



Student Green Energy Fund Proposal Application Form

Section 1: Summary Information

Project Title:	Phase III – USF-wide EV Charging Station Installation
Duration (months):	5
Total Budget (\$):	183,079.00
Requested SGEF Funds (\$):	183,079.00
Matching Funds (\$):	0 (enforcement / labor by PATS)
Proposed Starting Date:	June, 2017
PI Graduation Date (if applicable):	December, 2017 – Applying for Masters Degree

Section 2: Applicant Information

	Full Name	Unit/ Department	Phone	Email
Principal Investigator	Nadeem Freajah	Student / Bachelors in General Studies / School of Geo Sciences	813-606-1444	Nfreajah@mail.usf.edu
Investigator 1	John Pilz	Accelerated 3+3 Bachelor's/J.D. Program	727-452-0603	johnpilz@usf.edu
Investigator 2	Jakob Hartung	Engineering Student/ College of Engineering	702-953-2631	jakobhartung@mail.usf.edu

Investigator 3	Adam Burrell	Undergraduate Accounting Student/Muma College of Business	727-417-1162	aburrell@mail.usf.edu
Investigator 4	Frank Granda	Parking and Transportation Services	813-974-5963	fgranda@usf.edu

Section 3: Project Description

Describe the project, including goals and objectives, methods to be used to assess the outcome of the project, and how the results of the project will be communicated to the USF community and the sustainability of the project

- Project background and purpose (reasons motivating request)

In 2011, USF made a groundbreaking decision to install 2 Electric Vehicle (EV) charging stations in the parking lot by the Marshall Student Center. Today, USF's 5 EV charging stations are insufficient for an increasing EV population of at least 27. There are more EVs on campus that are not listed, and 27 is a conservative estimate. The charging stations are currently being used at 100% capacity at different points throughout the day. The stations are continuing to dispense electricity over time, which translates into daily greenhouse gas savings. USF's major CO₂ emissions come from the cars driven by commuters. EVs have an average GHG saving of 0.42kg/kWh. With the recorded data of the electric cars that USF replaces with clean commutes, the university is always one step closer to its goals set out in the Climate Action Plan that USF President Dr. Judy Genshaft signed years ago.

In addition to the Climate Action Plan, USF's Student Government has passed a resolution in 2014 that outlines the need for more EV charging stations at USF. John Pilz, Roger Stern and Ileana Alvarez had, at the time, amassed a petition of over 1,200 student signatures to show support for action on the need for more charging stations at USF. The 2014 SG Resolution is attached to this proposal as an addendum for your viewing pleasure. This message is just as important today as it was 3 years ago.

With increasing EV owners at USF, the demand for stations is continuing to exceed the current supply. If this problem persists, a large portion of EV owners will not be able to charge their cars. USF has the goal of showing that EV charging stations are available in most areas of the campus. We will be placing 2 charging stations in all the parking garages without EV charging stations, including 2 strategic parking lot locations in the vicinity of the Sun Dome. USF will finally be able to claim to have accessible and convenient EV charging stations for all students, where students of each college will not have to park far from class.

- Project activities

This project will start with the completion of preliminary planning. Space impact Requests will be filed for the remaining 4 locations, with the Crescent Hill Garage already approved. A few sites need to be tested to ensure that the electricity can be safely used from the location(s) without drawing too much energy from a source that is unable to provide more electricity (detection of overused locations via panel monitoring). Once that has been completed, the project will go on to the bidding process. After the contractor with the best bid has been chosen, the project will proceed to the permitting / construction drawing / installation of the stations. Once the stations are installed, the stations will be tested for their usability and the spaces will be marked appropriately with necessary signage.

- Project results (Max 500 words)

This project will add 5 new locations for students to charge their EVs, with 4 parking spaces per location. This will provide additional parking for 20 EV cars. This will make USF able to call itself a campus that has EV charging stations available to all students, providing stations at a safe and reasonable walking distance from each college.

- Outcomes of the project (narrative)

The Student Green Energy Fund will be supporting USF's attempt to encourage EV adoption, and it will help with the 3rd Scope of the Climate Action Plan adopted by USF. The cars that commute to USF constitute the largest source of pollution by USF, and reducing that source of pollution into the air we breathe can go a long way.

- | | |
|------------------------------------|---|
| ▪ Annual Cost Savings | 0 (students don't pay for gas) |
| ▪ Return on Investment, % | USF BOT can create new fee for EV Charging permit |
| ▪ Annual Energy Savings | ~20,000 gallons of gas |
| ▪ Annual Green House Gas Reduction | 52,377.7 kg GHG |
| ▪ Project Sustainability | |

This project will enable students to safely assume that there will be available parking for EVs at USF. This allows electric cars to be considered a viable means of transportation. As it stands, some USF students including a former SGEF Council member Bert Anderson, have transitioned back to traditional cars because there are not enough charging stations at USF. Students need to have the confidence that the spots for electric cars will be available near their classes, and we are continuing to advocate for a separate parking pass to be made available by Parking and Transportation Services so these spots can be paid for by the people who rely on them.

