilitate local level 2 charging but less important to actually pay for it from the state funds.

Here is my initial email:

As I am not able to attend the listening session in our area I am offering these comments via email.

Note that my comments primarily apply to my residence in Ashland and surrounding regions of northern Wisconsin.

Our family did recently purchase an electric vehicle. I'm aware of several other electric vehicles in our area. My observations are as
follows:

1. While electric vehicles currently comprise a very small segment of vehicles, they are expected to rapidly become the norm. As such, a charging infrastructure is essential for any community that does not want to lose tourist business.

2. Charging infrastructure easily allows me to drive my EV to urban areas of Minnesota and even up the North Shore of Lake superior. I can easily drive out of Wisconsin to spend money in Minnesota

3. It is currently not easy to drive from my home to the populated areas of Wisconsin. There is virtually no public charging infrastructure between Ashland and Wausau and the closest level 3 charger in that direction is east of Steven's Point.

4. Despite the need to serve the tourist economy, there is no public charging available in Ashland or the surrounding towns.

My recommendation for charging infrastructure in our area:

1. Readily available level 2 charging in any city of more than 2000 population. It is in the interest of the city and city businesses to have charging in downtown areas so that visitors can plug in the car while spending time shopping downtown. I expect that the economic benefit of charging downtown is greater than the potential economic benefit of a charger at Walmart. These chargers do not need to be free but should not be overpriced. It may be in the economic interest of the cities to put chargers on Main Street that are free.

2. One level 3 charger in each area such that level 3 charging is available about every 100 miles between here and Madison. For example, a level 3 charger in Ashland and another in Minocqua. Exact location is going to be determined by proximity to a transformer. I would like to see a level 3 charger close enough to downtown Ashland so a tourist has several eating/shopping opportunities within easy walking distance from the charger. Duluth provides Level 3 charging at no cost, although the parking lot does require an entry fee during the summer. I don't think drivers have the expectation that charging should be free but it should not be overpriced. The charger should be affiliated with one of the charger networks such as Chargepoint, Greenlots, Electrify America, etc.
Perhaps for every dollar paid for charging 10 cents could be donated to local charities and in return the owner of the charger would not be expected to pay property tax on the charging infrastructure.

3. Every hotel should be encouraged to provide level 2 charging at low cost or even no cost. This infrastructure is not extremely expensive and should not require subsidy. It is appropriate to offer infrastructure guidance to hotels.

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Thursday, February 27, 2020 1:12 PM
To: VW Settlement Wisconsin
Subject: FW: Electric Vehicle Charging Station Input.

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Ed Haydin [redacted]
Sent: Thursday, February 27, 2020 12:56 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: Electric Vehicle Charging Station Input.

Mr Vondra-
I was unable to attend the Milwaukee listening session regarding electric vehicle charging stations.

I am an owner of a long range, all-electric vehicle, and use a charging station at my residence in Wauwatosa to charge daily. The installation was a simple 240volt 40a hookup, similar to a dryer or stove outlet.

The reality of our modern electric distribution system is such that any light pole in any municipality may be wired to charge EV's and use an app payment system similar to how we now pay for parking.
I currently use the "Charge Point" and "Plug Share" applications- to access the parking chargers in the Madison area parking structures, which provides approximately 25 miles per hour of charging.
Most vehicles travel less than 100 miles per day.

This doesn't have to be a difficult logistical deployment, and the investment to try out areas for feasibility doesn't have to be excessive. The infrastructure is in place.

Edward Haydin
[redacted]
Wauwatosa, Wisconsin

Vondra, Benjamin H - DOA

From: Laura Pichardo [redacted]
Sent: Thursday, February 27, 2020 3:54 PM
To: VW Settlement Wisconsin
Cc: akshays
Subject: Evgateway Response to Wisconsin Department of Administration Request for Information (RFI) Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program
Attachments: Evgateway Response to VW Mitigation Program RFI .pdf

Hello,

EvGateway is an electric vehicle infrastructure solutions provider headquartered in Irvine, CA.

Attached please find Evgateway's Response to the Wisconsin Department of Administration Request for Information (RFI) Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program.

If you have any questions or concerns please feel free to contact me.

Thank you for the opportunity to participate in the Solicitation.

—
Regards,

Laura Pichardo
Director of Marketing
EvGateway
[redacted]

EVGATEWAY

Wisconsin Department of Administration

Request for Information (RFI)
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program

1. Introduce yourself or your organizations. Please include contact name(s) and information for EV or EVCS topics.

EvGateway is an end to end Electric Vehicle Charging Station Management Software focused on helping to reduce global CO2 emissions by accelerating the adoption and use of Electric Vehicles in cities around the world. Our extensive experience in launching charging networks across the country along with years of working with mobile apps payments, and security allows us to present an easy to use and convenient solution.
We are a certified, preferred reseller for a number of EV charger manufacturers such as BTCPower, Tellus Power, Tritium, Siemens, Watzilla, ABB, JuiceBar, Efacec, EVBox, EVSE LLC among others. As an OCPP compliant network we are able to integrate with any charger manufacturer to be able to provide turnkey EV charging solutions. Our solution is comprised of the EvGateway Electric Vehicle Charging Network, EvGateway Mobile Application, and EvGateway 24/7 monitoring and support center.

Contact Information:
Laura Pichardo
Director of Marketing
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

Due to our customizable White Label Solutions, EvGateway has a vast roster of clients from various industries, business models and sizes nationwide. We are currently participating in various state initiative projects located in, but not limited to, the states of California, Oklahoma and Colorado.

We are currently working with the Los Angeles County Metropolitan Transportation Authority on a large-scale project focused on the successful operation of public transportation within the LA metropolitan area. Among the scope of our work is the migration of existing chargers from the EVConnect network to the EvGateway network in addition to providing our services to the city-wide installation of new charging stations. EvGateway's services include Network and Installation, and Monitoring and Maintainence of 129 AC Level II Charging Ports for Public commercial and Fleet Charging EV drivers, as well as offering integration and technical support of up to 3,0000 new charging stations.

Additionally, we are working on a state-wide initiative to electrify the state of Oklahoma with a company called Francis Solar. Francis Solar is operating a state-wide EVCS project that focuses on monitoring AC Level 2 and DCFC Level 3 Charging stations, providing 24 X 7 and helpdesk support of all the EV drivers and Site Hosts throughout the state. There are approximately 300 EV Charging stations that include a mixture of Level 2 and Level 3 Dual port Chargers. EvGateway provides a web management portal for our partners which includes access to charging activity, revenue, inventory, site information details, and statistics/analytics related to charging sessions and KW consumption.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

In January of 2020, Xcel Energy filed a request with the Public Service Commission of Wisconsin to provide EV charging programs for residential, commercial and fleet customers.

In March 2012, the city of Milwaukee's Environmental Collaboration Office (ECO) installed four public electric vehicle charging stations utilizing ChargePoint. Funding for the project came from the 2009 American Recovery and Reinvestment Act.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

Yes, our organization currently operates plug-in electric vehicles such as the Honda Clarity and VW E-golf. We usually charge it twice a day at local community charging stations. These cars are used by our office staff for operational purposes.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at non-government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

Funds should be prioritized among eligible installation locations based on the potential improvements for electric vehicle miles traveled and environmental relief. For instance, access to workplace charging stations can significantly increase miles traveled by electric vehicles. In such, a higher percentage of the total funds should be prioritized to workplaces. Additionally, communities that need the environmental benefits of EV infrastructures due to high pollution levels should be allocated funds to improve air quality.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

The program should only fund EVCS projects at the maximum cost share if the EVCS is available to the public. Private site locations should be funded at a lower share to maximize leveraged funds.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

Charging station locations should be determined and prioritized depending on present geographical densities of EV drivers, predicted locations of EV drivers, and environmental relief factors. The VW Mitigation Program should determine and prioritize locations based on a variety of factors including, but not limited to, the number of EV owners per capita, geography, return

on investment and environmental justice. Grant applicants should determine locations after presenting measurable and sound reasons for each location.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

No, funding should not be split based on charger type. Rather, funding should be split based on each individual site. When funding is allocated to each particular site, the grantees can estimate (based on total funding per site) how many DCFC chargers and L2 chargers can be installed in accordance to the total funds available for a particular location.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

Yes, the state should offer at least two rounds of funding over time without any particular focus.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

When charging an EV at a publicly available station, the process for payment is as such: 1. Use a pre-loaded smartphone app or RFID card from the charging station provider that contains available funds for the charge. 2. Select charger based on car type (i.e. J1772, CHAdeMO, CCS, DCFC), then plug in to car. 3. Select “Start” and wait for car to finish charging. 4. Once finished, scan RFID card, select “Stop”, and remove charger from car.

Pricing on charger can be set based on KWh usage, per minute, per hour.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

Recommendations for additional charging stations throughout Wisconsin include workplaces or locations with high-rise office buildings and stretches of commercial properties. These particular locations would be appealing for daily commuters and should include a standard level 2 charging station.

12. What options exist for funding EV charging stations?

One option for funding EV charging stations is having the charge point operator pay for installation and provisioning of the charging station and have an agreement between the CPO and the site owner on revenue sharing based on the investment.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, a voluntary study by the city of Eau Claire, Menomonie, and La Crosse, Wisconsin, found that switching fleet vehicles to electric or hybrid vehicles could save almost $2.5 million dollars,

over 45,000 gallons of fuel annually, and reduce carbon emissions by 1,200 tons. According to the study, the city of Eau Claire would save over $103,000 on total cost of ownership for fleet and reduce carbon emissions by 58 tons annually. The associate planner of Eau Claire explained future plans of converting 15% of the city's fleet to electric vehicles over the next decade. Source

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

Yes, our organization is involved in installing EVCS. We have recently won an award with LA Metro to Install 129 EVCS across Los Angeles. As the electrical Infrastructure was provided by LA metro, the only barrier we encounter was to swap the old EVCS and replace it with New Smart EVCS

15. Cost estimate ranges

Low $	**High $**
$2,500	$5,000
$2,500	$6,000
$2,500	$6,000
$4,000	$7,500 (appx.)
$25,000	$30,000
$25,000	$40,000
$25,000	$60,000 *Note: The cost of dc chargers (level 3) varies depending on the set-up

16. Other/additional thoughts

None.

Vondra, Benjamin H - DOA

From: Vondra, Benjamin H - DOA
Sent: Friday, February 28, 2020 7:08 AM
To: VW Settlement Wisconsin
Subject: FW: EV charging

Ben Vondra | VW Mitigation Program Administrator
Department of Administration
Division of Enterprise Operations
benjaminh.vondra@wisconsin.gov
(608) 261-6262

From: Peter Gibeau [redacted]
Sent: Thursday, February 27, 2020 11:08 PM
To: Vondra, Benjamin H - DOA <BenjaminH.Vondra@wisconsin.gov>
Subject: EV charging

Dear Mr. Vondra,

I'm unable to make any of the listening sessions regarding EV charging locations but I have a suggestion:

Install charging stations at UW campuses, including the smaller branch campuses (formerly UW Colleges), which are almost all commuter campuses.

Having charging stations in the student parking lots would encourage students to buy EVs. Charging stations could have a time limit, so students would repark their cars between classes, enabling many students to charge up during any given class day.

I own a Leaf, two faculty colleagues own Teslas, and I always encourage my students to look into purchasing EVs--many used Leafs cost less than $9,000. The response is often "But where would we charge up?" I charge up at home mainly and have used Plugshare to find other charging stations, often dealerships.

EVs are the future! And so are the students.

Best,
Peter

Peter W. Gibeau, PhD
Professor of Music
University of Wisconsin--Milwaukee at Washington County
400 University Drive

West Bend WI 53095
[redacted]

Vondra, Benjamin H - DOA

From: Danilo J Santini [redacted]
Sent: Friday, February 28, 2020 9:07 AM
To: VW Settlement Wisconsin
Subject: Danilo J. Santini response to VW Electric Charging Station program RFI from Wisconsin
Attachments: Santini VW Electric Vehicle Charging - Response to WI RFI 2-28-20.pdf; Seventh Wave Wisconsin Santini Presentation July 31 2018.pdf; Santini one page resume 2018.pdf

Sent from Mail for Windows 10

Danilo J. Santini
Response to
Wisconsin Department of Administration Division of Enterprise Operations
Request for Information (RFI)
Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program
Feb. 28, 2020

Question 1. I am Danilo J. Santini, Ph.D. I am retired. I was employed at Argonne National Laboratory, working on alternative vehicles and fuels for over 40 years. [redacted], Unit 908, Woodridge, IL 60517. E-mail [redacted]

Question 2. Before retiring, I prepared a draft report on strategies for cost-effective implementation of plug-in vehicle charging, considering both the plug-in vehicle customer individually and the grid as a whole system. The report was not published. I prepared multiple related papers and presentations.

Question 3. As of Sept. 2018 I ceased studying Wisconsin. At that time I had made myself familiar with plans for EVs and renewables by Alliant Energy and Excel.

Question 4. No.

Question 5. I recommend no more than 15% of funds be used to support fast charging along major highways. Workplace charging has the potential for synergism to make residential charging (both single family and multi-family) less expensive per installed EVSE, and enable installation of more residential EVSE. Up to 60% of funds should be allowed for workplace charging.

Question 6. Three categories recommended: (1) low to moderate power charging not available to the public (2) high power charging (50 or more kW per plug) available to the public for at least 75% of hours (3) combination of (1) and (2) with high power charging available to the public for at least 30% of hours. (1) and (2) should receive 50% funding share. (3) should receive increasing funding for more hours of public fast charging availability, up to 80% if the fast charging is available 50-60%. DCFC available 30% = 60% share; available 40% = 70% share; available 50%-60% = 80% share.

Question 7. Other than recommendations in response to question 5 and 8, I have no recommendations for priorities. I recommend three rounds of funding in ten years, with minimum prioritization in the first round. The first round should collect data to allow more detailed prioritization in second and third rounds. If grant applicants make applications for multiple sites, they should prioritize the sites.

Question 8. Less than 10% of funds should be spent on very high-power charging of 100kW or more per EVSE. Within this 10%, no site with less than 500 kW of capacity should be funded (e.g. five 100 kW, or two 250 kW). No site should be funded with less than two EVSE. At least 60% of funds should be allocated for category 3 recommended in Question 6. Funding of level 1 EVSE should be allowed, but only in category 3.

Question 9. There should be three rounds of funding in the ten-year period. The first round should focus on determining the most cost-effective sites from the point of view of the site owner, the grid, and renewable electricity providers. In the first round the grantee should be required to provide detailed specifications of the facility and a detailed, continuous record of hourly (or finer time interval) kW loads for the entire facility or be penalized 5% in funding share.

Question 10. Not applicable to me.

Question 11. The reality in the first round is that most of the funded sites will serve purchasers of new plug-in electric vehicles. For households this generally means that their residential locations will be in larger homes in higher income areas. Focusing on low income multi-family would be counter-productive at this time. Funding workplace charging does have the benefit of allowing lower power, lower cost EVSE at residences of persons also charging at the workplace. This potentially helps lower income households where the residence may not have the kW capability to support Level 2 charging. See my detailed response to question 16.

Question 12. Funding options are numerous. Facility/building owners and charging network suppliers are the two leaders.

Question 13. Fleets that utilize pure electric vehicles could benefit considerably from category 3 discussed in my response to question 6. Overnight charging of the fleet vehicles at low power can be supplemented by "return to base" fast charging also provided, so that a day of service can be extended. This combination of overnight low/moderate and daytime high power would allow purchase of electric vehicles with less range (and cost) than would otherwise be required. Allowing the public to use the site for fast charging in morning daytime hours (when fleet vehicles are not yet depleted) could also provide added revenue to the fleet manager.

Question 14. No.

Question 15. I enclose a presentation that was made in Wisconsin in the summer of 2018. The presentation includes information related to this question. Please contact the project manager for permission to use the information, if you wish to do so. The presentation does include links to original sources of information that can readily be used to confirm and expand the information.

Question 16. I provide a detailed discussion that should explain the foundation for the recommendations in my response to question 6.

Low and moderate power charging

Residences. Charging kW needed to satisfy customers is a function of the parking duration of the vehicle. The longer the period parked and plugged in, the lower the needed power (kW). At residences, overnight charging for 10-12 hours is routinely possible. With low power charging – about 1.4 to 3.3 kW (note that the lower value is level 1, while the upper value is level 2) will be adequate to provide normal daily driving needs for one vehicle, so long as the vehicle charged the night before. Charging for two vehicles at 3.3 kW or one vehicle at 7 kW will often require the full electrical system capacity that is available at an average house (see Fig. 3-1 "Transportation Electrification, A Technology Overview" EPRI report 1021334, July 2011. Average peak summer household loads in South Bend IN were 6.0 kW, and in Springdale AR were 7.7 kW). Thus, at residences, charging every night at the lowest technically feasible charging rate is desirable in the coming decades to allow households to use more than one plug-in electric vehicle per household/residence.

Motels and hotels. For motels and hotels, the overnight parking duration will be about the same, but if long-distance travel is planned in the morning a far higher charge to meet the next day's travel needs

would be desired than at a residence for a typical day. For motels and hotels charging overnight at a rate of 7-10 kW would allow nearly all plug-in electric vehicles to leave with a full charge.

Government and private fleets. For fleets that lie idle overnight and include medium and heavy-duty vehicles the average overnight charging power per vehicle will need to be even higher.

Workplaces. At workplaces, where passenger vehicles owned by employees may be charged, the parking duration will be less than overnight at residences. On hot summer days it may be necessary to curtail charging power available in mid-afternoon. To obtain enough charge for a day's commute, level 2 charging of 3.3-7 kW will be desirable. For individual vehicle owners this will not take care of weekends, holidays, or other days off. Some persons might find a plug-in hybrid charged at work to be desirable, even if charging at home is not available. Weekends generally involve longer duration of parking at the residence, so lower power charging can meet normal weekend needs. Thus, if an owner has both workplace and home charging capabilities, the home charger can be less powerful than if workplace charging is not available. Therefore, support of workplace charging has the benefit of reducing costs for chargers at residences while making more plugs technically feasible at residences without significant alteration of the residence's electrical system. Supporting workplace charging has this indirect benefit, reducing the costs for associated residences and increasing the number of low power (1.4-2 kW level 1) EVSE that can be installed in the residence. Allowing funding of level 1 EVSE at multi-family residential complexes whose residents have access to workplace charging should therefore be a cost-effective way of increasing the number of available plugs for residents of multi-family residential complexes.

Shopping and dining locations. The trend in plug-in vehicles is to make level 2 charging at 7 kW and above standard. If shopping and dining locations where consumers are expected to stay for an hour or more can provide ~ 7 kW charging spots, this can also have the benefit of providing a significant fraction of day's driving for many owners of plug-in vehicles. Like workplace charging, frequent use of such locations can allow lower power overnight charging at residences to be workable and economical for many potential plug-in vehicle customers.

Fast charging combined with low/moderate power charging.

To date, most surveys of charging patterns indicate that fast charging is a supplement to much more frequent low and moderate power charging. Nevertheless, it is also desirable to make fast charging function potentially as the primary charging location so that households that do not own garages or parking spots can own plug-in electric vehicles if they choose to. The "model" to date for fast charging is to presume that customers are driving between cities and need fast charging during a long trip. However, community fast charging is receiving increased attention.

Motels and hotels combining overnight and daytime charging. Tesla calls charging at motels and hotels which are recreation locations "destination charging". This charging is generally not fast charging. However, it is often well above 7 kW. Motels and hotels near Interstate interchanges which serve travelers between destinations are a different situation. They may decide to serve owners of plug-in vehicles in two ways. They can benefit from having a combination of medium power charging for overnight stays and high-power charging for use by day travelers. As an example, ten overnight charging spots at 7 kW could be combined with one daytime fast charger at 70 kW. Those using the daytime fast charger will have the benefit of restroom facilities and in some cases associated food services. From the

point of view of cost effectiveness, this is a much more desirable location for fast charging than a stand-alone location which only uses the grid during daylight hours. In cost effectiveness terms, the capacity utilization at the location is considerably better when both overnight and daytime charging are supported at the same location.

Residential complexes supporting both overnight slow charging and daytime fast charging. While fast charging at motels and hotels near Interstate Interchanges can support long distance travel of electric vehicles, fast charging at residential complexes (when vehicles of residents are at work or shopping) can make ownership of electric vehicles more viable within communities. Fast charging availability at residential complexes can allow those without access to plugs to fully charge electric vehicles for use within the community. Larger rental complexes generally have space and bathroom facilities at a central office, along with places to sit, should a vehicle owner prefer not to be in a vehicle while it is charging. Having both slow charging spaces for overnight charging and fast chargers for daytime charging can make all-electric vehicle ownership considerably more viable for residents of large multi-family complexes.

Shopping and dining supporting both slow daytime and fast overnight charging. Most shopping and restaurant facilities have very "peaky" utilization patterns. Electric capacity for such facilities is probably the least efficiently utilized. Possibly, such locations would not provide charging at all during normal peak demand hours. Many of such locations have peak utilization at the same time the grid load peaks (early evening hours). By providing charging only off-peak, these locations can be grid friendly and encourage customers to plan to shop or dine during hours when there is excess capacity at the facility. Although the timing of best opportunities for fast charging (overnight) is opposite of those for residences, motels and hotels, availability of such charging could still enable community residents without EVSE at home to fast charge at night, helping enable electric vehicle ownership that would otherwise be difficult.

Overall theme – increasing charging facility utilization rates. To summarize, it will often be desirable to combine low and moderate power charging with fast charging at the same location/facility, but not operating at the same time. This would likely combine both private use for low and moderate power charging with public availability of high-power (DCFC) charging. Generally, the purpose of such locations/facilities is to provide low and/or moderate power charging for the normal users of the facility. Since the time period that those normal users are present is generally limited – less than a half a day in a majority of cases, the remaining time can be used to serve customers who will only irregularly and briefly use the location for fast charging for a much shorter period than the normal users. If, for example, for multi-family residential, if there are 25 level 1 chargers capable of operating overnight at 2 kW each, then the charging location requires a total peak capability of 50 kW. "Normal facility users" will plug in for 10-12 hours each at one of the 25 locations. Irregular facility users – the public – would be provided access to a 50 kW fast charging facility during a designated time period when normal facility users would not have access to their low power charging connections. For motels and hotels, the corresponding example would be 8 parking spots with 7 kW each for overnight charging, with one of those spots having 50 kW available during daytime hours.

One implication To be explicit, one implication of this discussion is that the program should allow funding for level 1 EVSE whenever it is combined with a fast charger of 50 kW or more at the same location. There would likely be few applicants to choose this option, but it should be allowed.

Residential and workplace charging – making the environmental solution economic

D.J. Santini, Ph.D.
Retired senior economist
Argonne National Laboratory

Presented at the Seventhwave Drive Electric Events
Milwaukee WI July 31, 2018, and
Green Bay WI Aug. 1 2018
(for permission to cite, contact Jennifer Lanzel, Seventhwave Project Manager, 608 210 7179 seventhwave.org)

This is professional judgment & interpretation. I am retired, not an Argonne employee. This is general business and engineering advice for near-term residential and workplace charging strategies. Much of this does draw on published sources available from the NREL AFDC (Google those 8 letters) website.

While many people are aware that EVs benefit the environment, fewer realize that these cars, which are cheaper to maintain and operate than conventional cars, can actually help the electric grid operate more efficiently.

