Overview and Resources for EV Infrastructure Development

Electric Vehicle Infrastructure Workshop

November 2, 2017

Lori Clark, Program Manager, NCTCOG
Eight-Hour Ozone Trend for North Texas

As of October 31, 2017

1997 Standard < 85 ppb (Revoked)

2008 Standard ≤ 75 ppb¹ (by 2017)

2015 Revised Standard ≤ 70 ppb (TBD; Marginal by 2022)

¹Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the Design Value (three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration) is equal to or less than 70 parts per billion (ppb).

²Not a full year of data, current as of 10/29/2017

Source: NCTCOG TR Dept
Estimated 2017 Nitrogen Oxides (NO\textsubscript{x}) Emissions Inventory

Source Category Estimates = 296.77 tons per day (tpd)

- **On-Road Mobile**: 130.77 tpd
- **Light-Duty Vehicles**: 50.8 tpd
- **Medium-Duty Vehicles**: 14.86 tpd
- **Heavy-Duty Vehicles**: 65.11 tpd
- **Point Sources**: 26.55 tpd
  - Oil & Gas (Production & Drill Rigs): 13.87 tpd
  - (Excluding Oil & Gas): 38.30 tpd
- **Off-Road Mobile**: 25.24 tpd
- **Non-Road Mobile**: 45.54 tpd
- **Point - Oil & Gas**: 16.50 tpd
EV Benefits - Emissions

Total NO$_X$ Emissions, in Grams/Mile

- **Pump-To-Wheel**
- **Well-to-Pump**
- **Well-To-Wheels**

**Gasoline (E10)**

**EVs**

ICE=Internal Combustion Engine; HEV=Hybrid Electric Vehicle; PHEV=Plug-In Hybrid Electric Vehicle; NGCC=Natural Gas Combined Cycle

Source: Argonne National Laboratory Well-to-Wheels Emissions Calculator
# EV Benefits - Cost

<table>
<thead>
<tr>
<th>Type of Cost</th>
<th>Electric Vehicles</th>
<th>Conventional Gasoline Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td>Nissan LEAF</td>
<td>Chevrolet Volt</td>
</tr>
<tr>
<td>Annual Fuel Use</td>
<td>3,652 kWh electricity</td>
<td>68 gallons gasoline + 2,812 kWh electricity</td>
</tr>
<tr>
<td>Annual Fuel Cost</td>
<td>$402</td>
<td>$473</td>
</tr>
<tr>
<td>Annual Operating Cost</td>
<td>$2,507</td>
<td>$2,730</td>
</tr>
<tr>
<td>Cost per Mile</td>
<td>$0.21</td>
<td>$0.23</td>
</tr>
</tbody>
</table>

**Source:** U.S. DOE Alternative Fuels Data Center Vehicle Cost Calculator [http://www.afdc.energy.gov(calc](http://www.afdc.energy.gov/calc)
I survived the "Great Gas Panic"

Of Thursday
EV Benefits – Maturing Market

Electric Range per Model (all 2017)

- **Tesla Model S**: 335 miles
- **Tesla Model X**: 295 miles
- **Chevrolet Bolt**: 238 miles
- **Volkswagen e-Golf**: 125 miles
- **Ford Focus**: 115 miles
- **BMW i3**: 114 miles
- **Nissan LEAF (2017)**: 107 miles
- **Kia Soul**: 93 miles
- **Mercedes-Benz B250e**: 87 miles
- **Fiat 500e**: 87 miles
- **Chevrolet Volt**: 53 miles
- **Ford Fusion Energi**: 21 miles
- **Ford C-MAX Energi**: 19 miles

Source: Plug In America

Market Availability
July 2017:
- **21 PHEVs**
- **13 EVs**
Benefits of Installing EV Infrastructure