Provide detail all activities and responsibilities including schedule for the project from start to finish, noting the general dates of major milestones and accomplishments.

Also provide details of expenditures for the project, including a brief statement describing the nature and necessity of the expense. Provide a schedule for the project from start to finish, noting the general dates of major milestones and accomplishments (These may be uploaded as additional files)

- Detailed work plan/schedule of activities

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- Budget breakdown and justification

We plan on using ChargePoint charging stations as a matter of importance due to the ChargePoint network, which provides real-time usage information of the charging station to anyone who utilizes the free mobile phone/browser application. Due to the desirability of using these stations during high-traffic times, USF students do not want the disappointment of having to come to charging stations that are in use because there is no network to alert them that there is no vacancy. It is true that without a network, the students will be consuming more fuel to travel the university until an available one is found. Unlike regular parking spots, charging stations are very rare and highly coveted locations that are too few and sparse to justify finding another one in high traffic. Chargepoint offers the most comprehensive benefits of real-time data collection, future monetization, plug security so only EV users have access, and they have a retractable cable that is only offered in a few models. There is a chart included to show the stations we found, and what we know as of March 2, 2017.

For the numerous services that ChargePoint offers, all of the charging stations that we have found with comparable services cost more in maintenance and they offer less. For these reasons, including the fact that PATS has a ChargePoint network database with 5 stations connected to it, we are asking for the sole source exception as part of passage of this funding request. By approving of this proposal, the SGEF Council will be saying that they want the EV charging stations to be ChargePoint stations. This issue is a material part of this proposal – of equal importance. Again, we do not know of another company that rivals ChargePoint in its class. We know, however, that SGEF wants to provide students with a reliable system whilst not many stations exist for use at USF now. The only company that seems to offer something like ChargePoint is Leviton. Leviton uses

ChargePoint’s network and the models as well, so they are both the same product with the same packaging but different names.

Project Budget breakdown must follow the following format:

Category	Request from SGEF	Applicant Contribution	Total
Personnel (include all involved)	\$3,600 (Nadeem Freajah, Jakob Hartung, Adam Burrell)		
Equipment	\$70,000		
Supplies/Materials			
Contractual	\$15,000 (Network)		
Construction	\$65,335		
Signage	\$5,000		
Other (specify)	\$7,500 (Engineer) \$16,644 (10% Contingency Fee)		
Total Project Cost	\$183,079		\$183,079

COST

\$9,093.00
 \$338.00 - crescent hill parking garage 2 stations

 9,431.00
 +
 \$12,918.00
 \$3,615.00 - Athletics Parking lot 2 stations

 \$25,964.00
 +
 \$16,694.00
 \$2,367.00
 \$1,062.00
 \$1,400.00 - SOC Parking lot 2 stations

 \$47,487.00
 +

\$10,516.00
 \$338.00 - Lee Roy Collins Parking Garage 2 stations

 \$58,341.00
 +
 \$6,656.00
 \$338.00 - Laurel Parking Garage 2 stations

 \$65,335
 +
 10 (\$7000) - 10 dual charging stations (2 stations per location X 5)

 \$135,335.00
 +
 5(\$1,500) -5 locations Electrical Engineer Construction Drawing

 \$142,835.00
 +
 \$3,600 - Adam Burrell, Nadeem Freajah, Jakob Hartung paid for work at \$12/hr ; total of 100hr

 \$146,435.00
 +
 \$15,000 - Upfront Network/maintenance fee to per plug to PATS for 3 years [[\$250x4 plugs per location for 1 year] times 3 years]

 \$161,435.00
 +
 \$5,000 - signage infrastructure

 \$166,435.00
 +
 \$16,644 - 10% contingency fee

 \$183,079 - total project cost

Letter of Support from Parking and Transportation Services

Good afternoon John,

In keeping with the process used in evaluating and implementing of the two previous SGEF electric charging stations inside the Beard Garage and in lot 23B, Parking and Transportation conceptually supports the introduction of more units to the University's Tampa Campus. With that said the selection criteria

used should still be followed and implemented:

- Conceptually Parking and transportation Services, PATs supports this proposal. However PATs will not be providing any funding for said project.
- For unit consistency, costs efficiencies, single software operating platform, system expandability, network/warranty/ and system support, additional charging stations should continue to be Charge Point units.
- If approved and funded by SGEF, yearly and warranty contracts same or similar to those in Beard and Patel agreements.

Within the past 6 years of introduction of the first Charge Point units as part of a Federal Grant, subsequent installation of 3 more units, the Charge Point Units and networking services have proven to be very reliable. To date we've experienced on average less than 5 service calls requiring a Technician on site or contacting tech support.

Please let me know if there are any additional questions or information you need.