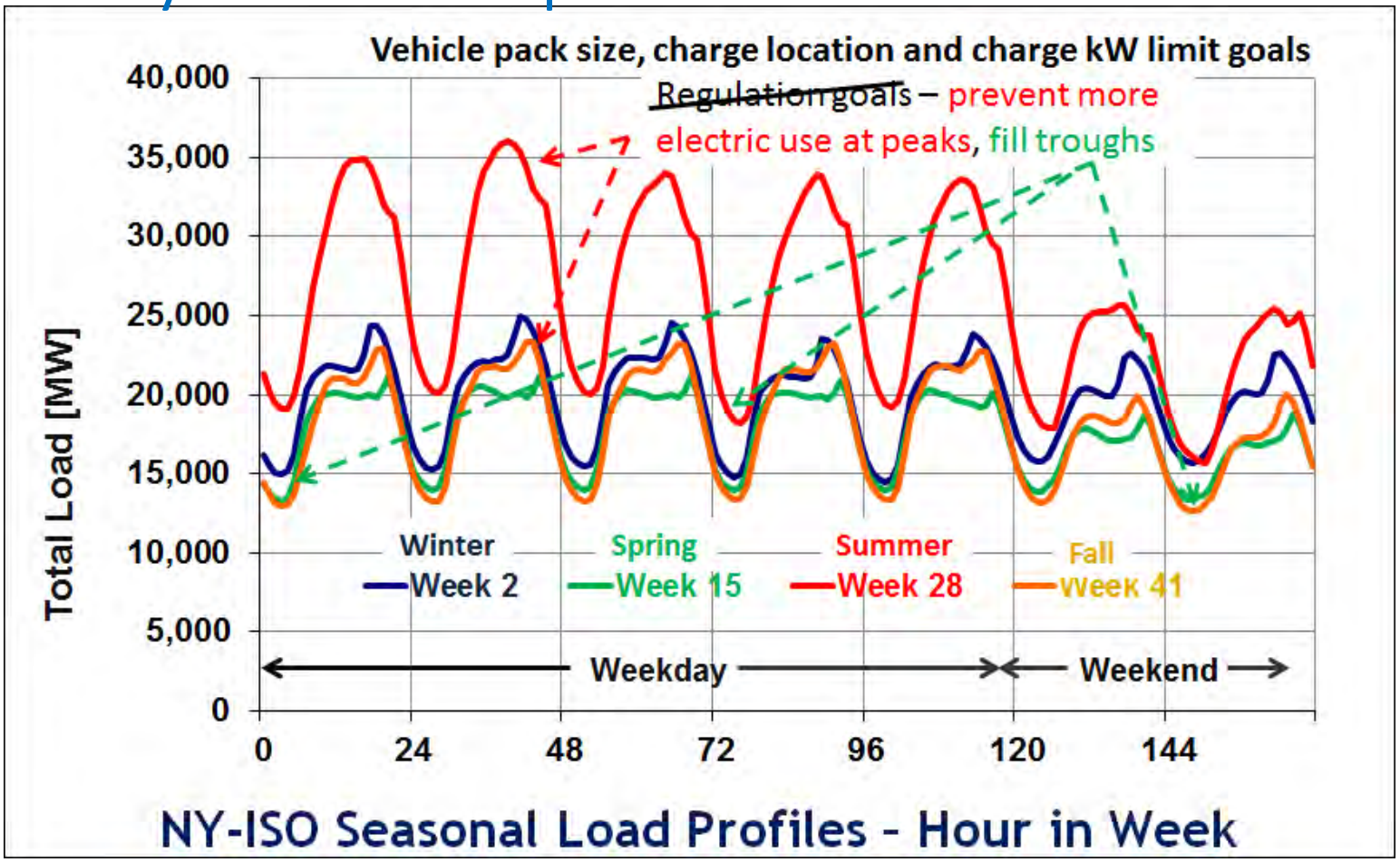
EVs can flexibly charge and serve as a demand response mechanism by charging during off-peak* times. They can also help incorporate more renewable energy

Electric Vehicles: Automakers Are Ahead of the Customer By Constance Douris July 10, 2018 Lexington Institute. (**https://www.realclearenergy.org/**)

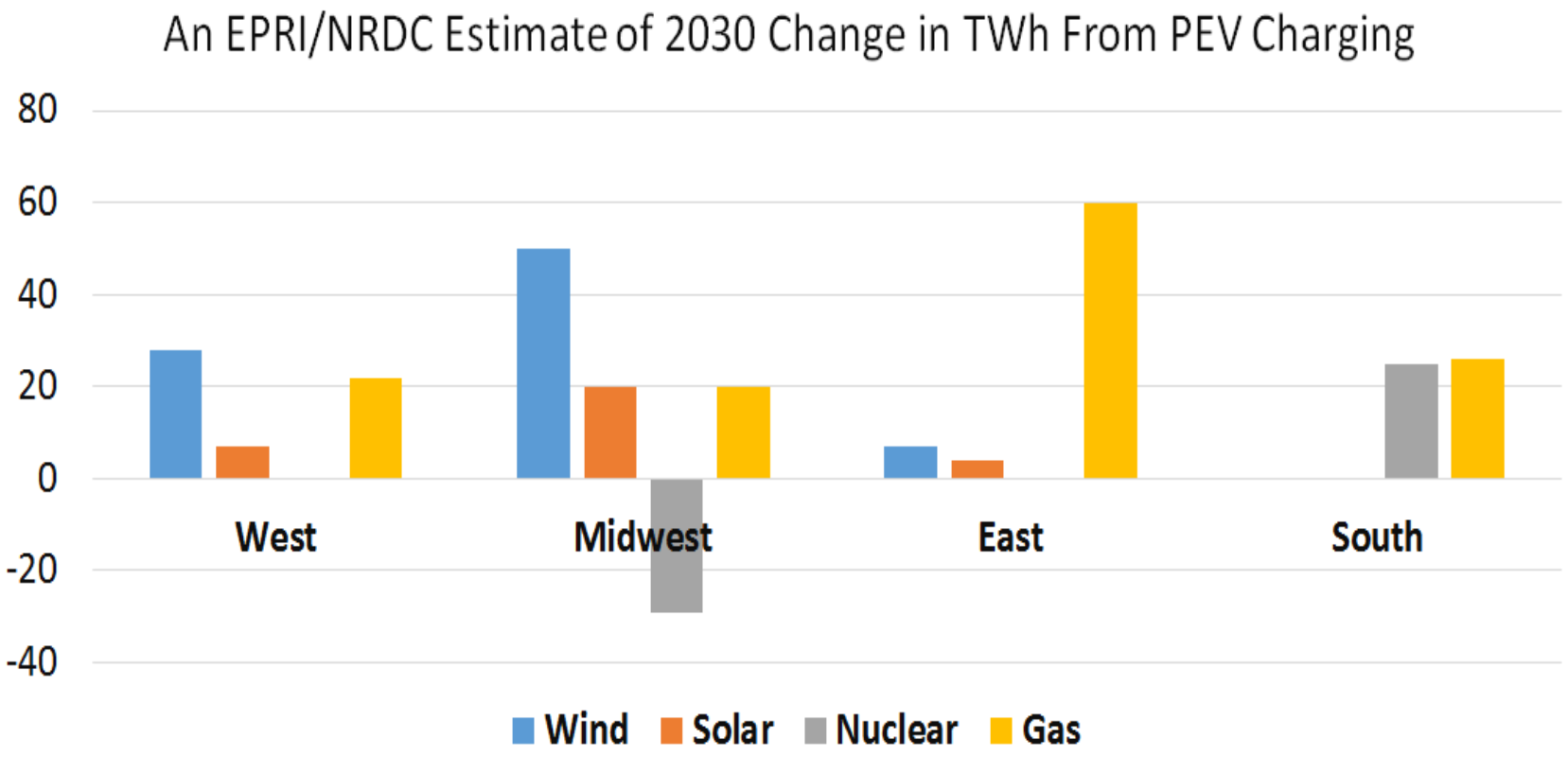
* Hopefully she was referring to both seasonal and diurnal (daily) peaks

Daily demand peaks occur during workday in summer, afterwards otherwise. Summer: AC kWh preferred to PEVs.

But during the rest of the year, charging during the workday could soak up renewables that WI will be adding.



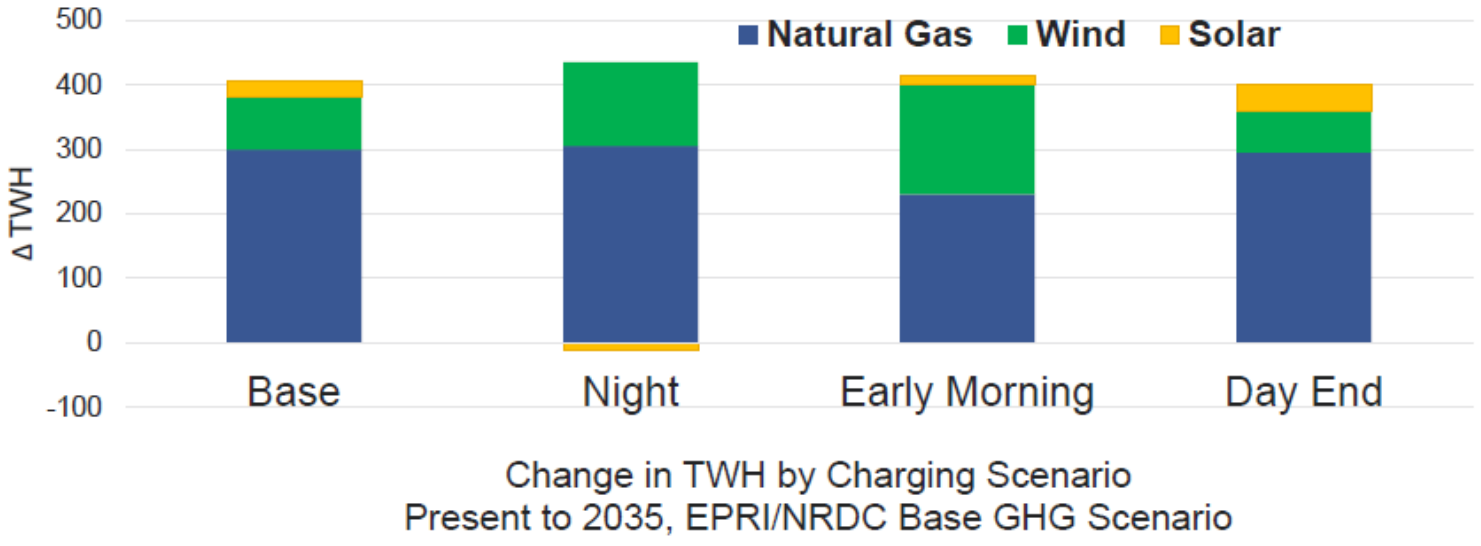
EPRI and NRDC estimated that the Midwest is the best place to tap into wind and solar



Source: Fig. 4-9 - Environmental Assessment of a Full Electric Transportation Portfolio, Vol. 3 Air Quality, EPRI Report 3002006880. Electric Power Research Institute, Palo Alto, CA. Sept. 2015

EPRI and NRDC found an early morning charging strategy to be best nationally. Gas, solar & wind were used

Owner selection of the PEV "charge by (morning) departure" option would lead to clean early morning charging.*

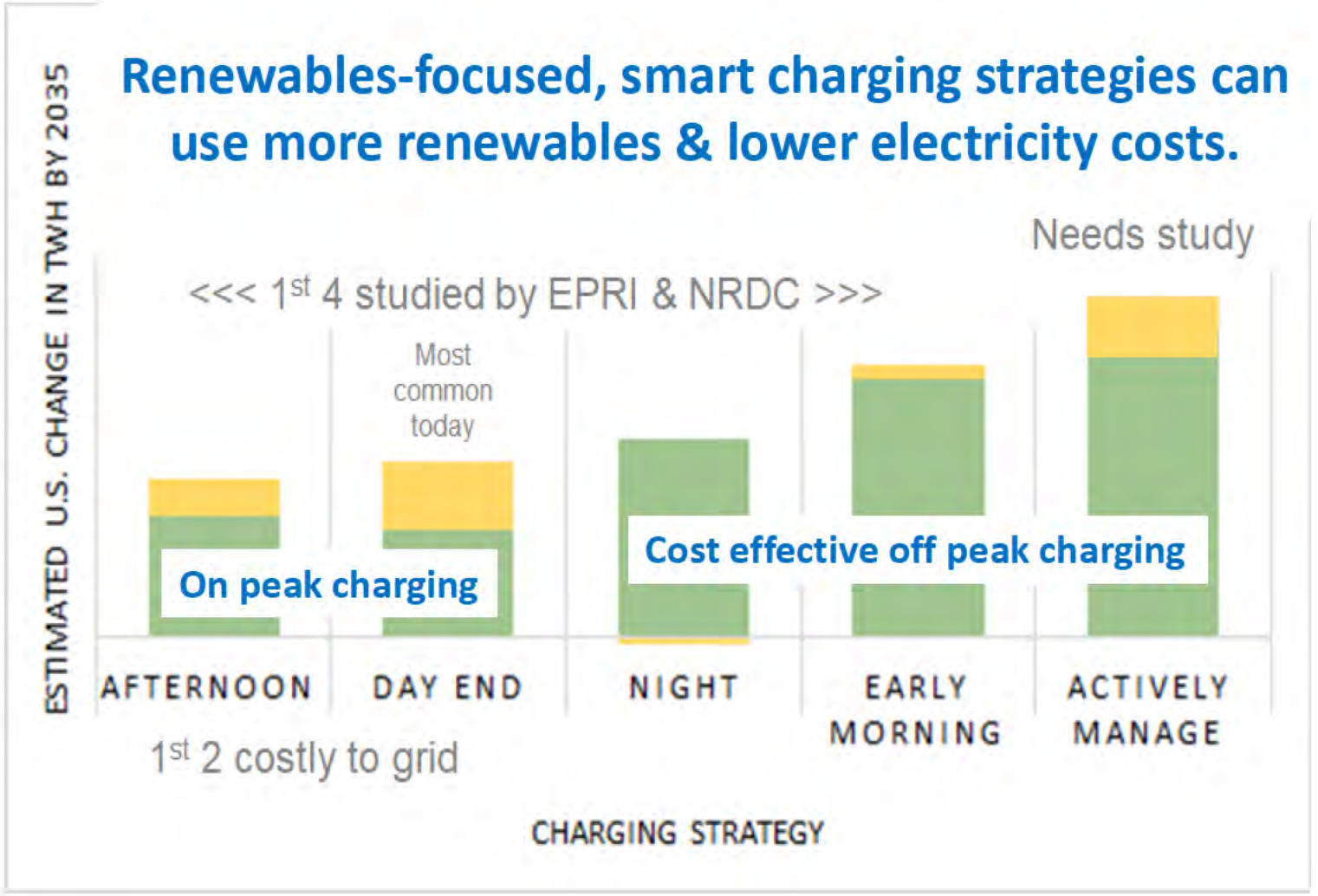


Change in TWH by Charging Scenario
Present to 2035, EPRI/NRDC Base GHG Scenario

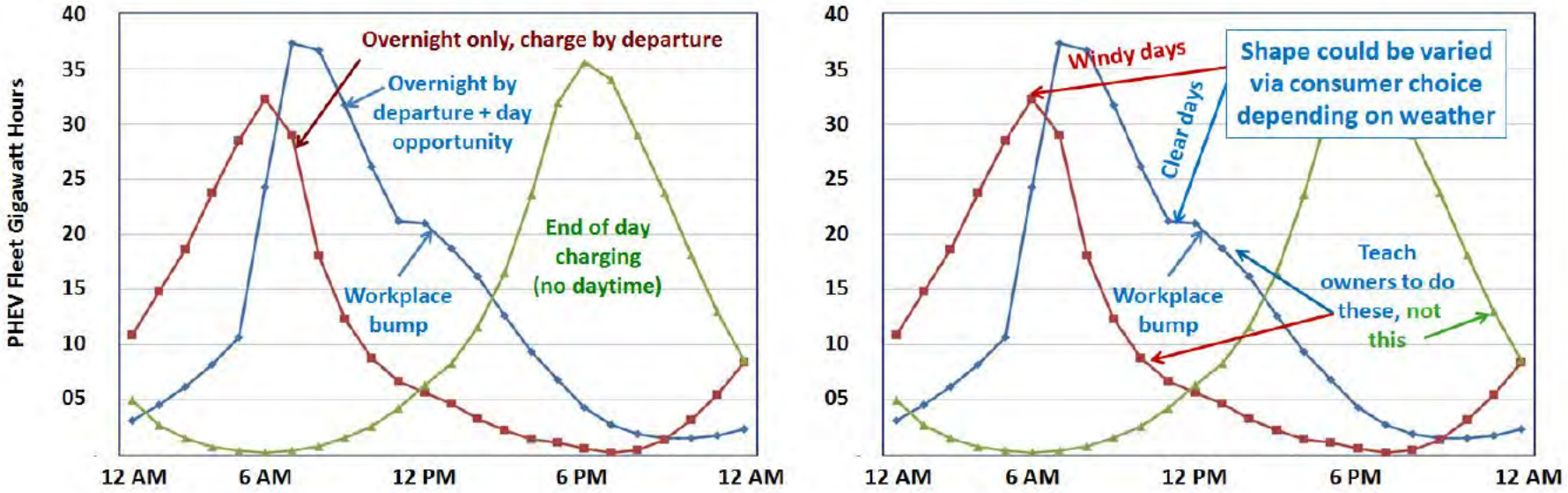
Data source: EPRI Final Report 3002006876. Electric Power Research Institute, Palo Alto, CA. Sept. 2015

* Idea: teach your employees about best overall charging strategy

Combining early morning residential and workplace charging could increase total renewable capture.

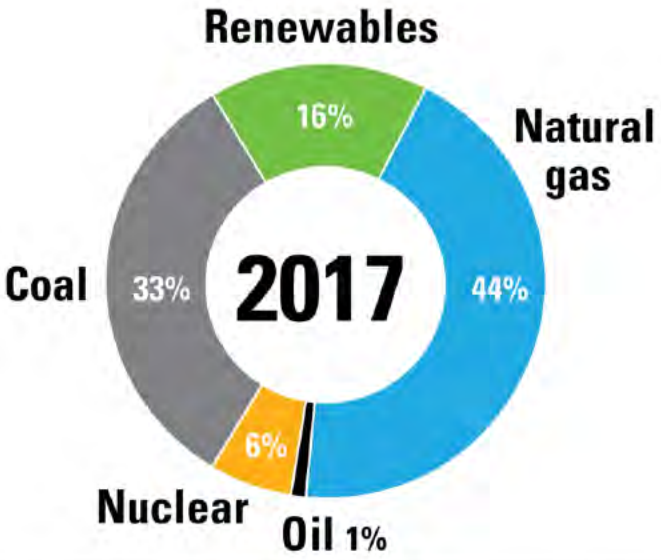


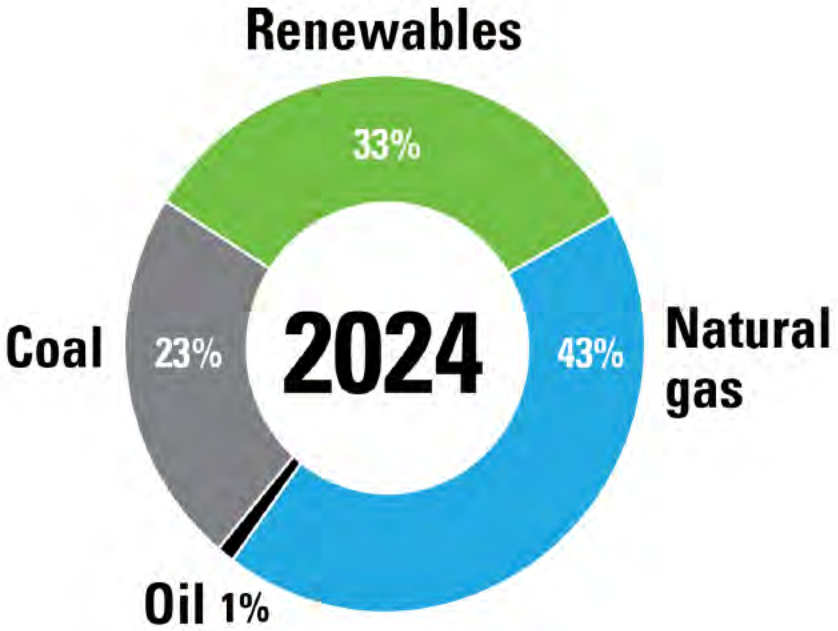
"Early Morning" residential charging can be reworked. It can combine residential and workplace charging and adopt timing flexibility to increase renewables use.

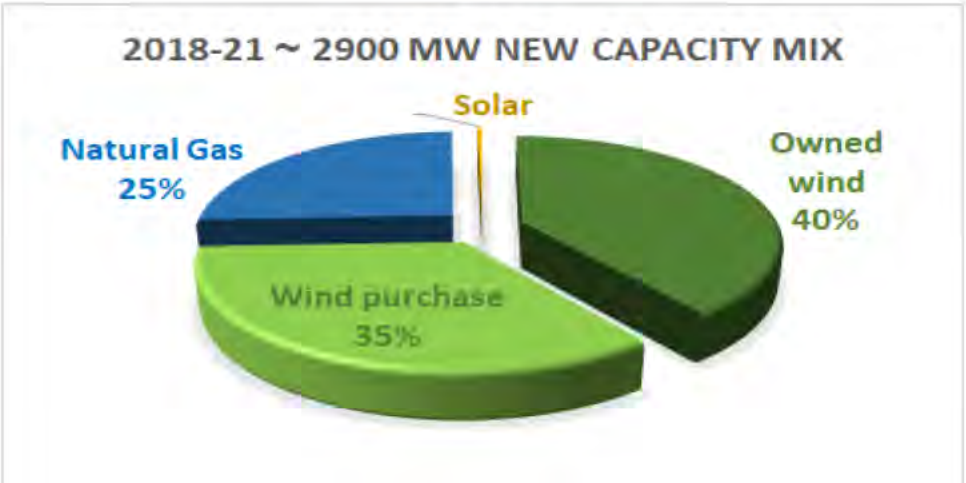


Note: the charging assumptions did not include much level 1 charging. More level 1 would flatten the curve.