Facilitate Increased Deployment of EVs

Capture “Green” Market Share

Increase Exposure and Foot Traffic

Attract and Retain Employees
*Other EV includes the BMW i3, Chevrolet Bolt, Fisker Karma, Ford Focus Electric; Other PHEV includes the BMW i8, Ford C-Max Energi, Ford Fusion Electric, Chevrolet Bolt, Chevrolet Spark EV, Fiat 500e, and Mercedes B250e

Regional Data Trends

North Texas Electric Vehicle (EV) Registration Trends

As of October 3, 2017:
Texas Registration: 10,922
DFW Area: 4,363

BUT.....
Statewide, EVs ~0.1% of all Registration

*Other EV includes the BMW i3, Chevrolet Bolt, Fisker Karma, Ford Focus Electric; Other PHEV includes the BMW i8, Ford C-Max Energi, Ford Fusion Electric, Chevrolet Bolt, Chevrolet Spark EV, Fiat 500e, and Mercedes B250e
Types of Electric Vehicle Supply Equipment (EVSE)

Level 1: Ordinary Three Prong Household Outlet Rated at 110-120 Volts; 2-5 Miles of Driving Range per Hour of Charging

Level 2: 240 Volts, Broad Range of Charging Speeds up to 19.2 kW; 10-30 Miles of Driving Range per Hour of Charging

DC Fast Charging (DCFC): Fastest and Most Expensive; Up to 40 Miles of Driving Range with 10 Minutes of Charging

List Available from Plug-in America at https://pluginamerica.org/get-equipped/charging/
Regional Infrastructure Availability and EV Registration by ZIP Code

Priorities:
Multifamily Sites
Workplace Charging
DCFC to Fill Gaps
Designated Statewide Alternative Fuel Corridors and DC Fast Charge Infrastructure

Priority: DCFC Along Designated/Proposed Corridors

FHWA Alt Fuel Corridors 2017:
Qualified EVSE must be within 5 miles of the highway, open to the public (no Tesla), and may only include DCFC charging stations.

To be signage-ready, a highway can have no more than 50 miles between stations.
EV-Readiness: Policy Assessment

EVs for Local Fleets

EV-Ready Construction Codes & Permitting Requirements
- EV Ready Codes for the Built Environment: www.transportationandclimate.org/ev-ready-codes-built-environment

Zoning Policies

EV-Friendly Parking Ordinances & Benefits

Local Incentives for EV Purchase or EVSE Installation

Special Utility Rates

Electric Vehicle Policy Survey:
www.surveymonkey.com/r/CHFWVMD
EV-Readiness: Community Assessment

Plug-In Electric Vehicle Readiness Scorecard

The Plug-In Electric Vehicle Readiness Scorecard helps communities assess their readiness for the arrival of plug-in electric vehicles (PEVs) and electric vehicle supply equipment (EVSE).

PEVs are an exciting new transportation option that has the potential to benefit a community’s economy, energy security, and environment. As local and regional leaders know, PEV readiness is a community-wide effort, requiring charging infrastructure, planning, regulations, and support services. This scorecard supports these efforts by helping leaders in cities, counties, and larger regions:

- Evaluate a community’s PEV readiness
- Receive feedback about strengths and offer ways to improve
- Record and track progress toward PEV readiness

Get started evaluating your community.

Log in to your account.

Email

Password

Forgot your password?

https://www.afdc.energy.gov/pev-readiness
Siting EVSE: Best Practices

Minimize Cost – Locate Close to Electrical Service

Maximize Convenience – Access and Egress, Signage

Ensure Accessibility – Compliance with ADA, State, Local, and Organizational Policies

Avoid Hazards (Specifically, Tripping over Cords)

Prevent Impacts – Curbs, Bollards, Wheel Stops, etc.

Provide Lighting/Shelter

Prevent Pooled Water/Irrigation
Managing EVSE: Key Considerations

Do you own the property? Is the owner interested in collaborating?

Do you want to manage or outsource maintenance?

Do you want to know how the site is being used?

Do you want users to pay? If so, how?

Do you want to limit access to certain users? Certain Hours?

How will you enforce restricted access or EV-only signage?