Regards,

Frank

Frank M. Granda

Operations Manager,

Parking and Transportation Services

University of South Florida

(813) 974-5963

4202 E. Fowler Ave., PSB 101

Tampa, FL 33620-6980

fgranda@usf.edu | usf.edu/parking



EV STATION LIST AND COMPARISON

EV Charging Stations										
Brand	Can be monetized?	Dual-port charge?	Includes Network?	Price	Warranty	Mainten fee	Retracta cord?	Smart or dummy?	Outdoor?	Notes
Chargepoint	YES	YES	YES	\$6000-\$7000	3 years	\$250/yr/plug for network and maint.	YES	smart	YES	Network infrastr. already set up
AeroVironment EV Solutions Turbo Dock	NO	YES	NO	\$3,097	3 years	\$100-\$900/yr*	NO	dummy	YES	access through bluetooth
Blink	YES	NO	YES	\$2500-\$3000	1yr (3 if installed by Bosch contractor)	*216/yr for network only	NO	smart	YES	network provided by 3rd party: liberty access
Clipper Creek	NO	NO	NO	\$500-\$600	3 years	NO (3rd party- 22+9/month up to 10)	NO	dummy	YES	
Bosch	NO	NO	NO	\$3,395	3 years	NO	NO	dummy	YES	
Siemens	NO	NO	NO	\$400-\$500	3 years	NO	NO	dummy	YES	
Schneider's Evlink	NO	YES	NO	\$4,600	1.5 years	NO	NO	dummy	YES	
SemaConnect	YES	NO	YES	\$3,090.00	1 year	\$240/yr	NO	smart	YES	
Leviton	YES	YES	YES	\$8,000.00	1 year	\$250/yr/plug	YES	smart	YES	Uses Chargepoint network
Greenlots	YES	NO	YES	*	3 years	*	NO	smart	*	
Juice Bar	YES	YES	YES	\$6899+\$250	3 years	\$1200/yr/plug for network and maint.	YES	smart	YES	
OP Connect	YES	YES	YES	\$5,342-\$5,706 dep on unit	1 year	\$500 per plug maint. And \$100 per plug network fee makes \$1,200 per dual charging st.	YES	smart	YES	
Sun Country Highway EV40PR	NO	NO	NO	\$2,347	5 years	NO	YES	dummy	YES	
EV-Box	YES	YES (but not till April)	YES	\$3150-\$3350	2 years	\$20-\$25/m	NO	smart	YES	

SG RESOLUTION ADDENDUM INCLUDED



University of South Florida
Student Government Senate



SB [R] 55-0XX
Support for Increase of
Electric Vehicle Charging Stations
55th Term
Fall 2014

A SENATE RESOLUTION

Be it resolved by the Senate of the University of South Florida Student Government assembled,

Whereas, 1,068 student signatures have been made in favor of expanding the existing system of USF Electric Vehicle (EV) charging stations.

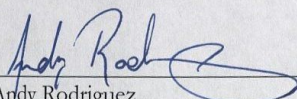
Whereas, the students ask for representation in USF Tampa with regards to the initiative to support clean and renewable energy.

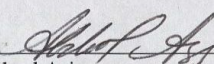
Whereas, the students support the Student Green Energy Fund and relevant institutions in an investment in Electric Vehicle charging stations for their future.

Therefore, be it resolved by the Senate of the University of South Florida Student Government Assembled, that on behalf of the student body, Electric Vehicle Charging stations should be expanded at the University of South Florida to meet the demands set by registered Electric Vehicles on the Tampa campus.

ATTEST:




Andy Rodriguez
Senate President


Abdool Aziz
Senate President Pro-Tempore

*This is a true and correct copy of Senate Resolution 55-0XX,
adopted by the Senate on October 14th 2014.*

Good afternoon John,

From: Granda, Frank <fgranda@usf.edu>
Sent: Friday, March 17, 2017 1:13 PM
Subject: RE: Statement of what stations PATS wants to utilize
To: Pilz, John <johnpilz@usf.edu>
Cc: Desai, Nainan <ndesai@usf.edu>, Burrell, Adam <aburrell@mail.usf.edu>, Mensah, Raymond <rmensah@usf.edu>, Lourenco, Antonio <alourenc@usf.edu>

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Operations Manager,

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Tampa, FL 33620-6980

fgranda@usf.edu | usf.edu/parking



From: Pilz, John
Sent: Thursday, March 16, 2017 9:12 AM
To: Granda, Frank <fgranda@usf.edu>
Subject: Re: Statement of what stations PATS wants to utilize

Hello Frank,

I'm just sending this email to ask if you can email back with a statement about what your position is from PATS re: keeping one system via ChargePoint or using multiple networks/potentially no networked stations.

Feel free to cc whomever you believe needs to see this, but I would appreciate knowing PATS' position - to keep sole-source or to change what services you want to have. The list of services you want matters, so if you have something you don't feel PATS can do without, I would appreciate your professional opinion given your experience with the campus charging stations.

Thank you,

John Pilz