Alliant Energy Plans To Increase Renewables & Natural Gas

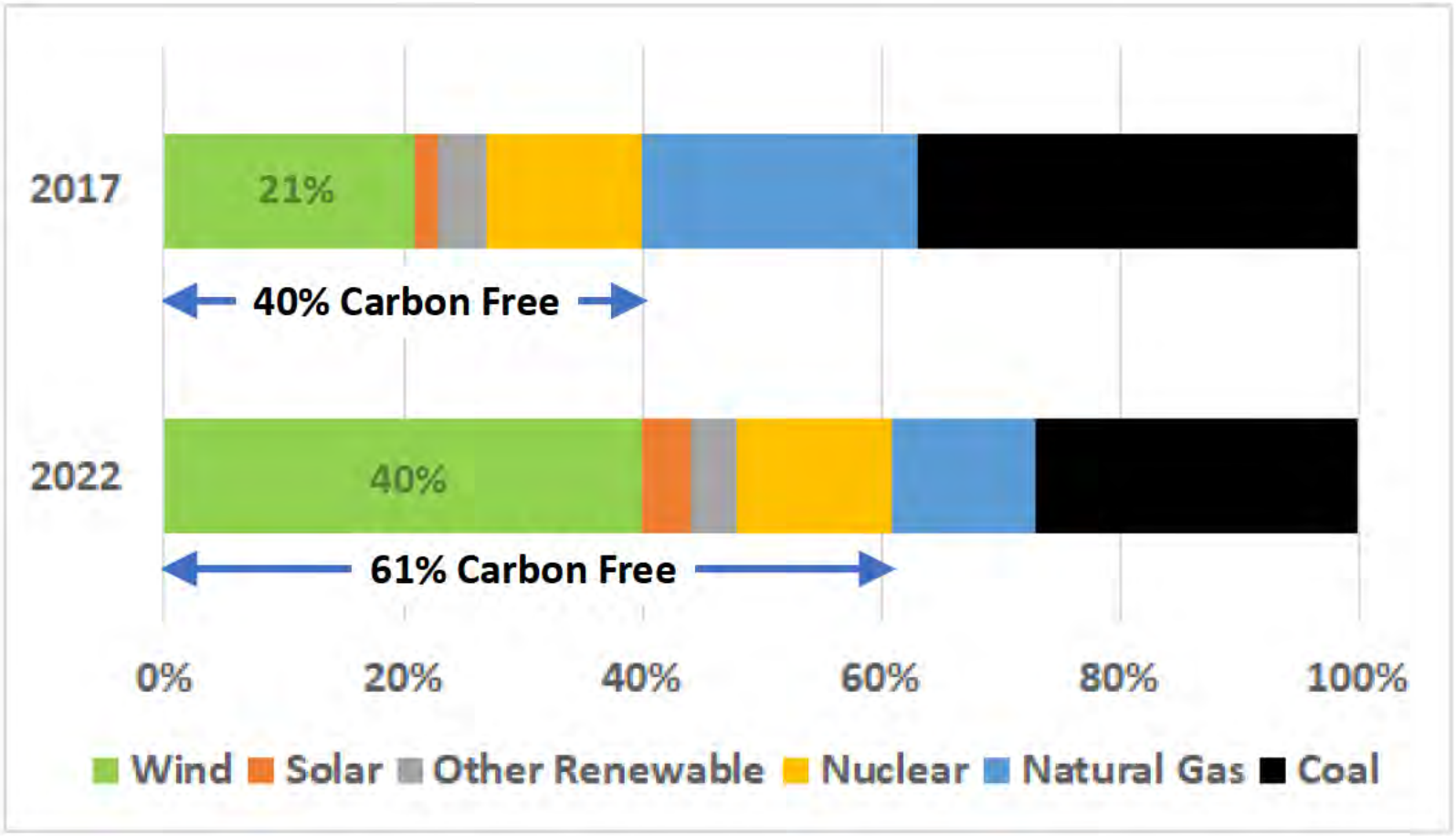




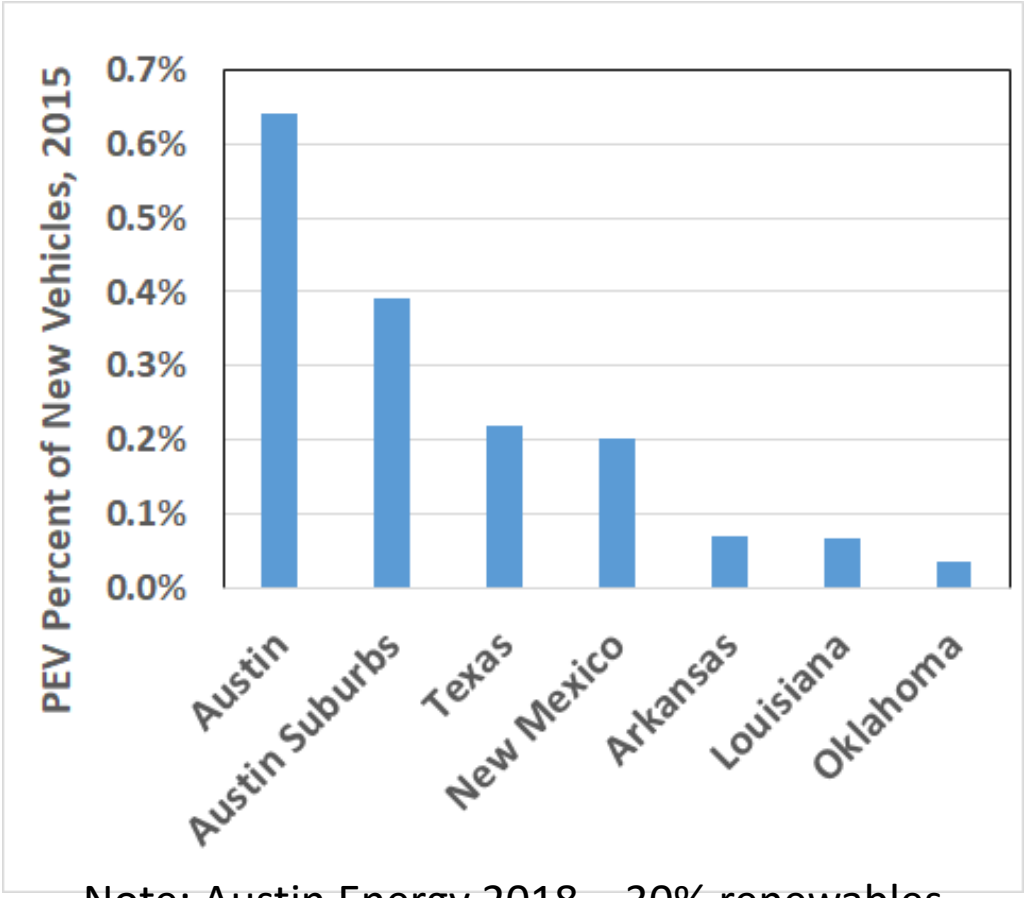


Source:
https://sustainability.alliantenergy.com/energy-climate/#transition

Xcel's Corporate Plans Also Involve Large Wind Expansion



Austin Energy and ConEd Have Programs Worth Highlighting



Note: Austin Energy 2018 – 30% renewables (12% wind, 18% solar)

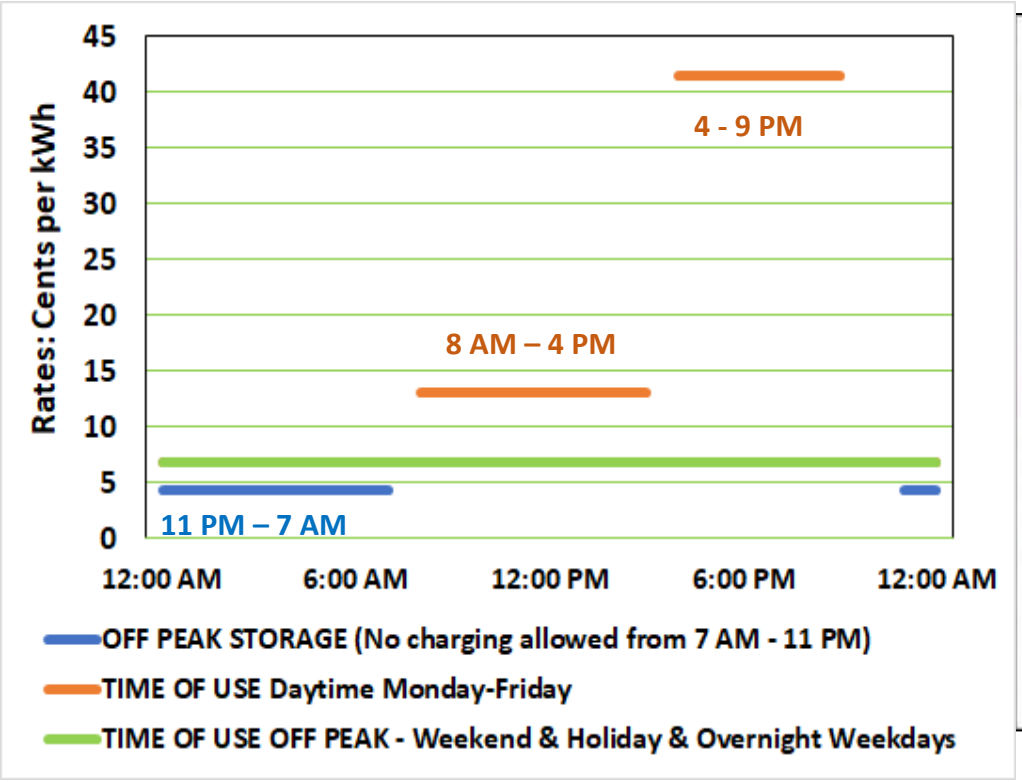
Austin Energy - by: (1) subsidizing EVSE and submeter installation and (2) providing "PEV-only" off-peak rate reduction for heavy PEV use … Austin achieved early PEV sales success. Austin Energy maintains the policy today.

3 Minnesota co-ops are now following a similar strategy.

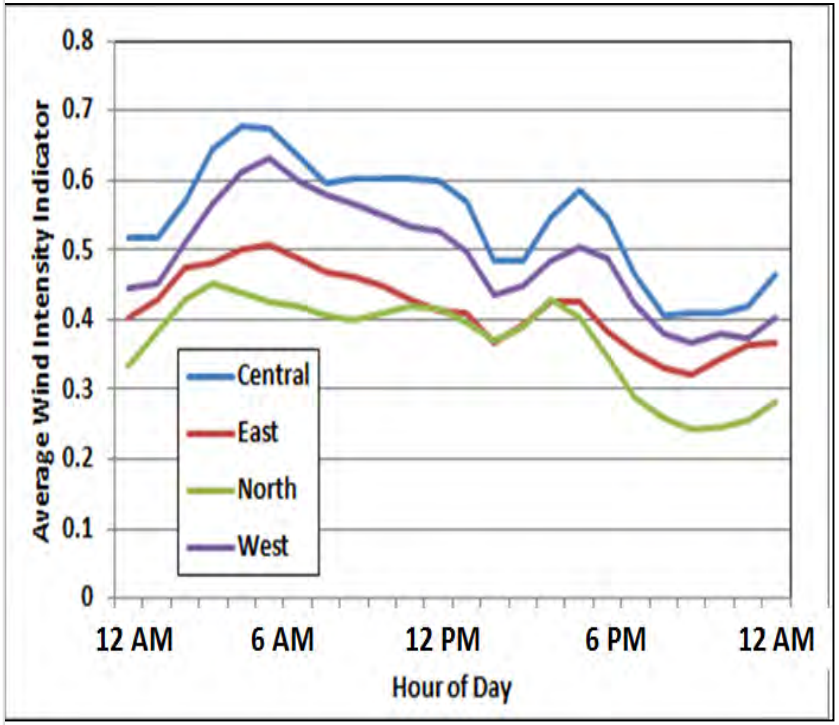
ConEd"s "SmartCharge" wirelessly monitors PEV charging within service territory, from 12pm to 8 am, and provides rebates for this "off-peak" charging.

Dakota Electric Trial Residential PEV Rates are Low in Early Morning, Favorable to Wind Capture

$500 subsidy for Level 1 or Level 2 EVSE is available with the rate. House rate is not affected.



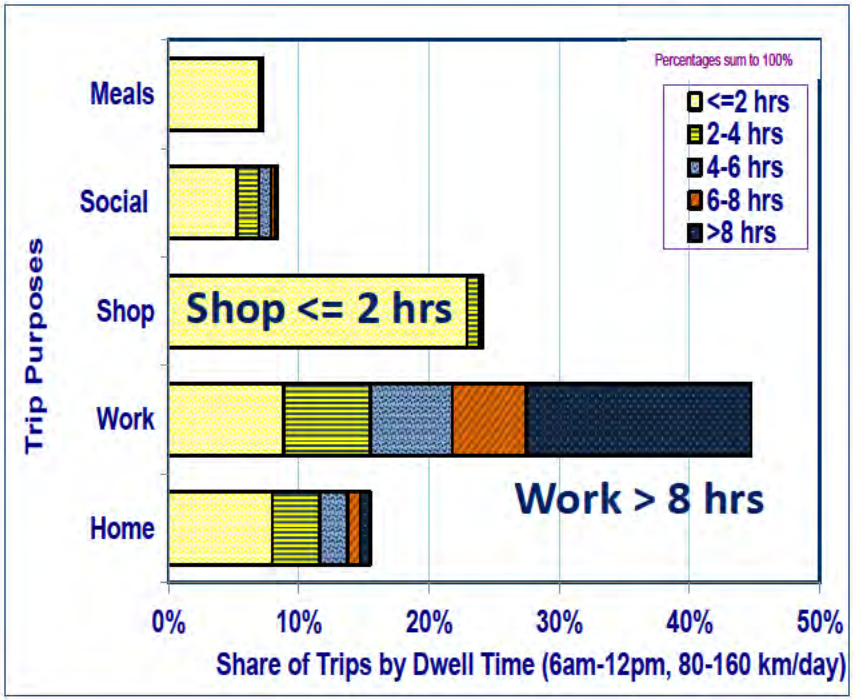
Two Dakota Electric (MN) Experimental Plug-in Electric Vehicle Rates



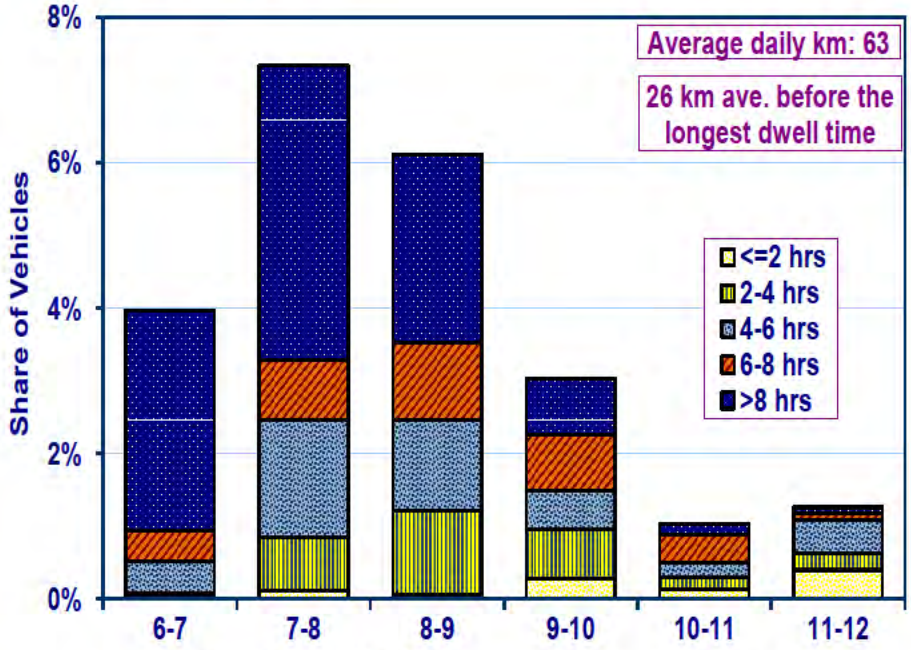
Illinois Wind Generation Peaks in the Early Morning

PEVs used for work have most time parked among active vehicles. Morning arrival & many stay for hours.

There is more time than needed to meet the daily kWh needs of many PEVs.



Dwell times of active vehicles, by location, during the day



Work dwell hours by morning arrival hour. Vehicles driven 30-50 miles per day that commute to work

Using Level 1 Charging at 2 kW most PHEVs arriving by 9 am can be filled by 1pm.* Most will need < 8 kWh

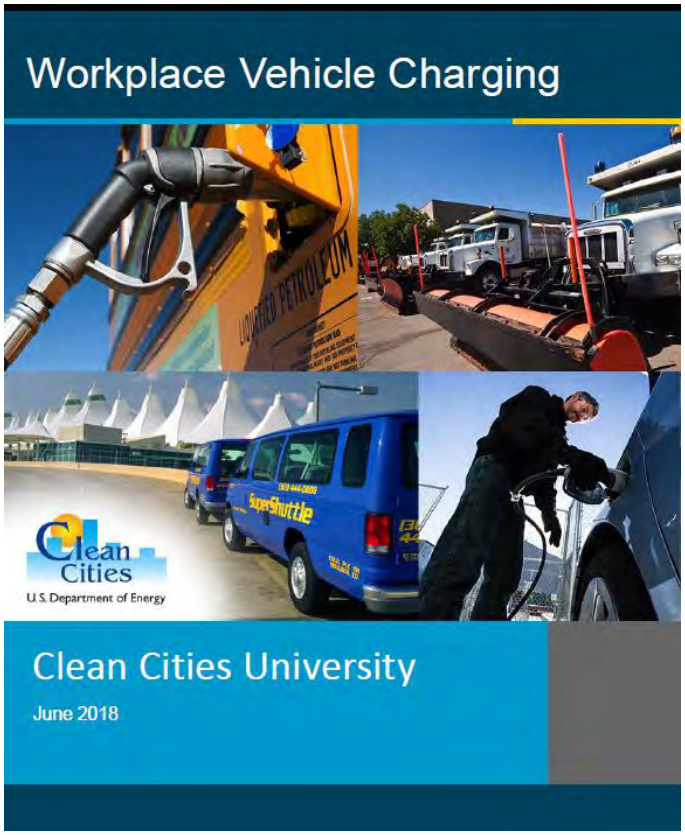
If PHEVs fully charge overnight, many won't arrive empty.

Maximum charge needs and level 1 & 2 fill times for leading selling PHEVs

	Range (mi.)	kWh to 100% fill	Level 1 fill time at 2 kW (hrs)	fueleconomy.gov Level 2 fill time (hrs)	Implied Level 2 max. charge kW
Chevrolet Volt	53	16.5	8.0	4.5	3.7
Honda Clarity	48	15	7.5	2.2	6
Toyota Prius Prime	25	6.5	3.3	2	3
Ford Fusion Energi	21	7.5	3.8	2.5	3
BMW 530e	15	7.5	3.8	2	3.7
BMW X5	14	8.5	4.3	3	3.7
Mitsubishi Outlander	22	10	5.8	3.5	3.2
Chrysler Pacifica	33	13	6.5	2	6.5

* If the summer peak period begins earlier than 1 pm (Alliant Energy), then Level 2 may be needed to provide the day's needs earlier in the morning.

DOE has much information on workplace charging. This presentation adds to published work.



What kind of money are we talking about?

PHEVs & BEVs allocated ~ 8 kWh/day and using Level 1 charging at 1.4 - 2 kW (2000 kWh/yr)

- **$240 to $670/yr. per vehicle (12 cents/kWh to 34 cents/kWh)**

BEVs & “guzzler” PHEVs of “garage orphans” allocated ~ 20 kWh /day using Level 2 charging at 3 to 6 kW (5000 kWh/yr)

- **$650 to $2470/yr. per vehicle (13 cents/kWh to 49 cents/kWh)**

If you can increase use of your chargers, amortized charger installation cost per vehicle served drops

- Locations with multiple shifts can benefit
- Locations with in-house fleets charged overnight benefit
- 24/7 businesses with chargers for employees can benefit

- If 2 x vehicles charged/day ($ 0.11/kWh + installation)
  - **8 kWh/day** using Level 1 charging at 1.4 - 2 kW (4000 kWh/yr)
    $240 to $670/yr. per vehicle becomes $460 to $890/yr.
    Range of 11 cents/kWh to 33 cents/kWh drops to 11.5 to 22
  - **20 kWh /day** using Level 2 charging at 3 to 6 kW (10,000 kWh/yr)
    $600 to $2420/yr. per vehicle becomes to $1200 to $3200/yr.
    Range of 13 cents/kWh to 49 cents/kWh drops to 12 to 30

Up front planning is paramount

It is important to work with the utility early in the process to minimize costs, optimize the electrical design, and eliminate scheduling bottlenecks.

About 72% of Level 2 commercial installations in the EPRI study required work on the electrical panel.

See: https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

Level 1 (1-2 kW) charging without fees can use weatherproof plugs, pedestals, pedestals & reels

https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf

Simple (but crude) indoor solution

Coca-Cola employee straps up own EVSE to keep it off floor.

Pedestal – owner can leave personal EVSE in trunk, reduce theft

Pedestal & reel – a bit more weather and cord protection

Recommendation to workplaces: complement residential & public charging, don't compete with it.

Approximately match residential rates if charging for electricity

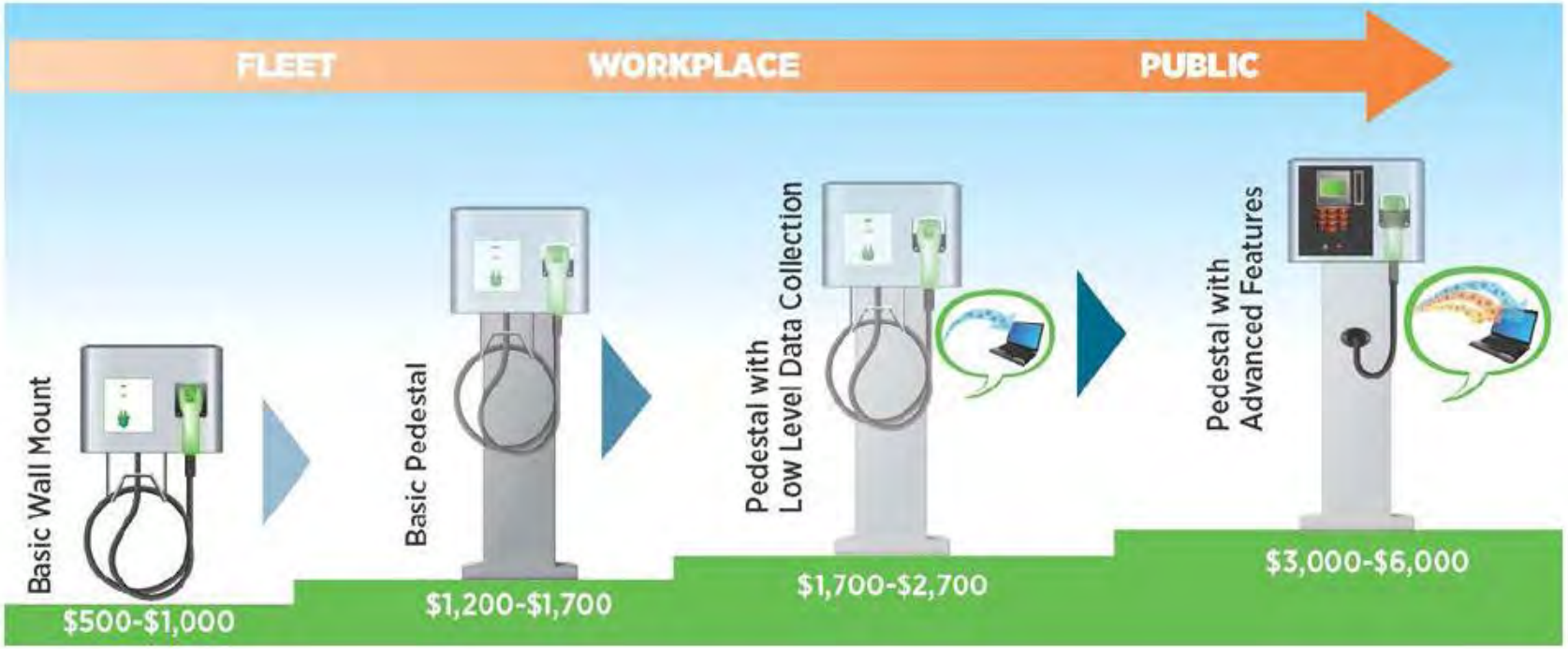
Reward regular daily charging (best for you, best for your utility)

Provide a "fair" and consistent daily kWh allocation to allow

- Work day travel for majority of PEVs
- Work day plus normal weekend for "garage orphan" BEVs (highest daily kWh allocation)
- Curtail late afternoon (summer) peak charging when your utility (and you probably) are out of capacity.