Are existing electrical resources adequate or do they require upgrades?
Guidance on Infrastructure Development:
www.afdc.energy.gov/fuels/electricity_infrastructure.html

Creating EV-Ready Towns and Cities:

The Basics about EVs and EVSE Hosting/Ownership:
www.afdc.energy.gov/pdfs/51227.pdf

Consider Cost Recovery (if applicable) and Ongoing Maintenance:
Consider Policies to Ensure Fair and Equitable Access
Examples: Time Limitations for Individual Users; Encouraging Staff to Move Vehicle Once Charging Complete

Conduct a Survey to Assess Demand and Determine the Following:
- Number of Charging Connections
- Type of Equipment
- 24 hour or Limited Access

[link to workplace charging resources](http://www.afdc.energy.gov/fuels/electricity_charging_workplace.html)
Consider Enlisting the Help of Engineering Students/Departments in Planning

Determine Whether EVSE will be Utilized for Ongoing Research

Determine how Charging Stations fit into University Sustainability Planning (e.g. LEED)

Consider Current Parking Ownership Model (Assigned, Deeded, or Common Area)

www.afdc.energy.gov/fuels/electricity_charging_multi.html
# Available Incentives

## Vehicles

<table>
<thead>
<tr>
<th>Amount</th>
<th>Incentive Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $7,500</td>
<td><a href="#">Qualified Plug-In Electric Drive Motor Vehicle Tax Credit</a></td>
</tr>
<tr>
<td>$3,500</td>
<td><a href="#">AirCheckTexas Drive a Clean Machine Program</a></td>
</tr>
<tr>
<td>$2,500</td>
<td><a href="#">Light-Duty Motor Vehicle Purchase or Lease Incentive Program</a></td>
</tr>
<tr>
<td></td>
<td><strong>Estimated Summer/Fall 2018</strong></td>
</tr>
</tbody>
</table>

## Infrastructure

<table>
<thead>
<tr>
<th>Amount</th>
<th>Incentive Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 50% Project Cost</td>
<td><a href="#">Alternative Fueling Facilities Program</a> Join us November 9 at 9:00 am!</td>
</tr>
<tr>
<td>Up to 100% if Government-Owned; 80% if Non-Government Owned</td>
<td><a href="#">Volkswagen Settlement Environmental Mitigation Trust????</a> <em>Texas Plans To Be Determined</em></td>
</tr>
</tbody>
</table>
Provide Letters of Support

Identify Whether Proposed Site Fills Gaps

Provide Registration Data by City/County/ZIP to Support Demand Estimates

Assess Station Location Against Alternative Fuel Corridor Criteria:
www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/
For More Information

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Alexis Ackel
Air Quality Planner
(682) 433-0444
Aackel@nctcog.org

Kristina Ronneberg
Air Quality Planner
(817) 695-9226
KRonneberg@nctcog.org

www.nctcog.org/AQfunding
www.dfwcleancities.org/evnt
https://www.afdc.energy.gov/
North Lake College
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

Chris Marrs
Senior Associate Director of Facilities
972-273-3347
cmarrs@dcccd.edu
What did we want to achieve

- Increase parking to match enrollment growth
- Improve storm water flow
- Improve the existing lighting conditions. Solar vs LED
- Improve staff and faculty parking
- Add irrigation to the landscape.
Design Factors

- Pedestrian safety
- Landscape to match native planting on campus
- Storm Water Review
- Traffic flow problems
- Tree Campus USA
- Budget surprise
ChargePoint
EV Charging Station Overview

November 2, 2017

Dave Aasheim
dave.aasheim@chargepoint.com
214-449-7544
The World’s Largest and Most Open EV Charging Network

Largest Community of EV drivers
+ 70% of new EV drivers join every month
+ A driver plugs into our network every 4 seconds

Charging Everywhere
+ 42,000+ charging spots
+ 600+ ports added every month

We’re Established and Growing
+ $165 million in funding
+ Market share leader
+ European Expansion

We Are the Industry Leader
According to Time, Bloomberg, CNBC, Navigant Research and many others
42,000+ ChargePoint Stations
7,000+ Customers: Some of the World’s Best-Known Brands

<table>
<thead>
<tr>
<th>Workplace</th>
<th>Retail</th>
<th>Parking</th>
<th>Hospitality</th>
<th>Multi-family</th>
<th>Energy</th>
<th>Fleet</th>
<th>Municipalities</th>
<th>Education</th>
<th>Healthcare</th>
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<tr>
<td>3M</td>
<td>Amazon</td>
<td>Apple</td>
<td>Marriott</td>
<td>Greystar</td>
<td>Engie</td>
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<td>Whole Foods</td>
<td>Starwood</td>
<td>UDR</td>
<td>Engie</td>
<td>Volkswagen</td>
<td>Swedisch</td>
<td>UCI</td>
<td>Tolfa</td>
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<td>Netflix</td>
<td>Sheraton</td>
<td>Avalon</td>
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<td>Walmart</td>
<td>UCI HealthCare</td>
<td>UCSF</td>
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<td>Netflix</td>
<td>Safeway</td>
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<td>Tolfa</td>
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</tr>
</tbody>
</table>

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Stations for Every Situation

Single Family Home
- CPF25 Level 2
- CT4000 Level 2
- CPE100 24kW
- Fast DC Chargers

Multi-Family, Fleet
- CPE200 50kW

Commercial/Municipal, Mixed Use
- CPE250 62.5kW
- Express Plus 400kW
- Ultra-fast DC Chargers

On-Route, Commercial
- Home Level 2
ChargePoint Level 2 Stations – Six Flavors

+ Dual Port Level 2 Charging Stations
  • Standard = 6’ tall with 18’ cords
  • Tallboy = 8’ tall with 23” cords

+ Single Port Level 2 Charging Stations
Commercial Level 2 Charging Stations

Charging for businesses and municipalities that want to offer charging to employees, customers and visitors

+ **Speed**: 25 RPH (estimated maximum miles of Range Per Hour of charging).

+ **Clean Cord Technology**: Self-retracting, maintenance free and ultra-lightweight cord management system.

+ **Power Management Options**: Cut installation costs and double the number of parking spots served.

+ **Branding and Customization**: Promote your brand with an LCD screen and customizable signage.
Industry Leading: ChargePoint Assure
The Most Comprehensive Station Maintenance & Management Program in the Industry

+ 98% Annual Station Uptime Guarantee
+ One Business Day Response Time
+ Proactive Station Monitoring
+ Proactive Dispatch
+ Labor Coverage for Vandalism & Accidents
+ Monthly Summary & Quarterly Detailed Reports
+ Unlimited Software Configuration Changes
Branding Options - Customizable Inserts
Our Automotive Partners: Cars People Love
Co-branded Auto OEM Membership Kits

Chevy Bolt/Volt  
Hyundai Ioniq  
Toyota Prius Prime  
VW e-Golf  
BMW i3  
BMW eDrive  
BMW i8  
Honda Clarity
ChargePoint Mobile App

- **Find Available Stations**
  See which stations are available to charge your EV

- **Start Charging**
  Just hold your phone by the card reader on the station

- **Get Notified**
  Receive notifications when your car is done charging, or when a station opens up

- **See Station Pictures**
  Easily find stations with photos submitted by other drivers

- **Read Driver Tips**
  Get helpful advice from other drivers about charging at a particular station

- **Connect ChargePoint Home**
  Schedule charging, set reminders, get notifications and track usage
Express DC Fast Chargers

Fast charging for all DC enabled vehicles

+ **Speed**: 50 kW station provides 200 RPH (estimated miles of Range Per Hour). 24 kW station provides 100 RPH (estimated miles of Range Per Hour).

+ **Connectors**: CHAdeMO and/or SAE Combo connectors to serve all EVs with fast charging capabilities.

+ **Form Factor**: Slim design allows for flexible installation locations, lower shipping and lower install costs.