Though 2018 costs may be lower, 2015 values show costs of Level 2 EVSE equipment* & fee collection ability

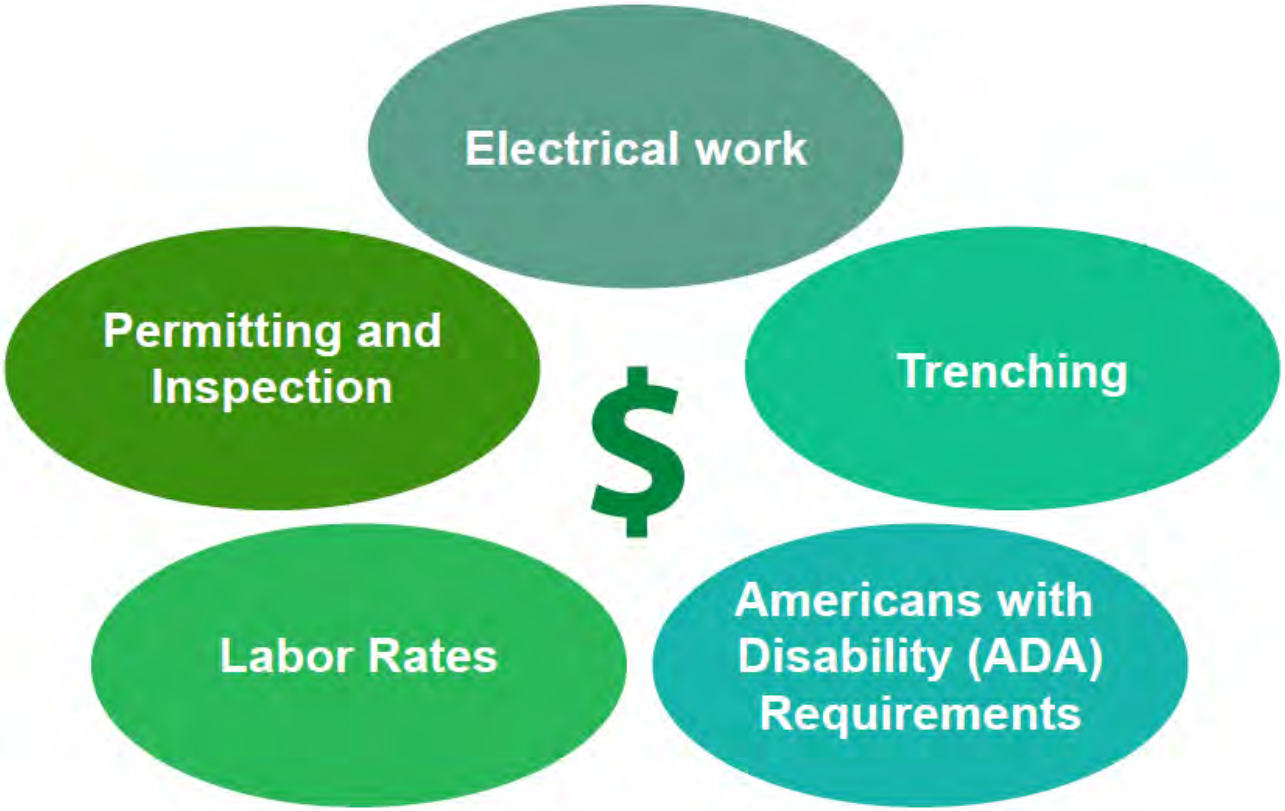
https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

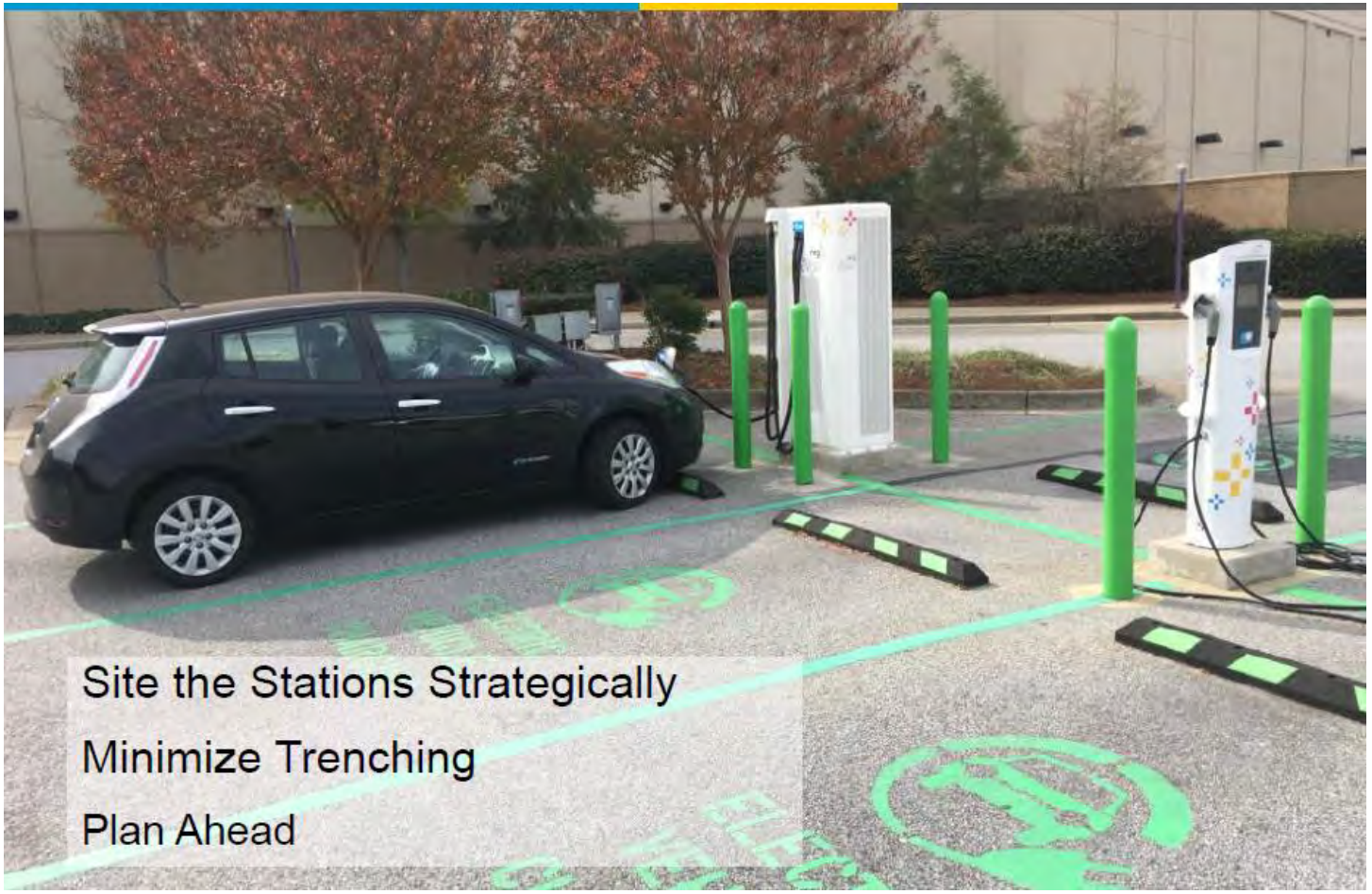


$500-1000 $1200-1700 $1700-2700 $3000-6000

* **Equipment only – installation not included**

Installation increases initial costs




Site the Stations Strategically
Minimize Trenching
Plan Ahead

How much charging capacity can you provide and when can you provide it?

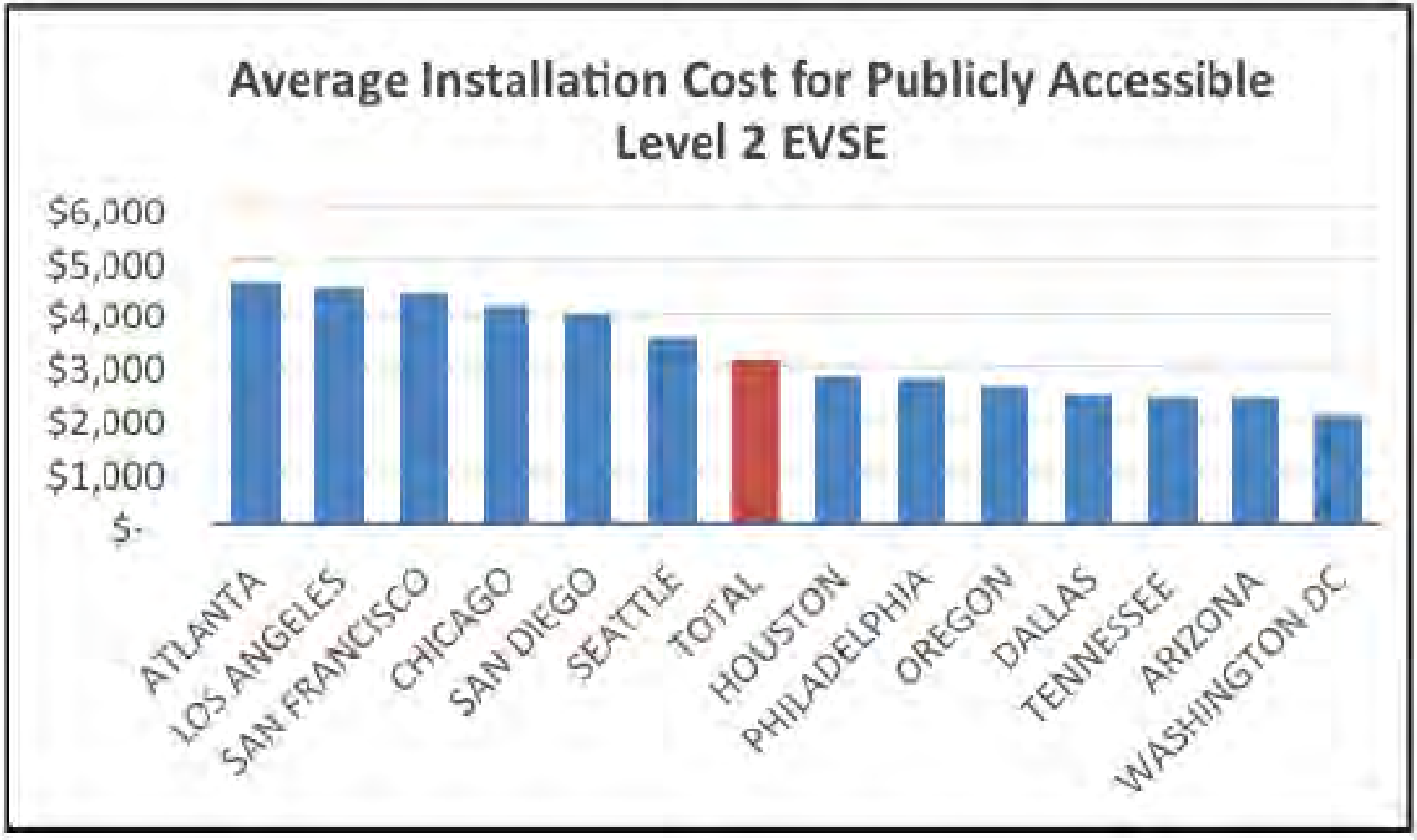
How much?

- Is any parking already served by electrical outlets? (probably no)
- How many parking spots are close to existing electrical panels?
- Do you plan to shuffle vehicles at charging spots with high kW, or
- Are you going to assign/rent parking for a day, week, month, year?
- What is your your property's excess capacity on peak days?
- Will those considering PEVs know how many can be served?

When?

- Will early arrivals be able to charge longer? Late departures?
- Will charging be allowed on weekends and holidays? Late nights?
- Are you going to curtail charging on peak days?

Installation for locations (public) outside of the workplace can double total costs



https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

Most Level 2 workplace charging installation costs (when acceptable) are less than public charging costs

https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

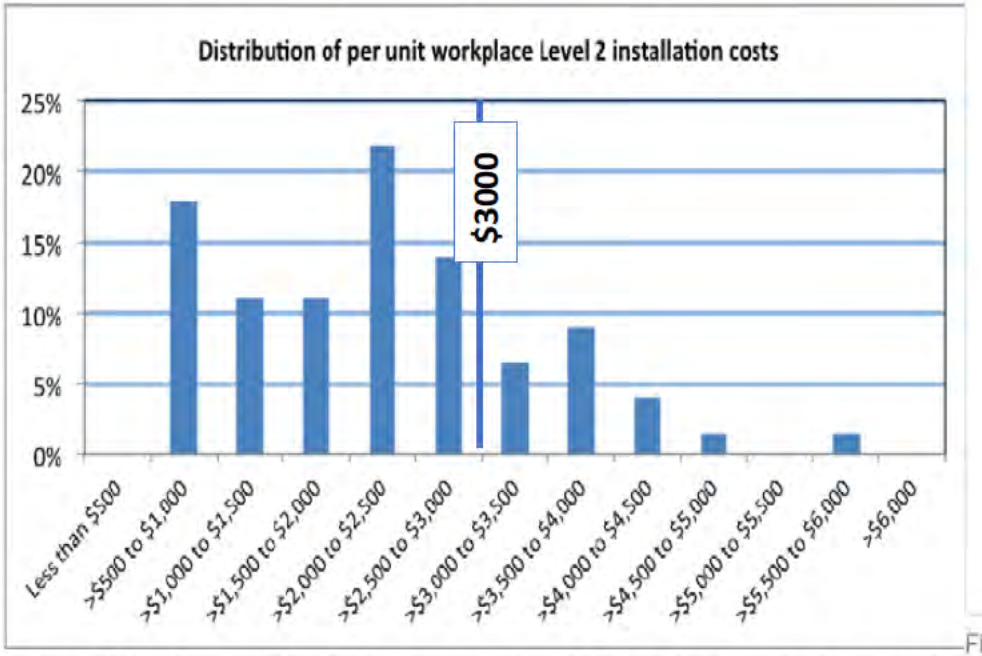


Figure 8. Distribution of EV Project per unit Level 2 workplace installation costs for 208 installations. *Graph from INL.*

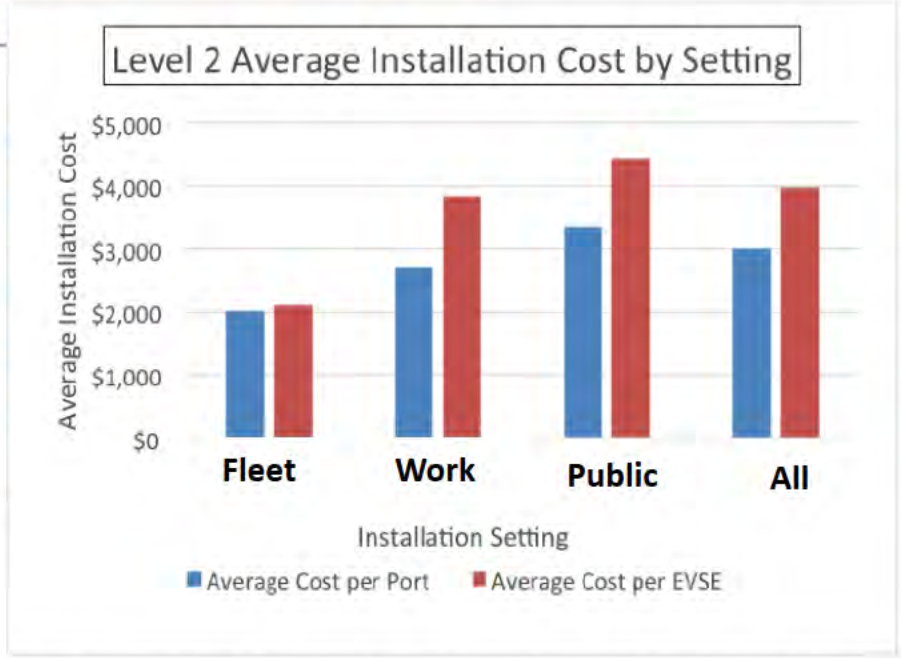


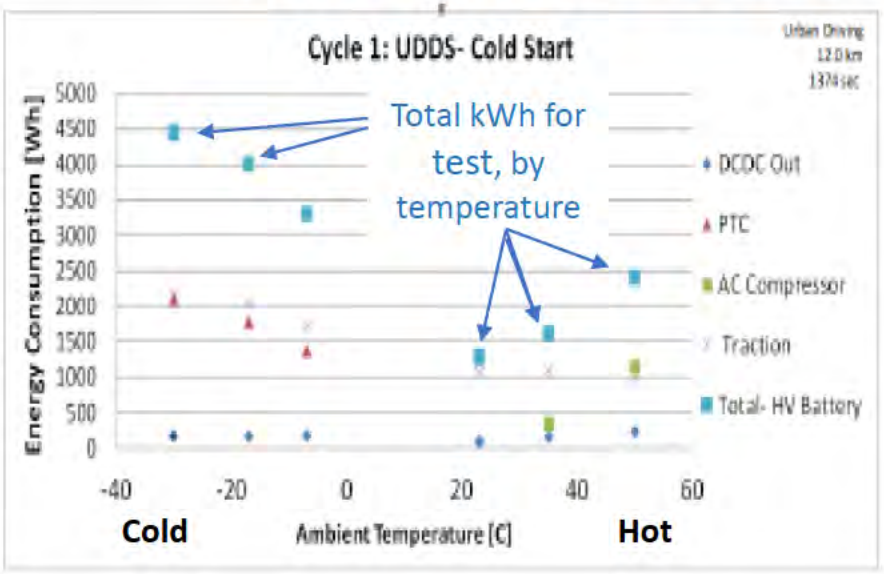
Figure 11: Level 2 installation cost by public, workplace, and fleet settings from EPRI study. *Graph from EPRI.*

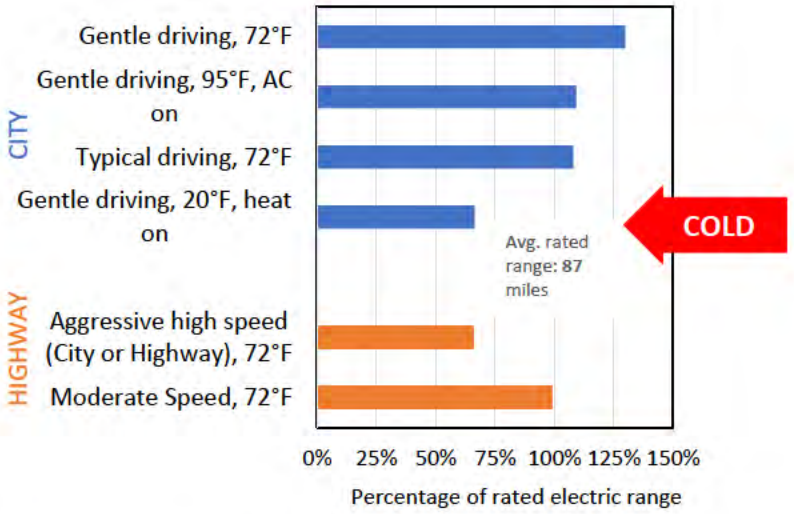
EV Project Experience

EPRI Study

Winter and summer kWh/mile needs for the daily commute will exceed published averages

More energy consumption per mile with heat or AC on leads to less range, and need for more kWh per commute





Argonne BMW i3 Tests (kWh per test)

Argonne Nissan Leaf Tests (range)

What are the major charging goals of employees?

- Be able to own a PEV
  (garage orphans – bigger problem in multi-unit dwellings)
- Save money on charging
- Charge to benefit the environment
  - Charging could seasonally and daily shift with the weather
  - “Catch the wind” by charging in early morning
  - “Soak up the sun” by extending charging later into the day

Professional judgement:
Increasing renewables use and saving money could be done synergistically if workplaces, utilities and utility commissions work together

Remember, one size does not fit all. Your employees' PEV kW & kWh desires can differ from your interests.

- PHEVs without enough range for a full day of travel want "topping up"
- Long range PHEVs can show up with differing kWh needs
  - If leaving the residence full, they won't be empty on work arrival
  - If they preferentially choose work to fill up, you can force (encourage) them to do some charging at home by "only" meeting commuting needs
- BEVs that have no residential charging (garage orphans) will want as much as they can get, especially if it is free.
- Long range BEV owners may want high power fast charging on site – consider this desire very carefully. Suggestion – leave it to others.

Provide only needed kW & kWh. Do not match PEV kW capabilities.

Hours parked at workplaces in day 2nd to residences at night. Combined with residential, needed kWh for PEV commuting can easily be provided, with timing flexibility.

- Be sure to increase hours of use of existing capacity and avoid installing seldom used kW of capacity
- Spread the charging out (and time it) to minimize (1) demand charges imposed by the utility and (2) EVSE construction costs on your property
- Use low kW charging. High kW charging is only needed at public charging locations where dwell time is much less than at the workplace and residence.
- Time charging to enhance use of renewables

Good luck.
We hope you can help PEVs succeed.

Supplemental Slides

Residential and workplace charging – making the environmental solution an economic solution

Timing and constraining plug-in electric vehicle charging for cost control and renewables capture

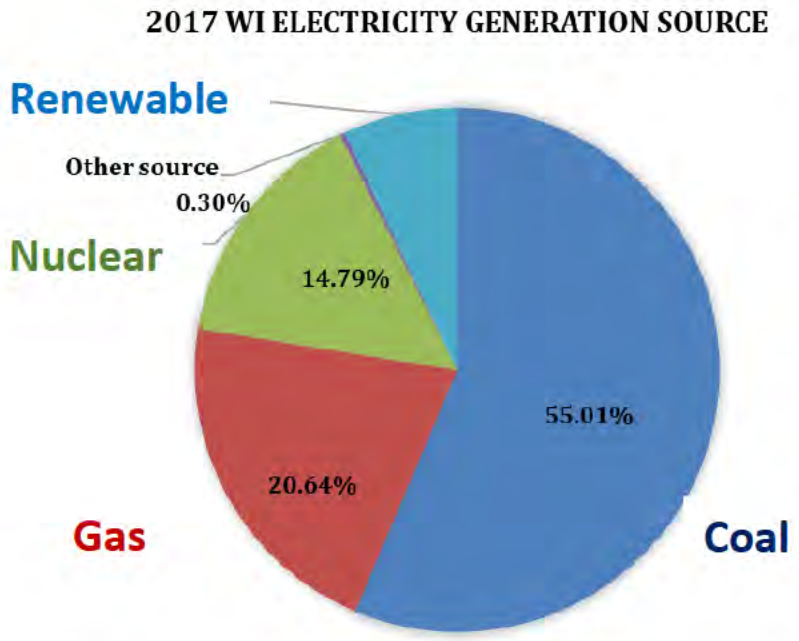
By D.J. Santini, Ph.D.
Retired Senior Economist. Argonne National Laboratory.

Presented at the Seventhwave
Get on the fuel efficiency fast track. Drive electric!
Continuing Education Workshops
Sept. 13 at Xcel Energy Sky Park, Eau Claire WI
Sept. 14 at Alliant Energy Headquarters, Madison WI

This is professional judgment & interpretation.

This is general business and engineering advice for near-term residential and workplace charging strategies. Cost analysis draws on sources available from DOE EERE AFDC & other websites.

The current mix of renewables in WI is small (but rising). Flexible PEV charging can "capture" wind & solar



2017 WI Generation Mix
Renewables ~ 7%

Renewables are being added

- **Climate change and favorable prices prompt Milwaukee and Dane County to join trend of governments investing in solar …** (Journal Sentinel, 4-23-18)
- **Alliant Energy, of Madison, is proposing to build a 150-megawatt wind farm … similar to the Cedar Ridge Wind Farm it owns …** (Wisconsin State Journal, 5-31-18)
- **Madison Gas & Electric and Wisconsin Public Service, of Green Bay, … will be partners in purchasing two solar energy projects … the biggest solar installations … throughout the Midwest** (Wisconsin State Journal, 6-1-18)

What kind of money are we talking about?

Average vehicle driven to work drives about 30 miles per day

Most efficient PEV (a BEV) uses 25 kWh/100 miles (Model 3 uses 26)

Least efficient BEV (BYD e6) uses 47. Porsche Cayenne PHEV uses 70 (10 kWh to fill).

0.25 kWh/mi x 30 miles = 7.5 kWh … 0.70 kWh/mi x 30 miles = 21 kWh

Alliant Energy General Service rate = $0.11/kWh (beware demand charge!)

Your minimum cost is about $0.83 to $2.31 per typical day per PEV served
Does not pay for your costs of installing EVSE (this could get very expensive)
Does not pay for on-peak charging (study the rates, watch the demand charge)

- **Rough estimate***: Yearly cost per vehicle including amortized installation costs (11 cents/kWh + Installation)
  PHEVs & BEVs allocated **~ 8 kWh/day** and using Level 1 charging at 1.4 - 2 kW
    - **$240 to $670/yr. per vehicle (12 cents/kWh to 34 cents/kWh)**

  BEVs & "guzzler" PHEVs of "garage orphans" allocated ~ **20 kWh /day** using Level 2 charging at 3 to 6 kW
    - **$650 to $2470/yr. per vehicle (13 cents/kWh to 49 cents/kWh)**

*Caution: these come from history of actually installed services. Demand charges are avoided. Those that cost more were not built. This creates "per vehicle" estimates using information from "Costs Associated With Non-Residential Electric Vehicle Supply Equipment" https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

Complication: Tesla charges at rear, most others at front. So … center the charge outlet.

Valley Hospital in Ridgwood, New Jersey, offers charging to employees in its parking garage. *Photo from Hyundai Motor America, NREL 41425*

An employee takes advantage of workplace charging for his PHEV. *Photo by Dennis Schroeder, NREL 35158*

Why might your employee PEV owners want workplace charging?

- No charging possible at their residence (BEVs or PHEVs)
- Extend daily operations on electricity (PHEVs mostly)
- Extend electric operations before weekend/vacation/recreation days
- Extend electric operations if using vehicle for daytime work purposes
- Obtain lower costs of electricity at work
- Charge at work selectively on sunny (or windy) days

Do you want employees who now want PEVs?

- They are likely highly educated
- They may be highly motivated
- The beginning wave is probably technologically savvy
- Does satisfying the desires of these employees significantly outweigh charging costs? (i.e. do you want to provide free charging?)
- Will a plan to provide charging attract/keep desirable employees?
- What features of a plan would prove attractive?
- What are the risks of poor execution of a plan?

Why do a few of your employees want PEVs?

- Environmental benefit
- Financial benefit (lower fuel cost)
- Vehicle performance (acceleration, quiet operation)

What story do you want to tell those employees interested in PEVs for the environment?

Workplace connections can allow a comfortable daytime departure in extreme temperature.

DANILO J SANTINI, PH.D.

OBJECTIVE

Assist young experts in guiding the electrification of transportation

EXPERIENCE

Employee of Argonne National Laboratory, Lemont IL, 1974-2018 (now retired)

1974-1979	Assistant Scientist Energy and Environmental Systems Division
1979–1991	Economist Energy and Environmental Systems & Energy Systems Divisions
1992-2008	Section Leader Center for Transportation Research, Energy Systems Division
2003-2018	Senior Economist: Systems Assessment Group, Energy Systems Division

CAREER HIGHLIGHTS

1985-86: Chair, Chicago Chapter of the International Association of Energy Economists.

1989-present: Member, Alternative Fuels Committee of the National Research Council Transportation Research Board. Chairman 1996-2002; now Emeritus.

2001-14: A Department of Energy technical representative for the U.S. to the International Energy Agency Implementing Agreement on Electric and Hybrid Vehicles. 2011-13: Chair, Task 15 on Plug-in Hybrid Electric Vehicles (5 nation study).

2008-09: Member, Transportation Research Board's Committee on Land Use, Vehicle Miles of Travel, and Energy.

2010: Awarded Society of Automotive Engineers' Barry McNutt prize for Excellence in Automotive Policy Analysis on Plug-in Hybrid Electric Vehicles.