+ **Reliable**: Designed to increase reliability and performance.
Just Introduced- Express 250

+ Up to 62.5 kW standalone charging capacity
+ Up to 3 charging cables, all standard connectors supported (factory installed)
+ Liquid cooled power modules
+ Exceptional ease of use
  • LED for driver notifications
  • LCD for driver interaction
  • Swing arms for easy cable management
+ Market Targets
  • Light duty fleets that require fast turnaround times for vehicles
  • High end destinations: hotels, retail
  • Workplaces

Cables on swing arms to maximize reach
Area lighting
LED display for notifications
Cameras for security, occupancy detection
LCD touchscreen for driver interaction
Two power modules
CPF25 Family

Charging for airport, fleet, and multi-family applications

+ **Energy Management**: Lower both installation and electricity costs with advanced energy management tools such as panel sharing and scheduled charging.

+ **Access Control**: Control who can use your charging stations. Assign RFID cards to vehicles or drivers and allow only those approved vehicles or drivers to charge at your stations.

+ **Speed**: Our Level 2 CPF25 stations charge at a maximum rate of 25 RPH (miles of Range Per Hour), supplying up to 7.7 kilowatts (kW).
Panel Sharing - Intelligent Power Management

- ChargePoint Panel Share technology allows a maximum aggregate load to be set on a group of stations.
- The stations, in concert with ChargePoint cloud-based services will manage the individual power output of each station to ensure that the maximum allowed load is never exceeded.
- In this example we show 80A service for 5 stations, which would otherwise draw $5 \times 32A = 160A$ at FULL load (2:1 oversubscription).

![Diagram showing Panel Sharing technology with dedicated 40A breaker and circuit to each port, delivering 32A to each port at full power, up to panel maximum.]
ChargePoint Business Model

+ Station Host/Owner Decides on Policies
  - Access Control
  - Visibility on public maps
  - Setting Fees

+ If fees are set, ChargePoint collects from drivers
  - Reimburses host every 30 days

+ Drivers can set up account to pay for sessions
  - Debit or credit card
  - PayPal
  - Fleet accounts can use Voyager or WEX

+ Assure= full parts & labor & monitoring service
  - 98% uptime guarantee
  - One business day response
How To Purchase

+ **Direct**
  - NJPA Cooperative Award
  - Installation Options

+ **Channel Partners**
  - Many have Cooperative Awards
    - NJPA & H-GAC
  - Installation Options including Turnkey
Thank You
For further information on ChargePoint, please contact Dave Aasheim:
dave.aasheim@chargepoint.com
(214) 449-7544
YOUR GUIDES ON THE ROAD TO ELECTRIFYING TRANSPORTATION

Electric vehicles (EVs) are the future of transportation, and drivers expect convenient, fast, and reliable charging on the go.

EVIA offers a range of consulting services to assist clients in deploying EV infrastructure. From program planning to site selection, layout to commissioning, EVIA's expertise will put you on the right path.

Jason Buckland  
Founding Partner

214-762-7162  
Jason@electricvia.com  
www.electricvia.com
Full Service Provider of Electric Vehicle Charging Stations Since 2009
• Introduction to LilyPad EV

• Our Products

• Our Business Model
Full Service Provider of Electric Vehicle Charging Infrastructure Services

<table>
<thead>
<tr>
<th>Services</th>
<th>Markets</th>
<th>Delivered</th>
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<tbody>
<tr>
<td>• Plan</td>
<td>• Electric Utilities</td>
<td>• Since 2009</td>
</tr>
<tr>
<td>• Design</td>
<td>• Cities/Counties</td>
<td>• 1300 stations</td>
</tr>
<tr>
<td>• Implement</td>
<td>• Workplaces</td>
<td>• 544 locations</td>
</tr>
<tr>
<td>• Manage</td>
<td>• Retail/Hotels</td>
<td>• 10,000 drivers</td>
</tr>
<tr>
<td></td>
<td>• Multifamily</td>
<td>• 23 states, 130 cities</td>
</tr>
<tr>
<td></td>
<td>• Hospitals</td>
<td>• 376,000 charges</td>
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<td></td>
<td>• Highways/C-Store</td>
<td>• 2.5 GWh</td>
</tr>
<tr>
<td></td>
<td>• Universities</td>
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</tr>
</tbody>
</table>

Markets delivered:
- Electric Utilities
- Cities/Counties
- Workplaces
- Retail/Hotels
- Multifamily
- Hospitals
- Highways/C-Store
- Universities

Since 2009, 1300 stations, 544 locations, 10,000 drivers, 23 states, 130 cities, 376,000 charges, 2.5 GWh.
LilyPad EV Partial Client List
100 clients, public and private, large and small

KCP&L
HyVee
Sprint
Bayer CropScience
amc
MasterCard
Union Station
Kansas State University
BLACK & VEATCH
The University of Wisconsin Madison
Amsted Rail
Employee Credit Union
VENTURA COUNTY CALIFORNIA
UNBC
LEXMARK
University of Northern British Columbia
BOULEVARD
Johnson County Community College
The largest and most robust manufacturer of charging infrastructure

<table>
<thead>
<tr>
<th>On-Route Commercial</th>
<th>Commercial Municipal Mixed Use</th>
<th>Multi-Family, Fleet</th>
<th>Single Family Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE250 Express Plus</td>
<td>CT4000 Level 2</td>
<td>CPF25 Level 2</td>
<td>Home Level 2 Station</td>
</tr>
<tr>
<td>62kW DC – 400 kW DC Cars, Trucks, Buses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Charging Stations**
For all applications, for all EVs

**Cloud Network**
Most robust in the industry

**Assure**
98% uptime guarantee

**Power Management**
Minimize install, demand costs

© 2017 LilyPad EV • 866-525-9723 • lilypaddev.com
Core Competencies

Plan
- Planning
  - Goals
  - Stakeholders
  - Geography
- Design
  - Geography
  - Location Categories
  - Power Management
  - Growth Planning
- Product Selection
  - Cars
  - Trucks
  - Buses
  - Fleets
  - Level 2
  - Fast DC
  - Ultra Fast DC
- Project Management
  - Process
  - Scheduling
  - Stakeholder Coordination
  - Electric Utility Coordination
  - Tracking
  - Reporting
  - Work Queues
- Site Acquisition
  - Host Candidate
  - Site Qualification
  - Site Survey
  - Minimize Install Costs
  - Scope, Cost
  - Contract
- Construction
  - Scope
  - PE Drawing
  - Permitting
  - Make Ready
  - Inspection
- Installation
  - Mount Station
  - Power Up Station
  - Configure Station
  - Provision Station
  - Test Station
- Training
  - Owner
  - Host
- Manage
  - Maintenance
    - Monitoring Stations
    - Repair Dispatch
  - Management
    - Growth
    - Usage Reporting
    - Forecasting

done right • done smart • done fast
Electric Vehicle Charging Stations
Full Service Provide of EV Charging Stations
We take care of as much or as little of a project as the customer needs

• Turnkey or a la cart
• Planning, Design, Implementation, Management
• Experienced, Proven
• Large Scale Deployments or Small Projects
• We play well with others
• We will always act in your best interest
Business Model

- Customer owns the charging stations
- LilyPad EV (typically) installs the stations
- Maintenance can be as needed via LilyPad EV
  --or--
  Assure extended warranty/maint program w/98% uptime guarantee
- Driver pays fee via ChargePoint card, phone app or tap, or 800#.
- LilyPad EV can help with ongoing management and planning
• LilyPad EV is an NJPA contract holder for EV Charging Stations
• NJPA contract competitively solicited on your behalf
• Your Due Diligence Requirements met w/o hassle of an RFP
• Available to Government, Education, and Non-Profit Agencies
• You are Assured of
  • Experienced Vendor
  • Deeply Discounted Pricing
  • Quality Product
  • Full Turnkey Project

https://www.njpacoop.org/cooperative-purchasing/contracts-fleet/fleet-services-parts-equipment/051017-lpe/
Contact Info