2009-18: Co-author of series of publications on battery costs anticipating today's low cost of lithium ion battery packs. Publications also assess power vs. energy trade-offs of packs for hybrid electric, plug-in hybrid and all-electric vehicles.
Plug-in vehicle technical expert for Argonne's Clean Cities program.

1976-2018: Published over 250 reports, articles, book chapters and papers on engineering, economics, transportation, environmental, and public policy topics.

EDUCATION

1968 Bachelor of Architecture, Massachusetts Institute of Technology
1972 Masters of Business and Economics, Illinois Institute of Technology
1976 Ph.D. Urban Systems Engineering & Policy Analysis, Northwestern University

INTERESTS

Writing on the history of transportation technology transitions in the U.S.

E-MAIL [redacted]
[redacted] • WOODRIDGE, IL 60517-1768 • PHONE [redacted]

Vondra, Benjamin H - DOA

From: mge [redacted]
Sent: Friday, February 28, 2020 12:04 PM
To: VW Settlement Wisconsin
Cc: Branson, Debbie
Subject: MGE Response to Request for Information - EV Charging Station Grant Program - VW Mitigation Program
Attachments: MGE RFI Response EV Charging Station Grant-02282020.pdf

The following email is being sent on behalf of Debbie Branson, MGE's Manager Electrification – Energy Products and Services.

If you have questions, please contact Debbie at [redacted]

Thank you.

[redacted]
Madison Gas and Electric Company
www.mge.com

Madison Gas and Electric Company
P.O. Box 1231
Madison, WI 53701-1231
608-252-7000
your community energy company

February 28, 2020

Sent via email
vwsettlement@wisconsin.gov

VW Mitigation Program
Division of Enterprise Operations
Wisconsin Department of Administration
PO Box 7867
Madison WI 53707-7867

Subject: Madison Gas and Electric Company Response to Request for Information
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program

Good day,

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

Madison Gas and Electric (MGE) is an investor-owned electric and natural gas utility. MGE generates and distributes electricity to 153,000 customers in Dane County and purchases and distributes natural gas to 161,000 customers in seven south-central and western Wisconsin counties.

MGE offers programs and services to residential and business customers interested in transportation electrification. We began installing public charging stations in 2009, and currently own and operate almost 40 public charging stations in the Madison area. We also offer a single-family home charging program called Charge@Home. MGE also partners with businesses and developers that are interested in offering electric vehicle (EV) charging to employees and residents of multifamily properties. In addition to programs and services, MGE has launched a comprehensive outreach and education program to help customers understand the benefits of EVs and to help them determine if an EV is a good fit for personal or business use.

Contact: Debbie Branson, Manager Electrification
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

State, city and utility EV initiatives are influencing charging station implementation in other states.

Public DC fast charging may require higher amounts of funding to offset equipment and installation costs. Until more electric vehicles are on the road, there is not a strong business case for owning and operating a DC fast charging station. Multifamily and workplace charging projects could be funded at a lower share for a couple of reasons. First, Level 2 stations cost less to install and operate and make the most sense for multifamily and workplace locations. Second, utilities like MGE assist business customers and developers interested in installing stations for employee and resident use. Finally, many employers and multifamily property owners are already seeing the value to their employees and tenants of on-site charging and are offering this service proactively. Allocating smaller funding amounts to more applicants may be a better use of grant dollars.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

MGE recommends the state choose locations after applications are received and reviewed. Determining locations in advance might prohibit the state from awarding funding to viable projects that help drive EV adoption.

Grant applicants can offer valuable insight on EV charging needs in their community, city or county.

Guidelines might be helpful. For example, consider awarding funding for multifamily EV charging in areas with a higher preponderance of apartments and condos. As mentioned earlier, DC fast chargers should be located along major highway and interstate corridors. Coordination with Electrify America, utilities and the DOE is recommended to avoid redundancy. Funding should not be allocated for public charging projects where a robust charging network already exists. DC fast chargers also work well in cities where ride and car sharing services are popular.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)? Electric Vehicle Charging Station Grant Program RFI Page 5 of 5

Similar to above, MGE recommends the state award funding based on project merit. EV adoption and charging infrastructure deployment is still in the nascent stages, and we should avoid being too prescriptive on the front end.

MGE believes funding for Level 2 public charging stations may lead to underutilized assets as most EV drivers are now charging at home and at work. This downward trend is confirmed by data from MGE's charging station network and is expected to continue as battery capacity increases and drivers can drive farther on a single charge.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

MGE recommends the state consider two rounds of funding, approximately 9 to 12 months apart. The EV market is evolving rapidly. In late 2020 and 2021, more vehicle choices such as pickups and large trucks will be available to fleets. The first round could focus on installing infrastructure to encourage electrification of personal vehicles. In round two, businesses could apply for funding to support electric fleet vehicles.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

Drivers sign up for a ChargePoint account and pay an hourly fee (assessed by the minute) to charge at MGE-owned stations. The cost is $2 per hour at Level 2 charging stations and $5 per hour at DC fast chargers. MGE has created an EV Owners Group. Members agree to allow MGE to view their charging habits and to know which vehicles they drive. In exchange, drivers receive a 50% discount for sharing their data.

In the future, interoperability and open charging standards are important considerations. Site hosts should be able to switch network providers without replacing their charging stations when the contract has expired. This will ensure a positive customer experience. Drivers are accustomed to paying for fuel with a credit card, Apple Pay, Google Pay or similar payment method. Today, most station operators require drivers to open an account and pay with an RFID card or app.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

MGE recommends installing Level 2 charging stations predominately at multifamily properties and workplaces. Level 2 public stations might also be considered for long-dwell locations like hotels, parking garages, and park and ride lots used by commuters.

DC fast chargers should be installed on major highway and interstate corridors to promote EV use for long distance travel or in city centers to support ride and car sharing. In addition, DC fast chargers should be located near amenities like a restaurant or coffee shop, so drivers can feel safe and have something to do while charging.

12. What options exist for funding EV charging stations?

Charging stations are eligible for a tax credit of 30% of the cost, not to exceed $30,000, through the Alternative Fuel Infrastructure Tax Credit. MGE partners with developers and businesses to install charging stations for residents and employees. MGE also has partnered with many site hosts to install up to 40 public charging stations in the MGE service territory.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, light-duty fleet operators may lack capital to purchase stations as charging infrastructure would not be a planned budget item. However, businesses face hurdles like up-front cost and model availability that are more likely to delay fleet electrification. Charging stations may not necessarily be the biggest barrier. Fleet operators can be targeted through utility account managers, Chambers of Commerce, and business organizations and associations.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

MGE has been installing public charging stations since 2009 and currently owns and operates nearly 40 public stations, including four DC fast chargers. Level 2 charging stations are located in parking ramps

and on city and private property. We've tried to select locations that offer a service so drivers can engage in other activities while charging their vehicles. DC fast chargers are placed on highway corridors to reach drivers commuting to Madison or in city centers. It can be difficult to site public charging stations as hosts have concerns over parking and are reluctant to make spots EV-only parking. Partnering with national chains also can be challenging because they often prefer consistency across all locations.

Multifamily developers are very interested in partnering with MGE to install charging stations. Developers consider on-site charging an amenity that keeps them competitive and attracts and retains residents.

Business customers also are interested in workplace charging for employee attraction and retention. Workplace charging can have challenges as well with concerns over fairness given the percentages of employees who own EVs at this time.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

Station Level	Location	Cost range estimate Low $	High $
2	Workplace or multi-unit dwelling, surface lot	$	$
2	Workplace or multi-unit dwelling, multi-level structure (e.g. urban parking garage)	$	$
2	Public surface parking lot	$	$
2	Fleet location (e.g. supporting municipal light duty EV fleet)	$	$
3 (DCFC)	Adjacent to highway corridor (e.g. convenience store near highway interchange)	$	$
3 (DCFC)	Urban area (e.g. parking lot within city or village commercial area)	$	$
3 (DCFC)	Destination site (e.g. tourist attraction)	$	$

Workplace, fleet and multifamily Level 2 non-network stations: $500 to $1,500.
Network stations: $2,000 to $6.000. Installation costs will vary greatly based on local site conditions.

Installed Level 2 public charging stations: $25,000 to $35,000

Installed DC fast chargers: $75,000 to $150,000 and up

Installation costs are difficult to estimate as each site is different.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

Fast charging technology is improving, and drivers will soon be charging in 10 minutes or less. Electrify America has installed 150-kW and 350-kW stations in Madison. Higher-power stations cost more to install and operate. Site hosts need to work with their utility to understand utility rates, including demand charges. Access to a well-planned fast charging network is key to allowing EVs to travel long distances as well as being used for shared mobility like ridesharing, taxis and shuttles.

As mentioned earlier, it's extremely important to enable home charging. MGE Charge@Home participants (about 75 are enrolled) use more energy than about 1,500 drivers using our public charging stations. As battery capacity increases, MGE expects even more charging will occur at home and work if those options exist.

Utilities play an important role in electrifying transportation in Wisconsin. MGE has been installing and owning public charging stations since 2009 to help jump start the market and to better understand how EV charging and drivers' charging habits impact our grid. Private businesses may be reluctant to offer this service to customers because they are not seeing a high demand for on-site charging at this time. Utility investments can help grow the market, along with third-party providers, opening opportunities for private investment.

As a good example, the California Public Utility Commission (CPUC) banned utilities from investing in EV charging infrastructure in 2011. In 2014, CPUC reversed this decision as stimulating the market for public charging infrastructure proved to be extremely difficult. CPUC argued that utilities are well-positioned to "accelerate the PEV infrastructure market [and] can improve the business case for third parties."

Finally, utilities can bring value to all customers, not just EV drivers, by offering managed charging programs. If utilities can initiate charging when renewable energy is available or energy prices are low, all customers could benefit from lower costs long term.

Vondra, Benjamin H - DOA

From: Knudtson, Jennifer [redacted]
Sent: Friday, February 28, 2020 1:16 PM
To: VW Settlement Wisconsin
Cc: Wozny, Rob
Subject: Alliant Energy RFI Response - EV Charging Station Grant Program
Attachments: RFI Electric Vehicle Charging Station Grant Program - Alliant Energy Response.pdf

Good Afternoon,

Attached please find the Alliant Energy response to the RFI for Electric Vehicle Charging Station Grant Program.

Thank you for the opportunity to provide feedback on how the Wisconsin VW Mitigation Trust funds are spent with regards to EVCS deployment.

We welcome any questions and look forward to seeing how the state proceeds with implementing the EVCS grant program.

Regards,
Jenn

Jennifer Knudtson | Customer Program Market Analyst

Alliant Energy
200 First Street SE | Cedar Rapids, IA 52401
Office [redacted]
alliantenergy.com | jenniferknudtson@alliantenergy.com

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

Rob Wozny, Product Manager Electric Transportation – Alliant Energy Corporation
[redacted] [redacted]

Interstate Power and Light (IPL) and Wisconsin Power and Light (WPL) utility subsidiaries of Alliant Energy Corporation has sponsored a shareholder-funded transportation electrification pilot program since 2016. The program offers rebate incentives for residential and non-residential customers as well as EV education and outreach. We are also taking the initiative to transition our fleet to electric vehicles/equipment and encouraging employee adoption of electric vehicles.

The electric transportation team is a member of the following:

- Electric Power Research Institute:
  - Transportation Advisory
  - Non-Road Electrification Advisory
  - Transportation Electrification Program Advisory
  - Infrastructure Working Council
  - Bus and Truck Working Council
- Alliance for Transportation Electrification:
  - Policy and Regulatory Committee
  - Technical and Open Standards Committee
  - Road Use Charge Task Force
  - Education and Outreach Subcommittee
- Smart Electric Power Alliance:
  - Electric Vehicle Working Group
  - Heavy Duty Working Group
  - EV Subcommittee - Distribution Planning
  - EV Subcommittee - Fleet Electrification
  - EV Subcommittee - Managed Charging/V2G
  - EV Subcommittee - Rates, Incentives, and Tariffs
- Edison Electric Institute:
  - Electric Transportation and Smart Communities EAC Subcommittee
  - Electric Transportation Working Group
- Atlas EV Hub:
  - State EV Registration work group
  - Electric Utility filings work group
  - Medium and Heavy-Duty Vehicle work group
  - VW Settlement work group
- Wisconsin Clean Cities
- National Renewable Energy Laboratory
  - Mega Watt Plus Multiport Medium Duty/Heavy Duty electric truck and bus charging industry engagement work group

2. Describe your experience and observations with how other states are implementing EVCS programs.

States are enacting legislation or implementing other methods to help fund the installation of EVCS. Some examples include:

- Hawaii enacted a bill creating incentives to build out a more robust electric vehicle infrastructure that will make electric vehicles a viable option for more consumers.
- Colorado passed a bill creating an electric vehicle grant fund. The fund provides grants to various identified groups to install charging stations for electric vehicles.
- The Colorado Energy Office and Regional Air Quality Council provide grants through the Charge Ahead Colorado program to support PEV and EVSE adoption by individual drivers and fleets.
- The Alabama Department of Transportation will administer the Electric Transportation Infrastructure Grant Program to distribute grants for EVSE across the state.

- The Connecticut Department of Energy and Environmental Protection provides funding to municipalities, state agencies, and private businesses for the cost and installation of eligible EVSE.
- The Vermont State Infrastructure Bank offers loan assistance to various identified groups to finance public electric vehicle charging stations.
- In Georgia an Electric Vehicle Supply Equipment (EVSE) Tax Credit is available. An eligible business enterprise may claim an income tax credit for the purchase or lease of qualified EVSE provided that the EVSE is located in the state and accessible to the public.

To date 47 states have committed to using VW Settlement funds to implement EVCS related programs. Links to a few state VW Settlement funding sites are included below:

- IA - https://iowadot.gov/vwsettlement/default.aspx
- NH - https://www.nh.gov/osi/energy/programs/vw-trust-funding.htm
- VT- https://accd.vermont.gov/community-development/funding-incentives/electric-vehicle-supply-equipment-evse-grant-program
- ID - http://www.deq.idaho.gov/vw-settlement
- MA - https://www.mass.gov/guides/volkswagen-diesel-settlements-environmental-mitigation
- RI - http://www.energy.ri.gov/electrifyri.php

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

In addition to the Alliant Energy program already mentioned, there are several other utilities in WI with programs supporting EVCS installation and EV adoption, including:

- Central Wisconsin Electric Coop – Complimentary EV Level 2 charging station
- MG&E – Charge @ Home Level 2 charging for residential customers. Own and maintain public charging stations including DCFC and provide charging infrastructure for three of Madison Metro's electric buses.

There are several other companies installing EVCS in Wisconsin including:

- EVgo – Largest public fast charging network for electric vehicles in the country. EVgo owns and operates more than 750 fast charging locations and more than 1,000 Level 2 chargers in 66 metropolitan markets. Currently has 8 charging outlets in Wisconsin.
- Electrify America – Owns and manages a network of electric vehicle charging stations in the United States. Currently has 23 charging outlets in Wisconsin.
- Tesla – Large network of Supercharger Stations throughout the United States. Currently has 83 charging outlets in Wisconsin.
- ZEF Energy – Works with cities, utilities, non-profit, and for-profit partners to provide increased availability of reliable and cost-effective electric vehicle charging network across the Midwest.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

As of 2019, Alliant Energy Corporation owns 9 plug-in hybrid electric vehicles and 1 battery electric vehicle in our fleet. As part of our fleet, we also operate the following equipment: 41 hybrid electric aerial bucket lifts; 36 electric forklifts; 5 electric ATVs; and 2 electric line pullers.

As fleet vehicles and equipment come up for replacement (utilizing our normal duty cycle guidelines) the first consideration is to replace the vehicle with a plug-in electric option, provided the electric option meets

the operational needs. In addition, we are continually working with original equipment manufacturers (OEMs) to assess new technology and vehicles as they come to market to determine if they would be a good fit for our fleet use.

When possible, the vehicles are charged utilizing DCFC and Level 2 charging stations located at our internal facilities. When travelling, there are times when we do utilize publicly available DCFC and Level 2 charging stations.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

In an effort to engage a variety of funding participants, while also providing equal and equitable access to charging stations for as many EV drivers as possible, we recommend allocating the funds as follows:

Non-government owned property	50%
Workplace	30%
Government owned property	10%
Multi-unit dwelling	10%

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

Maximum VW funding share of EVCS eligible project costs

Site Location or Type	Available to the public	Not available to the public
Private residential dwelling other than multi-unit dwelling	0%	0%
Workplace	80%	60%
Multi-unit dwelling	80%	60%
Government owned property	100%	60%*
Non-government owned property	80%	60%*

*Assumes the property is a workplace or multi-unit dwelling

Research has shown that installation of public charging infrastructure does indeed increase EV adoption. It is our experience that without a significant reduction to the upfront cost, installation of charging infrastructure will slow the place while also pushing other interested site hosts out of the market. Therefore, it is our recommendation that the maximum cost share allowed by the State Trust Agreement be provided to each of the groups. At the same time, we recommend a maximum dollar threshold be established for each site location to encourage maximum participation for each location type.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

For both DCFC and Level 2 charging stations, some criteria that should be taken into account including: site host readiness, quality of site, emissions impacts, past experience, long-term goals, innovative thinking, traffic volume, EV adoption rates. The VW Mitigation Program can further define the parameters

of each criteria. The VW Mitigation Program should then prioritize locations based on scoring criteria to ensure the funding is spent most efficiently.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

Yes, based on the larger equipment and installation cost for DCFC, we recommend 75% of funding be spent on DCFC, leaving 25% of funding for Level 2.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

We would recommend having three rounds of funding with the following focus areas:

- Round 1: DCFC charging along travel corridors where none exists currently
  - x miles from cities on major highways (enables travel between cities/small communities)
  - Highest funding available, most accessible, most needed
- Round 2: Publicly available DCFC and Level 2 charging (includes cities & municipalities)
  - Middle funding available, less location specific, still accessible to the public
- Round 3: Workplace, multi-family Level 2 charging (includes low income housing & services)
  - Lower funding available, most location specific, less accessible

This allows for the opportunity to invest funds where they are most needed and most accessible first. As vehicle and equipment prices fall and become more affordable, this allows for more time to identify multi-family, workplace and low-income specific locations for funding opportunities.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

Alliant Energy fleet vehicles are periodically charged at publicly available charging stations utilizing a software specific phone application (linked to a company credit card) or for stations with a credit card reader available, a company credit card is swiped to pay for charging.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

Alliant Energy recommends a combination of DCFC and Level 2 charging stations be placed along major highway and travel corridors (no more than 1 mile from major highway). DCFC charging sites must be located at 50 mile or less intervals along major travel corridors. This will alleviate range anxiety for electric vehicle owners travelling longer distances either within or across the state.

In addition, we recommend Level 2 charging stations be placed at city centers, workplaces, multi-unit dwellings, etc. to cover the typical daily commute and travel needs which averages 35 miles.

Additional criteria for public charging station locations include: 24x7 access, access to shelters and restrooms, safe, and well lit.

12. What options exist for funding EV charging stations?

Specific utility funding may be available based on location. As an example, Alliant Energy offers a rebate for commercial, community and multi-family customers looking to install a Level 2 EV charging stations.

Other sources of funding include state and federal grants and subsidies, and third-party investments for charging stations.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, offering an EVCS grant could encourage light-duty fleet operators to adopt plug-in electric vehicles into their fleets. As part of the application process, fleet operators should be required to submit their fleet management plan that outlines how they will make their electric vehicle transition. Additional criteria could be added to the application and scored accordingly by the VW Mitigation Program.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

Alliant Energy is involved in installing EVCS. By the end of 2021 we will have over 50 dual port Level 2 and 10 DCFC charging stations at various Operations locations in both Wisconsin and Iowa that will be available to our internal fleet vehicles. We have also worked with several communities to install Level 2 and DCFC charging stations.

High level charging station installation process:

1. Identify partner within a specified community OR partner reaches out to Alliant Energy directly
2. Identify scope and conceptual approach (number and type of chargers)
3. Select a hardware and software vendor
4. Complete electrical design/requirements, layout, aesthetic decisions – work with local utility and electrical contractor
5. Execute any required agreements outlining requirements for both stakeholders
6. Order charging station(s)
7. Utility completes any necessary electrical service upgrades up to and including the meter
8. Electrical contractor completes behind the meter work including charging station installation
9. Work with hardware and software provider to test and activate charging station(s)
10. Publicize charging station availability online at various sites

Some barriers we have encountered include:

- Cost constraints
- Power availability
- Distance from power
- Obtaining necessary easements
- Site conditions
- Securing parking spots
- Keeping parking spots maintained and free from debris, snow, etc.
- Weather
- Signage

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

Equipment costs are highly dependent on manufacturer and power delivery level. Estimates do not include taxes, permitting fees, software, insurance, data service fees, surface restoration costs and maintenance.

High-level estimates:

Equipment:

- Level 2 (cost per port):
  - Non-networked: $1,200
  - Networked: $3,000
- DCFC (cost per port): $25,000 - $150,000 (varies based on power level)

Installation:

- Level 2 (cost per port):
  - Non-networked: $1,200
  - Networked: $3,000
- DCFC (cost per port): $25,000 - $150,000

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

Some additional items for consideration include:

- Disadvantaged & low-income program parameters
- Education, advertising & signage
- Hardware/software specifications
- Safety considerations
- Pricing to end-user
- User support
- ADA compliance
- Product warranties
- Utility grid impacts
- Host site economic impacts
- Reporting and data monitoring requirements
- Construction/funding award timelines
- Defining eligible vs. ineligible costs

Vondra, Benjamin H - DOA

From: Tom Hanrahan [redacted]
Sent: Friday, February 28, 2020 1:27 PM
To: VW Settlement Wisconsin
Cc: Jim Schwingle; Jake Oelke
Subject: WPPI Energy response to Request for Information
Attachments: 368832 - Wisconsin DOA Information Request - VW Settlement -WPPI Response.DOCX

Attached please find WPPI Energy's response to the Department of Administration's RFI regarding the Electric Vehicle Charging Station Grant Program.

Tom Hanrahan
General Counsel

WPPI Energy
1425 Corporate Center Dr.
Sun Prairie, WI 53590
[redacted]
www.wppienergy.org

WPPI Energy
Response to Request for Information
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program
February 28, 2020

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics

   RESPONSE: WPPI Energy (WPPI) is a Wisconsin municipal electric company that provides wholesale power and related services to community-owned electric systems, including 41 municipal electric utility members in Wisconsin[1], 7 in the Upper Peninsula of Michigan, and 3 in Iowa. WPPI's Wisconsin members are located geographically throughout the State, predominantly in rural areas. The communities they serve range in population from about 1,100 to 33,000. WPPI and its members have been working together to develop tools and programs that respond to significant customer interest in EV technology in member communities. We agree that a robust statewide charging network is key to advancing broad EV adoption, particularly in more rural parts of the State.

   WPPI's primary contact for EV and EVCS topics is Jim Schwingle, WPPI Senior Energy Services Representative/Program Coordinator; [redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs

   RESPONSE: WPPI's members in Iowa and Michigan have coordinated on the development of EVCS programs implemented in their respective states. The Iowa Department of Transportation administers a Volkswagen Settlement Environmental Mitigation Trust funding program for EVCS. The Iowa Zero Emission Vehicle Supply Equipment's funding cycle 1 has $900,000 available for DCFC (Direct Current Fast Chargers) and $200,000 for Level 2 community charging sites. The DCFC's are required to be along the I-35 or I-80 corridors. Government agencies can apply for up to 90% funding ($180,000 maximum for DC charges and $15,000 for Level 2 chargers). All other applicants are eligible for 80% funding ($15,000 max for DCFC and $14,000 for Level 2 chargers). The funding cycle application deadline was February 17, 2020.