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larry.kinder@lilypadev.com

Keith Anderson
VP Business Development
913-269-2453
Keith.anderson@lilypadev.com

Click Here to Visit LilyPad EV's Website
DRIVE NEW BUSINESS TO YOUR LOCATION • $0 ACQUISITION COST

TURNKEY ELECTRIC CAR CHARGER
TURNKEY SOLUTION
YOU PROVIDE THE SITE AND WE BRING EVERYTHING ELSE

WE PROVIDE
- EQUIPMENT
- MAINTENANCE
- USAGE REPORTS
- NETWORK SYSTEMS

YOU PROVIDE
- LOCATION
- POWER
ALL-IN-ONE PACKAGE
CONNECT WITH YOUR CUSTOMERS WHILE PROVIDING A VALUABLE SERVICE

- POS SYSTEM
- VIDEO DISPLAY
- ADVERTISING OPPORTUNITY
- RFID / NFC
- WIRELESS CONNECTIVITY
- INTEGRATED NETWORK
- CUSTOMIZABLE WRAP

CONNECT WITH YOUR CUSTOMERS WHILE PROVIDING A VALUABLE SERVICE
ALL-IN-ONE PACKAGE
EV TRENDS

SALES VOLUMES - TOP 5 STATES (PROJECTIONS)

NEW ELECTRIC VEHICLES SOLD

NEW VEHICLES SOLD

SALES VOLUMES - NATIONAL (ACTUAL)

ELECTRIC

HYBRID

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2013

2014

2015

2016
TRENDING MARKETS
THE FUTURE IN TRANSPORTATION IS HERE NOW

PRIVATE COLLEGE
PARKING GARAGE
RESTAURANT
RETAIL
PUBLIC UNIVERSITY
PUBLIC WORKS
OFFICE BUILDING
ENTERTAINMENT
HOTELS
COMMERCIAL FLEET
HOME
FUEL STATIONS
ELECTRIC CAR BRANDS
THE FUTURE IN TRANSPORTATION IS HERE NOW

CONCEPT ONE
B-CLASS E DRIVE
SPARK EV

MODEL S
I3
FOCUS ELECTRIC

FURTIVE EGT
GT
E-UP!

FETISH
500E
SOUL EV

E-NV200
ED
I MIEV

TWIZY
RENAULT
FIT EV

FIT EV
HONDA

REVITALIZE
CHARGING SOLUTIONS
ADVERTISING OPPORTUNITY
CONNECT WITH YOUR AUDIENCE IN NEW WAYS

DIGITAL CONTENT
- 10 Video Spots Available
- 30 Seconds Per Spot
- 3000 Total Rotations Per Day

WRAPS
- Custom Graphics
- Full or Half Wraps Available

SPONSOR PACKAGES
- GOLD - 3 Spots + Full Wrap
- SILVER - 2 Spots + Half Wrap

DISCLAIMER: WRAP DESIGNS ILLUSTRATED HERE ARE CONCEPTUAL RENDERINGS ONLY
PARTNERSHIP REVENUE SHARE
ADVERTISER INCOME WILL PAY YOUR POWER BILLS

EARN
• 10% Revenue Share on Ad $$$

REIMBURSEMENT
• Energy Use for Charge Sessions

SIGN UP TODAY!
REVITALIZE MOBILE APPLICATION
$0 CAPITAL COST + $0 UTILITY COST + $0 MAINTENANCE COST = FREE!

*SITE PREPARATION FEES MAY APPLY*
Siemens VersiCharge™
Product Portfolio Overview
Thank you for choosing Siemens

- Complete energy management knowledge
- 170 years of electrical experience
- Constantly innovating
- Proven quality and reliability
- Looking out for customer needs
- 350,000 employees
Current US Products (www.usa.siemens.com/versicharge)

VersiCharge Universal and Hardwire
VC30GRYU and VC30GRYHW

VersiCharge Post
VCPOSTGRY
(includes tamper resistant screws)

Wi-Fi Enabled VersiCharge SmartGrid (SG)
VCSG30GRYUW
VCSG30GCPUW
What are the Product Pieces for VersiCharge SG

1) VersiCharge SG + OCPP US2:VCSG30GCPWUW

2) User Access and Payment Management
   - Greenlots SKY License (add QR code to station)
   - Shell License (user checks in to station via Shell Smartphone app)

3) Project Accessories
   - Post Kit
   - VersiComm (Cellular) + Data Plan
Follow if you have a preferred contractor:

- Send the below distributor map link to your contractor.
- Give contractor sales deal and pricing created for NJPA members.
- Contractor will find distributor and reference pricing.
- Contractor visits your location to quote install and potential electrical upgrades.
- Distributor, contractor, and NJPA member agree on total pricing and sign contract.
- Distributor buys equipment from Siemens and contractor install equipment.

Distributor Map: [https://maps.esp.tl/maps/_NJPA-Distributor-Map/pages/map.jsp?geoMapId=385739&TENANT_ID=176474](https://maps.esp.tl/maps/_NJPA-Distributor-Map/pages/map.jsp?geoMapId=385739&TENANT_ID=176474)

NJPA Member Only Sales Deal #: 30961

NJPA pricing, VersiCharge Installation Manuals, and VersiCharge Data Sheets in Packet

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Looking forward to working with you

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NCTCOG
November 2, 2017

Jim Burness
About National Car Charging

- Founded in 2011
- Over 400 clients across 36 states
- One of the largest dedicated charging equipment distributors in the U.S.
About National Car Charging

- Full spectrum of solutions
- Carefully selected collection of manufacturers
  - Only UL or Intertek-listed products

ChargePoint
PREMIER PARTNER

EVBox
Siemens
efacec
BTCPower

National Car Charging
Our Process

- Step 1: Determine use case
- Step 2: Identify the right product for the use case
- Step 3: Determine installation strategy
  - We can use your electricians or ours
- Step 4: Acquire products at the right price
- Step 5: Manage installation including activation and programming (if needed)
Site-owned model
- Host site owns and controls station
- If networked, the network collects payments and distributes to the site host on a monthly basis
- Site host can set the amount to charge
- Maintenance can be done internally or, depending on manufacturer, can be outsourced
Third-party model
- Avoid at all costs!
- Sounds too good to be true, because it is
- A financial train wreck
  - Not a viable model
  - Virtually all providers have gone bankrupt
- Bad for drivers
  - Cost to use is way too high, stations don’t get used
H-GAC Cooperative Purchasing

- Houston-Galveston Area Council
  - 30 years old
  - www.hgacbuy.org

- No cost to buyer

- Open to:
  - Municipalities, Cities, Counties, State Agencies
  - Almost any other public entity
  - 501(c)(3)s that provide government functions and services

- ChargePoint products currently listed
  - Adding new products in November
H-GAC Cooperative Purchasing

- No geographic restriction
- Pre-negotiated pricing
  - H-GAC issued RFP so can often be used in place of a competitive bid process
  - “HGAC Buy uses mass circulation, minority emphasis print media, and internet services to post legal notices and bid solicitations. Therefore, posting of public notices to solicit bids and the formal competitive bid process are satisfied thru HGAC Buy procedures.”
- Compare to other cooperative buying programs
H-GAC Cooperative Purchasing

Simple Process
- Execute an Interlocal Contract (ILC) found on the www.hgacbuy.com website
- Obtain specific product details at the website
- Contact National Car Charging and mention H-GAC to get a definitive quote
- Send PO directly to us and we handle reporting to H-GAC
- We invoice you directly
- Be sure to CALL US FIRST!
Contact Information

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  - Twitter @natlcarcharging
  - Facebook: www.facebook.com/nationalcarcharging

CALL US FIRST! You’ll be glad you did.