   The State of Michigan completed a study to decide where to target fast chargers. The goal of the study was to pick locations that would allow coverage of high travel corridors for travelling with an electric vehicle. They have chosen 75 locations for fast chargers; proposed EV fast

[1] WPPI's Wisconsin Members are: Algoma, Black River Falls, Boscobel, Brodhead, Cedarburg, Columbus, Cuba City, Eagle River, Evansville, Florence, Hartford, Hustisford, Jefferson, Juneau, Kaukauna, Lake Mills, Lodi, Menasha, Mount Horeb, Muscoda, New Glarus, New Holstein, New London, New Richmond, Oconomowoc, Oconto Falls, Plymouth, Prairie du Sac, Reedsburg, Richland Center, River Falls, Slinger, Stoughton, Sturgeon Bay, Sun Prairie, Two Rivers, Waterloo, Waunakee, Waupun, Westby and Whitehall

charger sites must be within 5 miles of the chosen locations. The Charge Up Michigan program allows grants of up to $70,000 for Level 3 DC Fast Chargers (minimum 50 kW) that are for public use. The installed cost is shared in thirds by the grant, the utility and the applicant. A total of $9.7 million is available for distribution in two phases over the next three years.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

   RESPONSE: WPPI developed a program that is utilized by a growing number of its member utilities to offer Level 2 charger incentives for residential customers and commercial customers. The program is designed to increase awareness of EV technology, and to help ensure that early adopters of EVs have a positive charging experience that they share with other customers. The charges must be Energy Star rated and the incentives range from $250 to $2000 depending on customer class and charger type. The maximum customer incentive is 50% of the installed cost of the EV charger.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is (are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

   RESPONSE: WPPI Energy owns two electric vehicles; a 2017 Chevy Volt plug-in hybrid and a fully electric 2017 Chevy Bolt. These cars are mainly operated for staff usage and as demonstration vehicles. They have been used many times for electric vehicle events at our member utilities. The vehicles are typically charged at our headquarters where they are stored. WPPI-owned level 2 chargers provide the majority of charging when the vehicles are parked at WPPI. Charging also takes place off site depending on where the vehicles are being driven.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

   RESPONSE: The grant program should fund only publicly-accessible EVCS installations at government owned and non-government sites. Additionally, the program should prioritize locations where grant funds are most apt to spur EVCS projects that would not be built in the absence of such funds. For example, rural communities are more likely to lag more highly populated communities in deployment of EVCS, yet would still significantly utilize them. Including rural Wisconsin in the broad network of public charging infrastructure is key. Geographic disbursement of grants should be a priority considered by the State.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should

the program fund EVCS projects at a share lower than the maximum, with the goal of maximizing leveraged funds?

RESPONSE: The program should not fund EVCS projects at the maximum cost share, and project developers should contribute to project costs directly or through other funding resources in all cases. WPPI suggests no more than 50% funding for non-government projects that are publicly available, and no more than 75% funding for government projects that are publicly available. If non-publicly available projects are funded, WPPI suggests no more than 33% funding. Requiring project owners to contribute a portion of project costs is appropriate, and not likely to be a barrier to full utilization of EVCS grant funding. Cost sharing will also increase the number of projects that can ultimately be installed.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation program determine or prioritize locations? Should grant applicants determine or prioritize locations?

   RESPONSE: The program should provide funding for a wide variety of location types, while focusing on locations accessible and available to the public in areas that are most highly travelled. For example, in rural communities, downtown areas should be prioritized, as well as areas adjacent to the State highway system. The program should also prioritize geographic diversity, funding projects throughout Wisconsin.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

   RESPONSE: DCFC chargers should receive priority. A split that resulted in 60% of the chargers funded being DCFC and 40% of the chargers funded being L2 would be appropriate. This split would appropriately result in significantly more than 60% of the total program dollars being spent of DCFC chargers given that they cost substantially more than L2 chargers.

9. Should the State offer multiple rounds of funding over time? If so, how many rounds of funding should the State consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

   RESPONSE: WPPI supports multiple rounds of funding, with all applicant types and all charger types being included at least in the first round. This would allow the State to evaluate the success of program funding each round and allow adjustment in future funding rounds for eligible applicant and technology types, as well as geographic disbursement of funding, to ensure that in the end, program goals and targets are met and that one applicant type, charger type or geographic region is not over or under-represented.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

RESPONSE: WPPI's EVs are most frequently charged by L2 charges located at WPPI's office and operations facility.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

    RESPONSE: Please see comments in response to questions 7-9.

12. What options exist for funding EV charging stations?

    RESPONSE: WPPI believes it is appropriate that electric utilities opt to (i) partially fund EV charging in their respective service territories; and (ii) fund, own and operate EV charging stations. Some municipal utilities already own public charging infrastructure, and we expect that utilities and local governments will increase efforts to ensure sufficient charging in their communities, supporting local economies, businesses and tourism. Particularly in more rural parts of the State, municipal government and utility participation in funding and siting of EVCS systems is a key to realizing a robust statewide charging network.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

    RESPONSE: As noted in WPPI's responses to questions 5 and 6 above, WPPI believes that EVCS installations that are accessible by the charging public should be prioritized. If the State funds non-public, light-duty fleet operators, WPPI suggests that a limited number be funded as demonstration projects.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

    RESPONSE: WPPI is not involved in installing EVCS.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

    RESPONSE: WPPI defers to other responders' expertise in answering this question.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

    RESPONSE: WPPI's responses to questions 1-15 reflect WPPI's entire response at this time.

Vondra, Benjamin H - DOA

From: Corey Singletary [redacted]
Sent: Friday, February 28, 2020 1:58 PM
To: VW Settlement Wisconsin
Cc: Tom Content
Subject: Comments of the Citizens Utility Board on the VW mitigation program grant RFI
Attachments: CUB Comments on the DOA RFI.pdf

To who it may concern,

Please see the attached comments of the Citizens Utility Board.

Corey Singletary
Utility Analyst
Citizens Utility Board of Wisconsin
[redacted]

SUBMITTED TO THE
STATE OF WISCONSIN DEPARTMENT OF ADMINISTRATION

Volkswagen Mitigation Program - Electric Vehicle Charging Station Grants, Request for Information

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COMMENTS OF THE CITIZENS UTILITY BOARD
February 28, 2020

The Citizens Utility Board provides the following comments in response to the Department of Administration's request for information regarding the electric vehicle charging station grant program administered under the Volkswagen Mitigation Program.

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

The Citizens Utility Board (CUB) is an independent, non-partisan, non-profit organization that serves as the statewide consumer advocate for residential and small business customers of Wisconsin's regulated public utilities.

CUB Contact Information:

Corey Singletary, Utility Analyst
Citizens Utility Board of Wisconsin
6401 Odana Road, Suite 24
Madison, WI 53719

2. Describe your experience and observations with how other states are implementing EVCS programs.

Through its membership with the National Association of Utility Consumer Advocates, CUB has had the occasion to discuss EVCS programs across the country. It is CUB's experience that EVCS programs largely fall into the following high-level categories:

- Public utility programs:
    - Distribution system make-ready programs
    - Endpoint EVCS installations
- Statewide policy programs:
    - EVCS installation incentives/rebates (e.g. Maryland EVCS installation rebate)

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

CUB is aware of a handful of programs targeted at EVs either currently implemented, or under review by the Public Service Commission (PSC), that are managed by Wisconsin public utilities. Madison Gas & Electric Company (MGE) currently owns and operates a public-use EVCS network. MGE also offers in-home level-2 (L2) charger installations as a utility service and has a dedicated marketing and informational campaign targeted at EV owners and prospective owners aimed at increasing awareness of beneficial utility rate offerings, as well as the benefits of EV ownership generally. Wisconsin Power & Light Company (dba Alliant Energy) currently owns and operates a set of demonstration EVCS installations at its corporate headquarters in Sun Prairie. These charging stations are open to use by the public and are used by the company to collect research data about EV charging. Northern States Power Company – Wisconsin (dba Xcel Energy) has proposed two EV targeted programs that are currently under review by the PSC. One is a residential L2 charger installation program that is similar to that currently offered by MGE. The second is a program that would lower the up-front cost paid by utility customers that are seeking to install EVCS. Other programs have been proposed by other Wisconsin utilities but have been rejected by the PSC.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are)

charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

No. CUB does not currently own an EV and has no plans to purchase one for organizational use in the next year

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

CUB believes that the EVCS grant program should be targeted at funding EVCS installations and/or related infrastructure (e.g. utility distribution extensions or upgrades necessary for EVCS) that provide the greatest access to EVCS to the driving public. In particular, the EVCS program should seek to develop a statewide network of DC fast chargers (DCFC) that would facilitate long-distance driving along common travel routes so as to alleviate range-anxiety/limitations. This would serve two primary goals: (1) to allow a wider range of electric vehicle types to be used for more than local commuting/service routes, and (2) to leverage the EVCS grant funding, rather than utility ratepayer funds, to cover the high up-front cost of DCFC, for which the greatest chicken-egg infrastructure development challenge exists.

The installation of L2 chargers at locations such as workplaces may contribute to the development of an effective statewide EVCS network, but priority should be given to high traffic, destination or "rest stop" locations accessible by the greatest number of EV drivers, rather than locations that would primarily benefit residents or tenants of a single location, even if the latter would facilitate a greater absolute increase the number of EVs in that local area as compared to a more public location. Additionally, L2 chargers are significantly more affordable and are attractive to private investment.

Given the above, CUB believes that a natural prioritization of locations is: non-government owned property and government property, then multi-unit dwellings and

workplaces. However, CUB believes that a greater emphasis should be placed on strategic siting rather than the specific host location type when prioritizing EVCS projects funded by the grant program.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

Consistent with CUB's comments on question #5, CUB believes that rather than adjust the maximum funding level by location, grant funding share should be scaled so as to provide the greatest support for strategically located, high-value, high-cost EVCS (e.g. DCFC) located along travel corridors and a lower share to L2 chargers located at workplaces and multifamily properties. Specifically, CUB believes that a maximum funding level of 70 percent for DCF chargers installed at non-government property may be appropriate at this time, with DCFC installed at government owner property eligible for 80-90 percent of project cost so as to encourage innovative cost sharing approaches. L2 charger installations should be capped at a lower level.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

Consistent with CUB's response to questions 5 and 6, CUB believes that the VW Mitigation program should prioritize EVCS locations, and should place the highest priority on locations along common long-distance travel corridors and high traffic, destination or "rest stop" locations accessible by the greatest number of EV drivers. The grant program should identify high-priority geographic locations but should also allow applicants to propose alternate locations that may satisfy the same program goal.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

Funding should be split based on charger type. A statewide DCFC network is critical to allowing wide range of EVs to expand beyond primarily local use cases. However, DCFC has a significantly higher up-front cost, both from an equipment standpoint, as well as from a utility make-ready cost standpoint. Moreover, while private DCFC investment may become attractive once there are a significant number of EVs on Wisconsin's roads and highways. with the currently low level of EV adoption DCFC is currently not attractive for private investment. As such funding should be prioritized towards DCFC.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

Rapid, strategic, statewide deployment of EVCS should be the priority of the grant program. While this could be achieved through a single round of funding, there may be opportunities for lessons-learned or other efficiencies by utilizing multiple rounds. Effective use of funds should be the guiding principle when determining if multiple rounds of funding are to be offered and if rounds should have a particular focus.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

N/A

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

CUB believes that DCFC EVCS should be targeted primarily at highway corridors. However, there may be opportunities to facilitate long-range EV usage through installations in city centers with popular destinations, as well as at colleges or universities with a large commuter student enrollment.

12. What options exist for funding EV charging stations?

N/A

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Likely, yes. It is CUB's understanding that most prudent light-duty fleet operators are considering a transition to EVs due to the lower total cost of ownership. However, EVCS installations targeted at light-duty fleets would likely only benefit those fleet operators due to the location of such charging equipment. As such, CUB believes that light-duty fleets should be targeted by the grant program only if the EVCS installations would provide broader public benefits. Specifically, only light-duty fleet installation proposals that would work with the local utility to provide vehicle-to-grid services, or other managed-charging/use that would benefit the electric grid, should be funded. Light-duty fleet EVCS could also receive funding if the grant applicant could demonstrate that the installation would be publicly accessible and located in strategic locations relative to travel corridors.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

N/A

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

N/A

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

A transition of Wisconsin's vehicle fleet to EVs stands to provide significant environmental benefits. EVs may also provide benefits to electric utility customers through efficient utilization of the electric grid if deployment of EVCS is accompanied by charging management programs and technologies. However, EVs and EVCS installations carry a

significant risk of increasing costs to utility customers if not deployed properly. In particular, the high up-front cost of DCFC and remotely located charging systems may be unfairly borne by all utility customers. As such CUB believes that the VW Mitigation grant program provides a unique opportunity to invest in the EVCS network and infrastructure Wisconsin will need to support EVs for decades to come without unfairly burdening utility customers with those costs.

Dated this 28th day of February, 2020.

Respectfully Submitted,

6401 Odana Road
Suite 24
Madison, WI 53719
[redacted]

By: */s/ Corey Singletary*
Utility Analyst for Citizens Utility Board

Vondra, Benjamin H - DOA

From: Francesca Wahl [redacted]
Sent: Friday, February 28, 2020 2:57 PM
To: VW Settlement Wisconsin
Subject: Tesla Response VW Mitigation Program RFI
Attachments: VW Funding WI RFI_ Tesla Response 022820.pdf

Please find attached Tesla's response to the RFI on the VW mitigation program for EV charging stations.

Best,

Francesca

Francesca Wahl | Business Development and Policy

[redacted]

February 28, 2020

Ben Vondra
VW Mitigation Program
Division of Enterprise Operations
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
PO Box 7867
Madison, WI 53707-7867

Re: Request for Information Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program

Dear Mr. Vondra

Tesla appreciates the opportunity to submit the responses below to the Wisconsin Department of Administration's request for information (RFI) regarding the forthcoming electric vehicle charging station (EVCS) grant program where expenditure of up to $10 million in Volkswagen (VW) Mitigation Trust funds will be available for the purchase and installation of light duty EVCS in Wisconsin. Our responses to the questions in the RFI are based on our experience as a charging infrastructure developer, owner and operator, an EV manufacturer and an active participant in EV infrastructure program development discussions across the U.S. Generally, we support allocating the full $10 million to EV charging infrastructure in Wisconsin given the need for additional deployment across the state and the opportunity to expand EV access in all communities.

Response to RFI Questions

1. *Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.*

Tesla's mission is to accelerate the world's transition to sustainable energy through the deployment of electric vehicles and sustainable energy products, like storage and solar energy systems. Globally Tesla has sold more than 900,000 all-electric vehicles. In support of these vehicles and our customers, Tesla is unique in that it has made substantial investments in developing and operating a direct current fast charging (DCFC) network, The Supercharger Network, to provide drivers with quick and convenient access to charging. There are currently more than 1,800 Supercharger locations and 16,000 Supercharger stalls globally. In Wisconsin, we own and operate 12 Supercharger locations and 83 total Supercharger stalls. Tesla also deploys Level 2 charging infrastructure via its Destination Charging Network. Currently, Tesla has 99 destination chargers at 43 locations in Wisconsin.

Contact Information:

Francesca Wahl

TESLA
Tesla, Inc.
3500 Deer Creek Road, Palo Alto, CA 94304
[redacted] [redacted]

Charging Policy Manager
Policy and Business Development
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

Across the country, states are implementing a variety of different EVCS programs including programs developed at the state, local, and utility level. Some program structures include providing rebates for the actual charging stations while other focus on the make-ready infrastructure needed to support development of everything up to the actual stations. Programs are often designed to lower the upfront costs associated with deploying EVCS in certain locations and for certain use cases or applications that tend to be hard to reach such as providing access to Level 2 charging for those living in apartment complexes and in disadvantaged communities. Other programs focus on lowering the on-going operational costs of charging infrastructure including optional rates provided by utilities specifically designed for commercial EV charging customers. As states are gaining experience and developing lessons learned from initial infrastructure programs, it is becoming evident that EVCS programs will continue to be necessary in the near term to lower the upfront costs of infrastructure deployment. At the same time, it is important that the various Agencies and entities in a particular state are coordinated on the deployment efforts to help scale EV charging infrastructure. However, given the low levels of EV penetration in most states today, it is clear that creating simple, effective programs in the near term that limit the complexity of any technical requirements to those that improve customer experience and can help get infrastructure in the ground quickly, are critically important.

Regarding the VW Trust Funds, we support allocating the full 15% of eligible founds for EVCS as currently proposed, which in Wisconsin would represent $10 million. Over thirty states have taken advantage of this opportunity to allocate at least some portion of the funds to EV charging infrastructure and we continue to see this is an important mechanism for catalyzing infrastructure deployment especially in states like Wisconsin where EV infrastructure programs have been relatively modest to date.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

According to the Department of Energy's Alternative Fuels Data Center, there are several EVCS programs in Wisconsin that are provided via the utilities.[1] Based on the information provided, it appears that many of these programs are focused on providing rebates for residential EV charging with some limited focus on workplace and public charging. The Public Service Commission (PSC) of Wisconsin has also opened an investigation on electric vehicles issues and charging infrastructure. As part of this investigation, the PSC hosted an EV workshop in December 2019, which included several stakeholder presentations that provided some background

[1] https://afdc.energy.gov/laws/state_summary?state=WI

on existing EV programs in state.[2] Generally, there is limited public investment in charging infrastructure in Wisconsin that has taken place to date making this current program proposal critically important.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at nongovernment owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

Funding should be provided to all eligible locations to the extent possible. Beyond focusing on eligible locations, it is also important to prioritize near and long term opportunities for the different levels of charging that can be provided and ensuring a focus on both Level 2 charging and direct current fast charging (DCFC).

Nationally, Appendix C of the VW settlement allocates more than $1.2 billion nationally for EV charging infrastructure through Electrify America.[3] Phase one of the investment plan is to spend over two thirds of the funds on a national DC fast charging network that covers almost every state, representing more than 2,500 DCFCs.[4] In Phase 2, Electrify America indicates that it will spend approximately $65-$85 million on building out highway corridors and regional routes.[5] This initiative will satisfy some of the long-distance charging needs along major highway corridors; however, it is unlikely to satisfy all long-distance travel needs. Therefore providing additional support to ensure a statewide network of DCFC in Wisconsin, including along highway corridors, is available to connect EV drivers across the state is important. At the same time, more Level 2 home and workplace charging, where more than 80% of EV charging occurs, is needed.[6]

Given that a limited amount of funding is available via the program, we recommend allocating charging infrastructure funds for both DCFC, including highway corridor build outs, and installing Level 2 chargers at multi-unit dwellings (MUDs) and workplaces. Providing access to DCFC across the state will be important for continuing to enable long distance and regional travel for EV drivers. Parameters should be put in place to ensure these sites are future proofed such as evaluating the number of chargers at a station to meet forthcoming demand and utilizing strategic site locations, as discussed further below, given the larger cost to build DCFC sites.

The cost of Level 2 infrastructure as compared to DCFC and the expected need for Level 2 charging both are important reasons for why funds should focus on both Level 2 and DCFC initially. The installation of Level 2 charging infrastructure represents a fraction of the cost of installing and upgrading DCFC stations. Level 2 charging equipment can cost several hundred dollars per connector, whereas DCFC equipment can be up to

[2] http://apps.psc.wi.gov/vs2015/ERF_search/content/searchResult.aspx?UTIL=5&CASE=EI&SEQ=156&START=none&END=none&TYPE=none&SERVICE=none&KEY=none&NON=N

[3] EPA, VW Clean Air Act Civil Settlement. Available at: https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement.

[4] Electrify America, National ZEV Investment Plan: Cycle 1, p.4. Available at: https://www.epa.gov/sites/production/files/2017-04/documents/nationalzevinvestmentplan.pdf

[5] National ZEV Investment Plan: Cycle 2, p.6. Available at: https://elam-cms-assets.s3.amazonaws.com/inline-files/Cycle%202%20National%20ZEV%20Investment%20Plan%20-%20Public%20Version%20vF.pdf

[6] Idaho National Laboratory, Charging Behavior Revealed. Available at:https://www.inl.gov/article/charging-behavior-revealed-large-national-studies-analyze-ev-infrastructure-needs/.

$150,000 per connector.[7] To maximize the deployment of available charging infrastructure, these funds should first focus on Level 2 infrastructure in underserved areas.

In the context of MUDs, residents may not have access to any charging infrastructure nor have the ability to deploy such infrastructure to the extent that they do not own the physical property where the charging infrastructure would need to be deployed. Even in instances where residents can deploy this infrastructure, the costs of retrofitting a single parking spot can be prohibitive. Notably, in many cases, standard parking lots in multi-unit residences and workplaces do not have either the electrical capacity needed to charge EVs, nor do they have the correct wiring to connect an EV charging post and connector, known as electric vehicle supply equipment (EVSE).

Therefore, it is critical that infrastructure funds target MUDs to reduce cost barriers associated with electrical upgrades and EVSE installation. The costs for a make-ready MUD infrastructure project can be minimized through economies of scale by enabling multiple make-ready parking spaces per garage, thereby reducing the per-space cost.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

It is important for the VW Mitigation Program to work with charging station operators to determine where deployment is most appropriate and necessary given their experience deploying networks across the country. For instance, there are many factors that go into where to best site DCFC such as grid capacity, host options, and customer needs based on travel patterns among other items. Private network operators will be able to provide recommendations and help best determine where to locate sites. At the same time, for Level 2 at MUDs and workplaces, the VW Mitigation program can initially seek applicants that self-identify and set parameters around general eligibility requirements such as site size, percentage of funds targeting disadvantaged communities etc. Therefore, we recommend enabling the grant applicants and other local stakeholders to play an active role in determining locations.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)? should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

As mentioned in response to question 5 above, focusing funds on both DCFC and Level 2 infrastructure and the concept of charging where you park is important. While we do not recommend a specific percentage split at this time, we support focusing a portion of funds in an initial round, if there is more than one round of funding, on DCFC first and then Level 2.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

[7] Rocky Mountain Institute, Reducing EV Charging Infrastructure Costs, p. 7.

While we do not have a direct position on whether or not the state should offer multiple rounds of funding over time, it likely makes sense to provide opportunity to modify the program over time including investment amounts and funding focus areas to help ensure the program evolves as the EV market in WI matures. Regardless, we recommend maintaining a first come, first served program funding structure in order to facilitate a simpler program implementation timeline.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

Because charging services are provided to our customers directly and integrated with the vehicle user interface and Tesla mobile app, Tesla has been able to provide access to convenient and affordable charging infrastructure that provides a seamless and excellent customer experience. Tesla customers have payment information stored in their Tesla account and once arriving at a station, simply have to plug in to begin a charging session. Prior to arriving at a particular site, customers can see per minute pricing at a particular location and throughout the charging session, customers can see the total cost on the vehicle screen. After a session is completed, an invoice is provided in the customer's Tesla account.

While different network operators offer slightly varying payment mechanisms, mobile payments that offer a more seamless experience for customers through an app or within the vehicle are becoming increasingly popular and accessible. At the same time, there are on-going announcements between charging providers that are establishing back-end interoperability for their customers via roaming agreements that enable a driver with one charging provider account or tap card to access networks of other providers. Therefore, given the technological changes that are driving innovation in payment technology, we recommend focusing on a seamless customer experience and ensuring consumers are provided with accurate information when charging without setting technology specific requirements regarding the payment experience.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

Recognizing that access to charging infrastructure is one of the largest barriers to EV adoption and given the relatively low levels of EV adoption in Wisconsin today, getting charging deployed in all locations should be the primary focus of this effort. It is often helpful to have an EV target that can help inform infrastructure deployment goals as deployment scales. One tool for estimating infrastructure needs is the EVI-Pro tool provided by the Department of Energy. We recommend utilizing that tool to develop some general estimates and working with utilities across the state to determine where there may be additional capacity on the grid to locate EV charging stations.

Furthermore, as referenced above, focusing on the concept of providing charging access where you park is important, which includes around town, at work and at home, especially for those living in MUDs.

12. What options exist for funding EV charging stations?

Funding for EV charging stations can be provided via several different options and many programs distinguish between funding the make-ready infrastructure, everything up to the station, or the actual charging stations.

Limiting funding to the final charging connector (only), unless leveraging alternative funds for EV make-ready infrastructure, indirectly hinders an essential component of an EV-ready parking structure – the electrical capacity upgrade and wiring. Including EV make-ready infrastructure (not just the EVSEs) as approved criteria for funding could substantively reduce barriers to EVSE deployment, particularly in MUDs. Thus, we recommend that funding focus on both make-ready infrastructure as well as EVSE.

Different rebate amounts can be provided for make-ready and EVSE components as the make-ready infrastructure can often represent a significantly higher portion of the installation costs. A separate rebate for the EVSE-only would also allow customer preference of EVSE depending on their required application. We would recommend that the Department of Administration set a minimum EVSE port requirement per project in consideration of economies of scale to most efficiently use the funds. Additionally, the choice of EVSE should be left up to the site owner so that they can choose what best suits their needs.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Fleet electrification is an important opportunity for increasing deployment of EVs, which can also provide a cost-effective, long term transportation solution for light-duty fleet operators. Figuring out how to best serve fleet operators charging needs will likely be highly dependent on the application for a light-duty fleet vehicle but as more long rage EVs become available, some level of charging can likely be timed to take place over night at depot locations. Regardless, depending on the experience of the particular fleet operator with charging infrastructure and the size and location of a particular fleet, including for public fleets, providing access to EVCS grants for these operators can be very helpful. Light-duty fleets should be part of the eligible projects for this forthcoming grant program. Coordinating with some of existing fleet operators in the state to better understand the current challenges with electrification and EVCS deployment can help determine how to best target this funding area.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

As mentioned above, Tesla has deployed both its Supercharger Network as well as the Destination Charging Network. Tesla has also worked with workplaces and fleet operators to install charging for private use. Some key barriers to installation include timelines and upfront costs, which can be highly site dependent.

For the Supercharger Network (DCFC), we work with several stakeholders along the way to deploy a site including the site host, local authorities having jurisdiction for permitting, utilities for service connections and

any other partners that are necessary to complete a site. Typically, there are barriers involved in each of these steps from site acquisition to design, permitting and construction. Successful deployment of a new Supercharger site involves transparency, clear indication of timelines and a well-defined upfront process. On the permitting side, best practices include having a permitting checklist and a well-defined process that clearly lays out which documents must be submitted and how long the process could take. Best practices for utilities working with charging providers to bring electric service to a site can include: dedicated EV account representatives, clearly defining a process for how to obtain a service connection that is transparent, identifying available commercial rates for customers, and providing details regarding potential utility line extension allowances that may cover a portion of the electric service connection costs on the utility side of the meter. At the same time, utilities can also provide charging providers with hosting capacity maps to try to provide insight early on in the site design process of ideal location based electrical capacity. Fleets, in particular, can additionally benefit from having conversations early on with utilities to discuss charging needs, given the potential size of power required to meet a site's needs in a large depot setting.

When looking at barriers to infrastructure deployment generally whether DCFC or Level 2, it is also important to consider the upfront costs associated with deployment that can often be a barrier to developing a particular site and sometimes lead to not moving forward with developing a particular site. These costs include the electric service connection, which is dependent on a particular utilities' allowance for bringing electric service to a site, the make-ready infrastructure behind the customer meter including conduit and wiring among other items, and any requirements and any soft costs associated with that site. A recent report by Rocky Mountain Institute (RMI), specifically highlighted that soft costs are often a significant component of EV infrastructure deployment costs and represent a large opportunity for cost reduction.[8]

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

One important area for consideration when evaluating EV charging station deployment is pricing transparency of charging services. Wisconsin is one of fifteen states where charging operators are still unable to bill customers for charging services on $/kWh basis because doing so may cause the charging operator to be considered a public utility. In particular, Section of 196.01(5)(a) of Wisconsin Statutes defines "public utility" as every corporation, company, individual, association, their lessees, trustees or receivers appointed by any court… that may own, operate, manage or control … all or any part of a plant or equipment, within the state, for the production, transmission, delivery or furnishing of… power either directly or indirectly to or for the public." The potential treatment of third party charging stations as a public utility creates significant investment uncertainty for charging operators and site hosts.

Tesla believes that the fairest and most transparent way to bill customers for charging services is on a $/kWh basis because the driver is paying for the energy they receive. The predominant alternative approach to billing for charging services is on a $/minute basis. The pitfall of the $/minute approach is that two drivers that are

[8] https://rmi.org/wp-content/uploads/2020/01/RMI-EV-Charging-Infrastructure-Costs.pdf

parked for the same duration will be billed the same amount, yet can receive two completely different quantities of kWh in that time because the rate of charge is dependent on a variety of factors. These factors include the vehicle's charging capabilities, state of charge, battery temperature, and others. However, given the regulatory uncertainty as to whether non-utility charging operators are authorized to bill drivers on a $/kWh, drivers tend to be billed on a $/minute basis in Wisconsin.

While we do not believe this challenge can be solved in the context of the VW Mitigation Program alone, it is ripe for discussion in this context as well at the PSC and should be addressed expeditiously. The PSC can issue guidance about the Commission's treatment of third party charging operators, which will benefit any investment made under the VW Mitigation Program in establishing certainty to enable $/kWh billing. A similar approach has been taken by Commissions in other states, including Alabama, Arizona, Delaware, Kentucky, New York, Oklahoma, and Pennsylvania.[9,10] It should be noted that we also believe it is important that third-party charging operators continue to be allowed to set their pricing for end use drivers and thereby recommend solely focusing this discussion on charging operators not being considered public utilities.

[9] Alabama Docket No. 32694. Arizona Docket RU-00000A-18-0284 Decision No. 77289. Delaware Docket No. 19-0377. Kentucky PSC Case No. 2018-00372. New York Case 13-E-0199. Oklahoma OAC 165:35-13-1(C). Pennsylvania PUC Policy Statement Order M-2017-2604382.

[10] Thirty states in total have exempted electric vehicle charging equipment from the definition of public utility. The majority of the states have addressed the issue through revisions to statutes or legislative action.

Vondra, Benjamin H - DOA

From: Harry Harsch [redacted]
Sent: Friday, February 28, 2020 3:22 PM
To: VW Settlement Wisconsin
Subject: Where to put EV charges stations

Good afternoon,

In regards to where to place charging stations I would vote for Interstate waysides and Door County.

Thanks,
H. Harsch
Tesla owner

Sent from Mail for Windows 10

Vondra, Benjamin H - DOA

From: Lorrie Lisek-WCC [redacted]
Sent: Monday, March 02, 2020 12:07 PM
To: VW Settlement Wisconsin; Vondra, Benjamin H - DOA
Subject: WCC RFI Response
Attachments: WCC RFI 2.28.20.docx

Thanks Ben for letting me know. I have attached the information.

Lorrie Lisek | Executive Director
Wisconsin Clean Cities
"DRIVING WISCONSIN FORWARD"
231 W Michigan Street, P321
Milwaukee, WI 53203
[redacted]
Website: www.wicleancities.org

SUBSCRIBE to Wisconsin Clean Cities Monthly Newsletter

Response to Request for Information – Electric Vehicle Charging Station Grant Program
Wisconsin Department of Administration – Volkswagen Mitigation Program
February 28, 2020

Question 1. I serve as the Executive Director for Wisconsin Clean Cities, Inc., (WCC) a 501(c)3 non-profit state-wide organization operated through the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy Vehicle Technology Office. As one of nearly 100 coalitions across the country, the Clean Cities Program seeks to assist business, municipalities, and consumers to make informed transportation energy choices that reduce energy, emissions, and reliance on imported oil resulting in improved economic development and energy security. WCC is a fuel neutral organization and supports the implementation of alternative fuels, vehicles and technology.

Question 2. Through our deliverables for the Clean Cities Program, WCC participates with a group of coordinators who collaborate on the implementation of Volkswagen funds including the implementation of EV infrastructure development. Each state is unique in their deployment of the funds. Most states are electing to use 15% of their total proceeds to implement EV charging station programs. Many of these programs are being released in phases. Using VW funds to "build" on current projects will support continued growth of the EV market.

Question 3. WCC is actively partnering with Clean Cities organizations and the Gas Technology Institute (GTI) of Illinois to develop the Michigan to Montana I94 Corridor (M2M) as an alternative fuel corridor for natural gas, propane, and electric. Through this program, WCC has assisted in the deployment of DC fast chargers and level two chargers in Tomah and Hudson. WCC currently needs to "fill a gap" in the Wisconsin Dells Area to further develop the I94 Corridor for electric vehicle charging. Wisconsin utilities are members and stakeholders of our organization. Through partnerships with the utilities, WCC has provided numerous education and outreach programs including electric vehicle ride and drives. WCC has also developed a group buy program with NISSAN to further support the adoption of electric vehicles. Additionally, WCC has been part of the Midwest EVOLVE Program to develop awareness and education of electric vehicles and infrastructure. For the past three years WCC has hosted the "EV ZONE" at the International Greater Milwaukee Auto Show, providing information regarding the EV market in WI to thousands of event attendees. WCC also works with municipal, business, and fleet organizations to assist them in the adoption of alternative fuel vehicles, including EV's, through our WI SMART Fleet Program. WCC is also involved with 14 Clean

Cities coalitions across the U.S. to develop best management practices for multi-unit dwellings. Additionally, it is important to note that WI Utilities have a variety of programs to support the deployment of EV infrastructure. As such, I am also aware of plans that have been presented to the Public Service Commission which have been denied. Collaboration with organizations and governmental entities is imperative to drive the deployment of infrastructure as well as electric vehicle adoption.

Question 4. I have previously operated a BEV for personal and business use. The vehicle was a THINK vehicle. The vehicle was an "early" EV with a low vehicle range. The vehicle was typically charged at home on a level 2 home charger. I am currently seeking to purchase an EV for personal/business use and am also interested in purchasing an EV for our coalition. Through collaborative efforts of Clean Cities coordinators, coalitions are seeking to partner with EV manufacturers to establish a group buy program for coalitions to assist in furthering our education and outreach capabilities.

Question 5. I recommend that funds be prioritized among eligible installation locations. However, based on the questions we have received at the Milwaukee Auto Show, most consumers are concerned as to where they will charge. Studies indicate that most people will charge at home, which is also the most economical. Potential drivers however are looking for "range confidence" knowing that chargers will be available. Based on the cost and need of DC fast chargers, I would recommend that the majority of funding be used for DC fast chargers to fill gaps along major corridors that support employment and tourism opportunities. It is also important that rural and underserved communities be included in these plans. Additionally, as the cost of level 2 stations decrease, I believe we will see the implementation of these stations by private sector businesses.

Question 6. I would consider lowering the maximum of the cost share to leverage more funding. It is important to have buy in from the private sector. Additionally, VW funds could be used as a match for federal funds to provide more project leverage.

Question 7. I think prioritization of locations could be determined by both the VW Mitigation Program and grant applicants. A percentage of funding could be determined or prioritized for each category.

Question 8. Yes, as indicated in Question 5 I would encourage the majority of funding to be used to deploy DC fast chargers.

Question 9. I would recommend at least 2 funding rounds. The first round would identify the initial funding sites. The second round could be used to fill gaps in the charger infrastructure.

Question 10. I have charged at public and private infrastructure and have paid via credit card or a specific card for the charger that is linked to a credit card.

Question 11. I encourage development of highway corridor DC fast charging as a priority. Additionally, level 2 chargers should be available at tourist, city centers, and workplace locations.

Question 12. Options for funding include: host payment, incentives from utilities, and grant or foundation funding.

Question 13. EV charging station grants may encourage operators to adopt light duty vehicles, however there must be vehicles available that would work in the fleet operation. WCC currently provides education and outreach opportunities for fleets.

Question 14. WCC has been involved in projects to install EV charging. Barriers have included getting financial "buy-in" from private sector land owners as EV charging is not a profitable investment at this time.

Question 15. WCC, through the U.S. Department of Energy deliverables, is currently collecting cost ranges. Upon compilation, this information may be available in the near future. Labor, hardware, land acquisition costs, and availability of power sources must also be considered in the costs of stations.

Question 16. Technology in charging stations is rapidly advancing. It is important that station software is easily upgradable. Additionally, determining who will own and maintain the stations is important for future station accessibility. Additionally, having stations that are networked can be imperative to the success of the program to make sure stations are working properly and maintained at regular intervals. As station build outs are completed, redundancy at key locations is important to ensure charging availability in case of station failure. Also installing stations in locations where commercial properties, entertainment, or walkable attractions are important so vehicle owners are occupied during vehicle charging. Energy resiliency and energy storage should also be factors considered in the development of the Electric Vehicle Charging Station Grant Program to "future proof" the success of the project.

Respectfully submitted by:

Lorrie Lisek
Executive Director, Wisconsin Clean Cities
231 W. Michigan St., P321
Milwaukee, WI. 53203
[redacted]

Vondra, Benjamin H - DOA

From: Erwin, Deborah E [redacted]
Sent: Wednesday, March 04, 2020 10:03 PM
To: VW Settlement Wisconsin
Cc: Vondra, Benjamin H - DOA
Subject: RFI Response from Xcel Energy
Attachments: NSPW RFI response March 2020.pdf

Please see attached response to the RFI.

Deb Erwin
Xcel Energy | NSPW
Manager, Regulatory Policy
10 E. Doty St. #511, Madison, WI 53703
[redacted]

1414 West Hamilton Ave.
Suite 3
Eau Claire, WI 54702

March 4, 2020

Ben Vondra
VW Mitigation Program Administrator
Division of Enterprise Operations
Wisconsin Department of Administration
101 E. Wilson Street, 6th Floor
PO Box 7867 Madison, WI 53707-7867
Via electronic mail to vwsettlement@wisconsin.gov

RE: Request for Information – Electric Vehicle Charging Station Grant Program

Dear Mr. Vondra:

Northern States Power Company, a Wisconsin corporation and wholly owned subsidiary of Xcel Energy, Inc. (NSPW or the Company) hereby submits this response to the Request for Information (RFI), Electric Vehicle Charging Station Grant Program, Volkswagen Mitigation Program. NSPW has reviewed the RFI and in response provides comments on some of the issues raised in the RFI, in particular, questions 1, 3, 6, 7, and 9. The Company looks forward to working with DOA as it finalizes plans for an electric vehicle charging station grant program.

Comments follow utilizing the question format provided in the RFI for your convenience. Thank you for the opportunity to comment, if you have questions, please do not hesitate to contact Deborah Erwin at [redacted]

Sincerely,

Karl Hoesly
Regional Vice President, Rates and Regulatory Affairs

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

NSPW is an electric and gas investor-owned utility serving approximately 250,000 electric customers and 110,000 natural gas customers in Wisconsin. NSPW is a wholly-owned subsidiary of Xcel Energy, Inc., which serves in total 3.6 million electric customers and 2 million natural gas customers across parts of eight states (Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Colorado, Texas and New Mexico). Information on Xcel Energy's electric vehicle programs can be found on our website at www.xcelenergy.com/EV.

NSPW stands ready to support the State of Wisconsin in deploying EV charging infrastructure. The Company is currently focused in Wisconsin on home charging and light duty and public transit fleets, with the following objectives:

- Empower customers with information, tools, and options
- Increase access to electricity as a transportation fuel in an equitable manner
- Encourage efficient use of the power grid
- Improve air quality and decrease CO2 emissions
- Ensure reliability, interoperability and safety of equipment
- Leverage public and private funding opportunities
- Provide benefits to all customers, both EV drivers and non-EV drivers
- Ensure transparency and measure results

The Company can help in identifying appropriate locations for DC fast charging and Level 2 charging within our service territory, working with DOA, charging providers and potential site hosts to identify corridor and high utilization locations where charging is needed and where interconnection to the distribution system is most efficient.

Finally, NSPW already offers renewable energy tariffs that could be paired with EV charging to maximize reductions of NOx and GHGs. We are also willing to explore new rate designs to provide time-of-use rates and managed charging (matching EV charging to low-cost, low-carbon times, and using EV charging to integrate greater renewable generation), where appropriate and feasible.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

NSPW has proposed programs to support residential charge-at-home needs and commercial electricity customer fleet charging needs that are currently under review by the Public Service Commission of Wisconsin in docket 4220-TE-104. These programs are largely intended to address charging needs for these customers on their own property and are not targeted at public charging applications. NSPW will be evaluating additional ways to support EV charging for its electricity customers in the future.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

There continues to be insufficient public charging infrastructure in the State of Wisconsin to support expected future levels of EV adoption. Although the VW Settlement funds will not resolve this deficiency, we believe they will be critical to help close the infrastructure gap and enable more Wisconsinites to access the benefits of transportation electrification.

The market is continually evolving, and it is important that incentives go far enough to encourage high levels of participation. The maximum grant size may need to be increased if an initial proposal does not encourage sufficient participation. We also believe it makes sense to "future-proof" these investments for future upgrades as EV adoption increases.

NSPW, other utilities, and many other organizations are looking to support EV charging infrastructure in Wisconsin. We believe there are significant opportunities to support communities, site hosts, developers, and fleets in making the VW Settlement funds go further, supporting more vehicles and more charging infrastructure. We hope that the DOA designs its programs and Requests for Proposals in a manner that allows bidders to both participate in utility programs and receive grants from the VW Settlement.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

Low-income communities and communities of color tend to be disproportionately impacted by air pollution, so we support an approach that would direct funds to charging infrastructure to support these communities, so that the benefits of electrified transport and pollution reduction can be shared by all customers, whether or not they own an EV themselves. Additionally, we believe it is important to focus on distributing charging infrastructure throughout the state, helping ensure that both major metropolitan areas and smaller and more rural communities have access to charging and enabling electric driving throughout the state. Fairness is an important goal for the VW Settlement program.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

The next few years may be a critical period for transportation electrification. An aggressive push on charging infrastructure and other barriers to EV adoption may be needed during this timeframe to secure Wisconsin's position as a strong market for EVs. Although we recognize the need to be thoughtful, and also possible constraints DOA may face in managing all of the work in a short time period, we believe that is important to spend as much of the funds and obtain as many of the benefits as feasible through action in the next few years. We believe a front-loaded spending plan will deliver the strongest results.

Vondra, Benjamin H - DOA

From: Susan Mudd [redacted]
Sent: Thursday, March 05, 2020 2:06 PM
To: VW Settlement Wisconsin
Subject: ELPC response to WI DOA RFI: Electric Vehicle Charging Station Grant Program VW Mitigation Program
Attachments: VW EV Charg Sta Grant RFI v5.docx

James and Ben,

Attached are ELPC's responses to DOA's RFI on EV charging station grant program from VW Mitigation Trust Funds. We look forward to EV implementation in Wisconsin,

Susan

Susan Mudd | she/her/hers
Senior Policy Advocate
Environmental Law & Policy Center
35 E. Wacker Drive, Suite 1600
Chicago, IL 60601
[redacted]

ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage

February 27th, 2020

Wisconsin Volkswagen Mitigation Trust
vwsettlement@wisconsin.gov

Re: WI DOA Request for Information
Volkswagen Consent Decree Environmental Mitigation Trust
Electric Vehicle Charging Station Grant Program

Thank you for the opportunity to comment on the Wisconsin Department of Administration's (WI DOA) request for information regarding the light duty electric vehicle supply equipment program (RFP Development Framework). ELPC is eager to see the state of Wisconsin invest in valuable electric vehicle infrastructure and take meaningful steps towards transformative technology, reducing emissions from internal combustion engines. Electric vehicles and the infrastructure to support them are the transformative projects which move Wisconsin towards cleaner transportation, especially where fueled by renewable resources.

Before answering the questions outlined in the request for information below, ELPC suggests WI DOA follow the number of miles per charge produced by each charging level according to information produced by ChargePoint. The miles of range per hour of charge (RPH) produced by each level of charging is as follows:[1]

- Level 1 – 5 miles
- Level 2 – 12 miles for cars with 3.7 kW on-board charger
  25 miles for cars with 6.6 kW on-board charger
- DC Fast Charging – 100 miles or more, depending on the power level of the charger

EV Charging Basics

Type	Miles of Range Per Hour of Charging (RPH)	Time to Fully Charge	When to Use	Connector
Level 1, Standard Wall Outlet (AC)	5 RPH	+ 16 hours for an 80-mile battery + 40 hours for a 200-mile battery	+ Get some charge while you sleep Note: slower for cars with large batteries	Note: you'll need your own cable to plug in to the wall for Level 1
Level 2 Charging Station (AC)	+ 12 RPH for cars with 3.7 kW on-board charger + 25 RPH for cars with 6.6 kW on-board charger	+ 3.5 hours for an 80-mile battery + 8 hours for a 200-mile battery	+ At work + While you sleep + Topping up around town	J1772 connector
DC Fast Charging	100 RPH or more, depending on the power level of the charger + 24 kW (up to 100 RPH) + 44 to 50 kW (up to 200 RPH)	Depends on the power level of the charger and car model, but could be 80% charged within 30 minutes	+ Short stops + Express Corridor locations	SAE Combo (CCS) CHAdeMO Tesla

[1] ChargePoint – Driver's Checklist: A Quick Guide to Fast Charging

35 East Wacker Drive, Suite 1600 • Chicago, Illinois 60601
[redacted] www.ELPC.org
Harry Drucker, Chairperson • Howard A. Learner, Executive Director
Chicago, IL • Columbus, OH • Des Moines, IA • Grand Rapids, MI • Indianapolis, IN
Minneapolis, MN • Madison, WI • North Dakota • South Dakota • Washington, D.C.

ELPC's comments on each question outlined in the request for information follow:

Question 2:
ELPC would like to highlight recent infrastructure planning work in Michigan and North Carolina.

The Electric Vehicle Charger Placement Optimization study for Michigan highways conducted for the Michigan Energy Office used a mathematical analysis of traffic flows to determine placement, volume, and cost scenarios for EV infrastructure along highways (mainly interstates, US highways, and major state routes). The study provides invaluable insight into key considerations for planning a statewide EV charging network. We encourage WI DOA to glean the following key findings and best practices:

- KEY FINDINGS: required stations range from 15 to 43, outlets from 32 to 600; MEO later estimated total cost would be $33.52M for 67 charging stations ($12.39M) with ~300 charging outlets ($22.57M)
- PLACEMENT METHOD: for year-round optimization, base analysis on winter demand / battery performance; focus on travel between cities, <50mi b/w each station, initially 2 chargers per station
- TYPE: mixed-tech (70kW battery, 150kW charger) is most versatile and cost effective; although small range EVs should not be forgotten (max limit of 50kW could put upward pressure on wait times)
- COST: significant diminishing marginal cost with more outlets per station (i.e. from 1 to 6 outlets, unit cost halves); fairest allocation is 3-way cost split between utilities / state / site host
- CONSULTATION: comprehensive: 3 auto companies, 11 transmission / utility companies, 2 charging station companies, EV drivers/owners, and over 19 public and private energy/environment/municipal groups
- IMPLEMENTATION: RFP for public/private organizations: grants up to $70K for installing DCFCs; first-come first-serve; proposals within 5 miles of 75 eligible locations
- MORE INFO: for exact math of two-way optimization (of infrastructure investment cost and user time cost), see pp. 8-9.

ELPC notes that while such analysis is useful for statewide and intercity trips, the analysis purposefully excludes more localized, intra-city travel, which requires different inputs and considerations.

North Carolina's program is even more innovative, prioritizing DCFC fast-chargers for statewide travel while also creating a balanced and transparent scoring rubric for infrastructure applications:

- Point system based on cost effectiveness (VW$ funded per NOx tons reduced, with separate rankings for urban/rural), distance off interchange, proximity to amenities, and distance from other chargers
- Quantifiable EJ component developed by NCDEQ ("Social Vulnerability Index") that combines ACS/Census indicators, NC Dept. of Commerce County Tier rankings, and mobile NOx emissions (tons/year/county)
- Bonus points awarded based on renewable energy certifications (% required to power DCFC station for 5 years)

Funding award criteria is flexible, funding publicly accessible stations up to 100% on government property and up to 80% for non-government property. This, along with keeping funding application windows continuous, will accommodate the dynamic EV market.

Questions 5 and 6:
Rather than focusing on level of funding to broaden reach, ELPC suggests that the areas where the stations can and will be used most effectively and efficiently should be the priority. ELPC has ranked the following options given in the chart labeled "Maximum VW funding share of EVCS eligible project

costs" in order of potential reach of the $10 million. This list is ordered from most potential reach to least potential reach, actual funding decisions should be tempered by where there are unmet needs at the time:

- Installed at non-government owned property and made available to the public (highly visible and well utilized facilities such as sports facilities, grocery stores, shopping centers, parking garages, private universities)
- Installed at government owned property and made available to the public (libraries, city and county centers, public schools and universities, pools)
- Installed at multi-unit dwelling but not made available to the public (multi-unit dwellings are very often among the most underserved locations for EV charging)
- Installed at workplace but not made available to the public

ELPC agrees with WI DOA and wants to emphasize that EVCS benefitting the most people and are available to the public should receive a larger share of funding while projects not made available to the public should receive less.

Question 7:
ELPC believes that the funding should be spent on both DCFC and L2 chargers, but the location of where each is installed should differ. Generally, DCFC chargers should be prioritized for highways (~ every 50-70 miles, as close as possible but no more than 2 miles from an exit) where large gaps in current charging infrastructure exist and charges must be done quickly, as well as some strategic urban/suburban locations (i.e. multi-family units). L2 chargers should be prioritized for cities, where there are naturally more EV owners, and many drivers are not in need of quick charges.

WI DOA should seek information from Electrify America to ensure that state funds do not duplicate its efforts; where Electrify America's coverage is adequate (most likely along highways and less likely in urban areas), limited WI VW funds need not be spent.

We strongly encourage WI DOA to collaborate and consult with neighboring states who are implementing similar programs. WI's VW Mitigation Program's selection of locations should advance the goal of "worry-free" EV travel throughout the state, both within Wisconsin and to and from neighboring states and Canada. Best practices indicate stations should be: 1) located along major highways (interstates, US roads, etc.); and 2) no more than 50 miles apart. Ensuring DCFCs within a 50-70-mile range of each other will address range anxiety, currently a major factor holding back potential EV purchasers. To the extent possible these charging stations should be at visible and well utilized sites that are unlikely to change, e.g. WIDOT service areas. These have the advantages of already being signed for refueling, and hosting numerous other features from bathrooms to restaurants, adding to drivers' comfort and likelihood of use.

In order to meet the needs of EV highway drivers (1 DCFC charger ~ every 50-70 miles, no more than 2 miles from an exit) chargers should be located where large gaps in current charging infrastructure exist and charges must be done quickly. For each DCFC charger, an L2 backup should be installed to create redundancy. This coupling would help establish a more resilient network. DCFC chargers should contain both CCS and CHAdeMO plugs.

Question 8:
ELPC suggests that funding be split between L2 and DCFC chargers. The map of current public EV charging stations (in RFI background materials) makes clear that additional DCFC chargers are needed in rural Wisconsin, on the highways to Duluth and Dubuque. Filling in the gaps in the charging network with necessary DCFC chargers and L2 chargers in metropolitan areas should both be prioritized. The

potential number of chargers varies depending on how much of the cost is covered by settlement funds (60%-100%). Because DCFC chargers may not generally be installed at a workplace or a multi-unit dwelling, ELPC assumes that the lowest amount covered for DCFC chargers would be 80%.

Question 9:
Experience from other states leads one to conclude that funding should be allocated over multiple rounds so that learnings from the first round can be incorporated into later ones. Investments in charging infrastructure are needed now to grow the industry and encourage future adoption and utilization of EVs by Wisconsin residents.

Question 11:
WI DOA should invest in both DCFC and L2 chargers. The locations of these, however, should differ significantly. DCFC chargers should be installed on major highways while L2 chargers should be located in cities. DCFC chargers should be located roughly 50-70 miles from one another on highways, no more than 2 miles from an exit, while L2 chargers, placed in cities, should be located in areas that can be easily found and used while drivers engage in other daily activities. This difference in locating chargers should be prioritized to meet the needs of the drivers who will use them. Highway drivers require faster charges to move along a presumably longer route more quickly, while city-dwelling owners can afford to wait longer for a charge as they engage in their daily activities such as grocery shopping or eating a meal. Additionally, many city owners have the opportunity to charge their vehicle overnight at or near their homes which further reduces the need for DCFC chargers in cities.

Question 12:
- Electric Vehicle Supply Equipment (EVSE) Leasing Program – Madison Gas and Electric (MGE) MGE residential customers can pay $20 per month for the installation and maintenance of a Level 2 EVSE. Participants must sign a five-year service agreement. This program provides a ChargePoint Home L2 charger without having to pay up-front costs.
- East Central Energy offers a $1,000 rebate to install a level 2 charger on either the time-of-use rate or off-peak storage rate.
- Barron Electric Cooperative will give a free Siemens 30-A Level 2 VersiCharge electric vehicle charger to members who purchase an electric vehicle and meet necessary requirements listed below.
- Electric Vehicle Supply Equipment (EVSE) Rebate – Pierce Pepin Cooperative Services (PPCS)
- PPCS offers residential customers a $400 rebate to purchase and install an EVSE. The EVSE rebate is available until December 31, 2020 and is available on a first-come, first-served basis.

Question 16:
ELPC strongly encourages WI DOA to incorporate language encouraging renewably sourced electricity, as NJ emphasized in its scoring rubric and as MPCA included in its VW Phase 2 proposal: "Fast-charging stations must be a minimum of 50 kW and include adequate conduit size at each station for future upgrades up to 350 kW and space for extending the parking pad. To maximize emission reductions, we will encourage charging stations be powered by electricity generated from renewable sources (wind, solar) through either a utility renewable energy program or by purchasing renewable energy credits. Solar directly connected to EV charging may be encouraged for Level 2 charging stations."[2]

Sincerely,

Susan Mudd

[2] Volkswagon Settlement Beneficiary Mitigation Plan – State of Minnestota Phase 2 (2020-2023) pg. 15

Senior Policy Advocate
[redacted]

Vondra, Benjamin H - DOA

From: Ned Noel [redacted]
Sent: Thursday, March 05, 2020 5:00 PM
To: VW Settlement Wisconsin
Subject: City of Eau Claire Comments

Dear Wisconsin DOA:

The City of Eau Claire respectfully submits:

The City of Eau Claire and Eau Claire County have ambitious climate goals which are 100% renewable energy and carbon neutrality by 2050 for both operations and the in-boundary populations. The Eau Claire Area School District also has the goals for their operations and UW-Eau Claire campus has a 2050 carbon neutral goal. These all align with and support State climate goals.

We understand that electrification of our public fleets and private vehicles will be necessary to reach such goals. In fact, the City has a EV Roadmap on how to start accomplishing this transformation. Our goals are to have 8,000 registered EVS on the city streets by 2030 (10% of all VMT). In order to reach this we assume 80% of charging will be done at home while the rest out in public places. A 50 to 1 ratio or 160 charging stations was determined to help this transition. This is a modest deployment compared to California or Norway, but is pushing the City and private sector locally to add the needed infrastructure and work hand and hand with our electric utilities. A grant program to lower costs of this infrastructure is important to help local governments and private companies that have plans in place.

The City recently purchased three dual-port level 2 chargers stations with City funds. Setting a favorable charging fee for the public while trying to seek reasonable payback is proving difficult. This depends on the rate of electricity the particular facility is on and utilization scenarios that are hard to predict. With one downtown parking ramp we own, the rate is low but the peak demand charge could be high if all 6 are drawing the total demand of 43 kW. This would force the City to pay more for electric costs. This point illustrates that grants would help lower the upfront cost so that the charges can be offered at attractive fees or potentially no fee. We have also encouraged our main utility Xcel Energy to propose a future rate that would be attractive for public entities to help recoup their investment in chargers.

In terms of grants, funds should be prioritized by the most competitive applications and contexts that will help to move the industry forward fastest. The maximum costs share is acceptable and multiple rounds are needed to address marketplace evolution and ability of cities to match funding per their capital budget cycles.

Thank you,

Ned Noel | Associate Planner AICP | City of Eau Claire | [redacted]

Vondra, Benjamin H - DOA

From: Joan [redacted]
Sent: Thursday, March 05, 2020 7:10 PM
To: VW Settlement Wisconsin
Subject: charging stations

1) Charging stations should be located along highways and freeways (waysides & park and rides).

2) Allow such companies like EV GO or Charge Point, to place their charging stations on public parking lots (10 to ... year leases) with profit sharing to the state, county or municipality in which they are located.
libraries
courthouses
community centers
parks
anywhere that is accessible 24/7 and on public lands.

3) Encourage businesses and non profits that have more than 20 or more parking spaces to work with for profit charing station companies. Tax incentives for 1-5 years (time enough to recover any infrastructure costs).
Cinemas
Grocery stores
Malls
Hospitals & clinics
Museums
Restaurants

4) Locations of charging stations need to be located in the far corners of parking lots. ALL too often petro powered cars block charging stations when they are located in "convenient" areas.

5) Any new municipal road projected in an urban setting should/could provide charging stations along streets that provide 2 hour limited parking spots. 1-2 stations per ___ blocks.

6) Dealerships selling electric powered vehicles should have at least 2 publicly available charging stations in areas that are 24/7 accessible. They need to put some skin in the game.

7) Tourist driven communities should be encouraged to place charging stations in their communities as this market is not being targeted by any community as a destination spot for the ev demographics. They will come and stay for the weekend or week.

8) Allow for companies like Tesla to sell vehicles here in Wisconsin.

Communities who get these publicly funded stations and support should be in proportion to the registered ev ownership in those areas in which they are registered. e.g. 25% of Wisconsin registered ev owners live in metro Milwaukee, metro Milwaukee gets 25% of the funds for having charging stations. Range anxiety will disappear when people see stations throughout their communities.

Sincerely yours,
Joan Baumgartner

Vondra, Benjamin H - DOA

From: Chad Mason [redacted]
Sent: Friday, March 06, 2020 3:01 PM
To: VW Settlement Wisconsin
Subject: Feedback on Electric Vehicle Charging Station Grant Program

Hi. I am responding to the request for feedback on this program.

To start with, using the same approach that Tesla has used is going help address range anxiety with electric vehicles and have the most impact, the quickest.

1. 150 kW+ fast chargers at rest stops, or other busy locations near major highways.
2. There may be some merit in incentivizing third-parties to install systems at these sites, though costs should be in line with what Tesla charges or even less.
3. Chargers need to be supplied with 100% renewable/clean energy through power-purchase agreements or other mechanism.
4. Plugs should be focused on SAE DC-combo. CHAdeMO plugs will be obsolete in the next few years, so money should not be wasted on this.

There's certainly a need to incentivize Level 2 charger installation in apartments, in parks, and in parking structures, but this may be better left for a second stage of the program.

Thanks!

Chad

Request for Information (RFI)
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program

Responses Submitted By:

Zerology LLC
821 E Washington Ave Suite #200
Madison, WI 53703
[redacted]
Josh McDonald

Request for Information (RFI)

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

Zerology is a cutting-edge tech company that helps people find convenient, eco-friendly transportation. Currently, Zerology is operating a fleet of 40 Tesla Model 3's, 1 Tesla Model X, and plans to add 13 more Tesla Model 3's and 24 Chevy Bolts by end of March 2020. Zerology anticipates adding vehicles from other manufacturers as models become available and expects to have 200 electric vehicles in operation by the end of 2020. The fleet is being deployed via Green Cab's transportation as a service platform. On April 9th, 2020 we will launch SideStreet, a carsharing platform that will incorporate Zerology fleet vehicles and vehicles from individual investors. Zerology, Green Cab and SideStreet are all subsidiaries of Mobility Transformation Inc.

Contact:
Josh McDonald
Account Executive
Zerology LLC
[redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

Other states have been much more forward thinking in implementing EVCS than Wisconsin. In the Midwest states (including utilities) have made the following investments in EVCS infrastructure:

- WI: $0
- MI: $23,115,00
- MN: $26,420,200
- IN: $3,700,000
- OH: $11,000,000
- MO: $17,100,000

Source: https://www.nrdc.org/experts/samuel-garcia/state-states-evs-and-ev-policy-midwest

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

We have worked with Madison Gas & Electric, Wisconsin Clean Cities, and RENEW Wisconsin, among others, to promote electric vehicles in Madison. The focus for these programs is that individual car owners are leading the transition. We believe that transportation companies like Zerology will play a vital role in EVCS infrastructure because individual car ownership is declining, and shared mobility is becoming mainstream.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

Zerology is operating a fleet of 40 Tesla Model 3's, 1 Tesla Model X, and plans to add 13 more Tesla Model 3's and 24 Chevy Bolts by the end of March. All of these cars utilize 20 level 2 charging stations and primarily charge overnight. The Green Cab vehicles also use 2 (72kW) Tesla Superchargers (DCFC), when faster charging is needed. We primarily use DCFC (72kW) because we operate EV's 24/7. We will be partnering with MG&E to install 6 (62kW) DCFCs at our new location. The chargers will be available to the public, but priority will be given to Zerology's fleet.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at non- government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

Funds should be allocated to put DCFC where supply meets demand. This will involve working closely with transportation providers to increase EV adoption and prioritize infrastructure needs. Working with transportation providers will be key because providers incur on average 60K miles per vehicle per year, whereas an individual owner's may only travel 10-15K miles per vehicle per year. Not only do we need to build out infrastructure that supports existing EV fleets, we need to do it in a way that encourages other providers to electrify their fleet.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

The EVCS grant program should fund 100% of the cost of the installation. The upfront cost of installing DCFC is cost intensive and cannot be recouped over the life of the charger. Transportation companies should not have to pay the high cost for both electric vehicles and the DCFC network.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

Grant applicants should determine and prioritize the location because local knowledge of existing and future opportunities for infrastructure is what is most important. We need the EVCS grant program to

actively engage local transportation providers to identify opportunities for electrification. This will encourage existing transportation providers and fleet operators to transition to electric vehicles.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

Yes, DCFC should be prioritized as transportation companies increase EV use. EVCS grants should be based up on locations that encourage transportation providers to go all electric. Level 2 charging should be allocated to apartment buildings and workplaces.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

The state needs to move very quickly to invest in charging infrastructure. The EVCS program should operate on a rolling basis, giving priority to grant applicants that focus on implementing DCFC into their transportation networks. Given the interest and rise in EV adoption, the $10 million needs to be spent over 3 years with a target completion date of 2023.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

Typically, you pay through the charging company's phone app. However, chargers should have the ability to take multiple forms of payment. This will make chargers accessible to as many people as possible.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

There is an opportunity to electrify rural communities across Wisconsin. Many of these communities exist along major highway corridors and represent the best use of funds by working with local transportation providers. We have to utilize local knowledge to understand the needs of the community while encouraging these providers to electrify their fleet. Many of these rural communities use non-emergency medical transportation and presents a great opportunity to improve EV charging infrastructure.

12. What options exist for funding EV charging stations?

Zerology has installed charging stations using private company funding. We have also worked with Madison Gas & Electric and expect to collaborate with additional utilities going forward. We also worked with Tesla to install supercharging stations at Green Cab. There is also a Federal Tax Credit that can subsidize a substantial portion of the cost to install EVCS, up to $30,000. To create sustainable EVCS infrastructure for the community, it is important that funding options such as the VW settlement program are made available to transportation companies.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

Yes, the grant program administrators need to actively engage light-duty fleet operators. Also, EVCS grants should prioritize light-duty fleet operators when considering allocating funds on a rolling basis.

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

Yes, Green Cab has installed 2 dual port Tesla Supercharging Stations and 16 dual port Level 2 charging stations. These are installed at Green Cab HQ. The biggest barriers were understanding utility upgrades that needed to be made to support the infrastructure, creating a layout for the chargers that suits the needs of the fleet, and how to manage the charging to optimize charging rates. Throughout the entire process we worked with the utility and installer to come up with the best plan possible.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

Installation costs can vary greatly. Its best to work closely with local utilities to understand the cost for a specific location. With that being said, RMI has provided good data on average costs for installing level 2 and DCFC networks. See below:

EXHIBIT 1
Cost ranges for charging infrastructure components.

COST ELEMENT	LOWEST COST	HIGHEST COST
Level 2 residential charger	$380 (2.9 kW)	$689 (7.7 kW)
Level 2 commercial charger	$2,500 (7.7 kW)	$4,900 (16.8 kW); outlier: $7,210 (14.4 kW)
DCFC (50 kW)	$20,000	$35,800
DCFC (150 kW)	$75,600	$100,000
DCFC (350 kW)	$128,000	$150,000
Transformer (150–300 kVA)	$35,000	$53,000
Transformer (500–750 kVA)	$44,000	$69,600
Transformer (1,000+ kVA)	$66,000	$173,000
Data contracts	$84/year/charger	$240/year/charger
Network contracts	$200/year/charger	$250/year/charger
Credit card reader	$325	$1,000
Cable cost	$1,500	$3,500

Note: DCFC denotes direct-current fast chargers.

Vondra, Benjamin H - DOA

From: Josh McDonald [redacted]
Sent: Monday, March 09, 2020 2:20 PM
To: VW Settlement Wisconsin
Cc: Shree Kalluri
Subject: Zerology RFI Submission
Attachments: Zerology RFI Submission.pdf

Hi Ben,

Thank you for the extension on the RFI. I have attached our responses. Please let me know if you have any questions.

Thanks!

Josh McDonald
Account Executive
Zerology LLC
[redacted]

Vondra, Benjamin H - DOA

From: Ashwin Kedia [redacted]
Sent: Thursday, March 12, 2020 2:57 PM
To: VW Settlement Wisconsin; Vondra, Benjamin H - DOA
Subject: Intertrust response to Request for Information (RFI) Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program
Attachments: StateofWisconsic DoT - Intertrust RFI Response.docx

Hello Ben,

As per our discussion yesterday, we have provided our response (attached) to the RFI for your Electric Vehicle Charging Station Grant Program Volkswagen Mitigation Program.

Intertrust software solution provides several benefits, some of which are listed below -

- Reduced planning time and costs
- Securely sharable grid data
- Rights managed access for multiple parties
- Intuitive graphical view of existing and proposed public and private charging stations, parking structures, and more
- Immediate cost impact, grid impact and what if scenarios

Would be happy to provide additional information, if there is interest.

Do let us know.

Regards,

Ashwin Kedia
VP Strategy and Biz Dev
[redacted]

intertrust®

Intertrust respose to:

Request for Information (RFI)
Electric Vehicle Charging Station Grant Program
Volkswagen Mitigation Program

1. Introduce yourself or your organization (e.g. relationship or interest in EVs, product/service offered and other pertinent information). Please include contact name(s) and information for EV or EVCS topics.

   Founded in 1990, Intertrust is a software company that invented the field of data rights management. In more recent years Intertrust expanded its scope and investors to include *E.ON* (the largest European energy company) as well as *Origin* (an Australian energy company).

   Intertrust, with its European partners, has developed a software solution that helps states, cities, utilities, charging station installers and citizens to collaborate on the process of planning for EV charging infrastructure. The solution helps significantly reduce the soft costs that are currently associated with EV charging station installation. Intertrust solution is being rolled out to more than 50% of Germany. We are in discussions with several cities in the US to help them with this process.

   Contacts:

Ashwin Kedia VP Strategy and Business Development [redacted]	Florian Kolb Chief Commercial Officer [redacted]

2. Describe your experience and observations with how other states are implementing EVCS programs.

   Nationally, the number of electric vehicles (EV) is projected to reach 18.7 million in 2030. To meet the demand, while reducing dependence on foreign oil, the need to expand EV charging infrastructure has never been higher. Yet, rising engineering expenses (soft costs) and protracted electrical interconnection issues are delaying and, in some cases, even stopping EV charging projects. Potential EV charging station sites have been rejected or abandoned, even after significant costs have been incurred. For example, the typical cost range for the installation of a fast-charger is $150K to $200K. However, last year, Electrify America spent $1.5 million on a single fast-charger station because of utility interconnection issues. Much of the soft cost increases and delays are attributed to challenges assessing the available capacity to add new electrical loads to the distribution network at a prospective site or during the process of obtaining a utility interconnection. These issues are common across the globe.

   We are working closely with the City of San Francisco and the County of Los Angeles. You can review the City of San Francisco's **"Electric Vehicle Ready Community Blueprint" here**.

   Intertrust EV charging infrastructure planning tool can help eliminate or significantly reduce the soft costs associated with EV charging stations.

3. Describe other EVCS installation or EV adoption programs operating within Wisconsin that you are aware of.

   Not aware of any other EV adoption program in Wisconsin.

4. Do you currently own or operate a plug-in electric vehicle for personal or fleet use? If so, please describe the vehicle and charging (where and how often the vehicle(s) is(are) charged). If not, how likely are you or your organization to purchase a light-duty EV within the next year?

   Within Intertrust, currently at least 25% of the population owns a plug-in electric vehicle for personal use. Intertrust offers on site charging facility at his HQ. We are noticing an increasing number of employees expressing interest in purchasing an EV soon.

5. The EVCS grant program is limited by the State Trust Agreement to charging installations at non-government owned property, multi-unit dwellings, workplaces and government property. Funding charging stations at single family dwellings is not allowed. Should funds be prioritized among eligible installation locations? If so, how?

   We will be happy to facilitate a call with the City of San Francisco or Los Angeles that have a mature EV adoption program, which includes detail plans for EV charging infrastructure. Los Angeles has plans to install over 30,000 EV charging stations before the 2028 Summer Olympics.

6. The EVCS grant program is limited by the State Trust Agreement to match amounts as shown in the table below. Should the program fund EVCS projects at the maximum cost share? Or, should the program fund EVCS projects at a share lower than the maximum, with the goal maximizing leveraged funds?

   We will be happy to facilitate a call with the City of San Francisco or Los Angeles that have a mature EV adoption program, which includes detail plans for EV charging infrastructure.

7. How should charging station locations be determined or prioritized? Should the VW Mitigation Program determine or prioritize locations? Should grant applicants determine or prioritize locations?

   There are several factors that should be considered for a charging station location, for example – traffic patterns around a location, can the grid handle the new load, disadvantaged neighborhood, would there be enough demand for the charger, etc.

   Intertrust software allows the planner / installer to collaborate on the planning process.

8. Should available funding be split based on charger type? (i.e. 60% for DCFC and 40% for L2)?

   The funding allocation between the different charger types would depend on the overall infrastructure plan.

9. Should the state offer multiple rounds of funding over time? If so, how many rounds of funding should the state consider for the EVCS program? If more than one round of funding, should each round have a particular focus (i.e. fund by charger type, focus on type of applicant, etc.)?

   The amount of funding would depend on the overall plan of the charging infrastructure required by the State of Wisconsin.

10. If you currently charge an EV at publicly available charging stations, please describe the process you use to pay for charging, if payment is required.

    At Intertrust we are provided with charging stations in the company parking lot. In addition to that we charge our EVs at home as well.

11. How many, what type and where would you recommend additional charging stations be installed in Wisconsin? (e.g. charging level, highway corridors, city centers, workplaces, educational institutions)

    In addition to the items mentioned in the question, grid information (proximity, capacity and demand) should be taken into consideration for siting EV charging stations. Soft costs associated with interconnection requests can derail projects, if not planned properly.

    The Intertrust solution *significantly* reduces the time required for EV infrastructure stakeholders, municipal planners, and other users (researchers, industry advocates, etc.) to easily and quickly access grid information. This information is crucial to facilitate efficient charging station placement and to make related capital investments. Currently, delays in the grid interconnections add weeks, months, or more than a year to a project schedule and thousands of dollars in soft cost. Intertrust will reduce the planning time by 90% - 95% and eliminate the upfront soft cost associated with grid interconnection requests. This target was achieved in the E.ON project in Germany, where the average time for successful siting of an EV charging station was six months before the deployment of Intertrust Solution.

    The Intertrust solution efficiently handles massive, complex grid data by unifying it on a single, secured platform, which Intertrust has the ability and know-how to maintain.

    Finally, to balance grid access with data security, the Intertrust solution is sensitive and reactive to the grid's ecosystem of participants by associating authentication and authorization credentials with these participants to facilitate the efficient implementation and enforcement of the policies. Working together, these functions enable EV infrastructure stakeholders and municipal planners to overcome the major hurdles associated with expanding EV charging station infrastructure. Intertrust's data rights management functions provide a means for encoding regulatory and other data usage policies.

12. What options exist for funding EV charging stations?

    Today there are several vendors involved in EV charging station business and each one has a business model that is slightly different from the others. Sample vendors: Tesla, EVGo, Volta, Enel, Greenlots, Chargepoint, EverCharge, Powerflex, and EV Charing Pros.

    Many of these are well funded companies and get state subsidies for installing the chargers. Happy to discuss options for State of Wisconsin.

13. Would targeting light-duty fleet operators with EVCS grants encourage those operators to adopt light-duty EVs into their fleets? If yes, how should those operators be targeted?

14. Are you or your organization involved in installing EVCS? If so, what type and where? Please describe the process you use to install EVCS and any barriers you encounter.

    Intertrust provides the software solution to help plan EV charging infrastructure for states, cities, municipalities and installers. Based on our experience we see that lack of speedy response for interconnection requests causes the most amount of delay and cost overruns.

15. Provide cost estimate ranges for equipment and standard installation of dual port EVCS (J1772, CCS, CHAdeMO or combination thereof) for the following specifications (for confidential or proprietary information complete form DOA-3027). Generalizations or averages are acceptable.

    Not applicable.

16. Briefly, please share any additional thoughts regarding EV charging stations that are not encompassed in your responses to the questions above.

    As municipalities consider options surrounding the future of transportation and developing EV charging infrastructure, they must develop a thorough understanding of the grid, as well as the underlying data and assumptions about future EV adoption levels and charging patterns. Intertrust solution provides real-time data which allows sophisticated policy intervention, meaningful targeting of public programs and long-term (10-year) asset planning. Overall, the Intertrust solution enables planners and policymakers to initiate planning for charger network development in the same way that they currently plan for land use and transportation in their General Plans. By removing the current bottleneck in interconnection request processing, a problem that will only get worse as EV adoption grows, stakeholders will be able to meet their aggressive electrification and carbon emissions reduction goals.

    A lack of easy and quick access to electric grid information is *significantly* impairing the siting and construction of new EV-charging stations. Challenges include:

    - Grid data is extremely complex and difficult to process, synthesize and maintain.
    - Digital grid data sources are not only disparate, they are stored in different physical locations and consist of various data-types. Not all grid data is digital. Therefore, analog sources of grid data require manual, time-consuming conversion.
    - Balancing access to grid data and privacy laws is tricky and requires extensive expertise, data-handling experience, and risk mitigation know-how.