

Consolidated Edison Company of New York, Inc.

Request for Information

Electrification of Transportation

ISSUED: THURSDAY APRIL 20TH, 2017

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Table of Contents

- 1. Overview 4**
 - 1.1. Important statement regarding confidentiality5
 - 1.2. Background on Con Edison6
 - 1.3. RFI objectives.....6
 - 1.4. RFI schedule.....7
 - 1.5. General guidelines7

- 2. Background and objectives..... 9**
 - 2.1. Context for the EV RFI9
 - 2.2. Goals and objectives.....10
 - 2.3. Definition and eligibility criteria11
 - 2.4. Available funding11
 - 2.5. Hypothesis being tested11
 - 2.6. Earnings Adjustment Mechanisms (EAMs) and incentives12
 - 2.7. Relevant stakeholders12
 - 2.8. Response and demonstration evaluation.....14

- 3. Demonstration proposal15**
 - 3.1. Scope of demo projects15
 - 3.2. Electric Vehicle charging network planning and design16
 - 3.3. Smart L2 home charging.....17
 - 3.4. Transit bus charging.....18
 - 3.5. L2 curbside.....19
 - 3.6. DC Fast Charge Stations.....21
 - 3.7. Electric School Bus Vehicle to Grid22
 - 3.8. Other Problem to be solved23

- 4. Format for Responding23**
 - 4.1. Executive summary.....23
 - 4.2. Technology or product characteristics23
 - 4.3. Customer experience.....24
 - 4.4. Contribution to goals of the RFI24
 - 4.5. Scalability.....24
 - 4.6. Safety / permitting.....24
 - 4.7. Required resources & cost24
 - 4.8. Sources of funding.....25
 - 4.9. Communication & outreach strategy25
 - 4.10. Project management25
 - 4.11. Data collection25

4.12.	Timeline & milestones	25
4.13.	Key risks	26
4.14.	Demonstration site	26
4.15.	Measurement & verification to date	26
4.16.	Background of the respondent.....	26
4.16.1.	Team	26
4.16.2.	Diversity.....	27
4.17.	Ethics & compliance	27
4.18.	Commitment to New York.....	27
4.19.	References	28
4.20.	Privacy & cybersecurity	28
5.	Instructions to respondent	29
5.1.	Response and submittal instructions	29
5.2.	Response format	29
5.3.	Cover letter.....	30
5.4.	Table of contents	30
5.5.	Demonstration proposal.....	30
5.6.	Team Description.....	30
5.7.	Supplemental information	30
6.	Appendices	31
6.1.	Reforming the Energy Vision (REV)	31
6.2.	Ratemaking and Utility Business Models	31
6.3.	REV Demonstration Projects	31
6.4.	REV Demonstration Principles.....	31
6.5.	NYSPSC Table of Contents for Demonstration Filings	32
6.6.	NYSPSC Criteria for Demonstration Project Evaluation.....	33

1. Overview

How people travel in the Consolidated Edison Company of New York, Inc. (Con Edison or the Company) service territory is rapidly changing. Subway, commuter rail, and bicycle use has reached record levels, and car sharing has become an alternative to car ownership. Trips in smart phone facilitated for-hire vehicles outnumber those in the iconic yellow taxi. Furthermore, autonomous vehicle technology could transform transportation as dramatically as the automobile itself. How we travel is changing in ways that are still hard to predict.

This technological change could affect Con Edison's operations, because a simultaneous transition from internal combustion to electric drive may also be taking place. Plug-in electric vehicles (PEVs) are improving rapidly and, with existing government subsidies, are an increasingly viable choice for consumers, in terms of both performance and price. Fleets and transit agencies are also attracted to PEVs by the operating savings and reduced environmental impact. A full transition to electric vehicles, which could take decades, will improve air quality, reduce climate impacts, and complement other changes in the transportation sector.

Con Edison has an important role in fueling these vehicles. If charged optimally, electric vehicles can create social, shareholder and customer benefits. Con Edison's goals to advance electric transportation are consistent with its support for other State initiatives that achieve a cleaner environment. Con Edison has consistently supported efforts by the New York State Public Service Commission (NYSPSC) to increase the amount of renewable electricity consumed in the state, and has participated constructively in other Statewide clean energy efforts, including the State Energy Plan and the Climate Action Plan. Growth of PEVs can also provide benefits to segments of Con Edison's customer base. Overall, facilitating the growth of PEVs is more than just a business opportunity for Con Edison; it is a way to visibly align our efforts with the values of many of our customers.

Goals

To test the total benefit that can be created from electric vehicles, particularly by optimally siting and managing charging, Con Edison is using this Request for Information (RFI) to identify and explore concepts with collaborators that would:

- **Increase PEV penetration:** Replace ICE (Internal Combustion Engine) miles driven in Con Edison's service territory with PEV (Plug-in Electric Vehicle) *passenger miles*¹
- **Create customer benefits:** Create cost of service benefits for all Con Edison customers by optimizing the utilization of the electric infrastructure
- **Maximize third party investments:** Maximize the impact of Con Edison's efforts by inducing the deployment of private sector capital and/or other resources (such as a commitment to utilize electric vehicles)

¹ The term passenger miles, as opposed to vehicle miles, accounts for the societal value of transit and ride sharing.

Focus Areas

These are the Company's overarching goals for electric vehicle demonstrations and the criteria by which any idea will be judged. Without proscribing solutions, Con Edison also identifies potential focus areas in sections 3.2 through 3.7, including:

- reducing PEV charger siting costs
- deploying home charging that can shift load to off-peak times in a scalable and customer-friendly way
- managing depot PEV charging scheduling and load, including for e-bus deployment
- siting, operating, and maintaining curbside chargers
- advancing urban quick charger solutions
- integrating and managing electric school buses as a summertime grid energy resource

The Company believes these activities will help the electric vehicle market because they satisfy one or two key requirements: a) creating infrastructure for submarkets that, as described in section 2.1, have or will soon have a positive total cost of ownership (TCO) for electric transportation and/or b) building expertise in reducing electric vehicle infrastructure costs.

The focus areas advance and support electric vehicle adoption, and can also be paired with other concepts. For example, proposals that include committed EV users or advance mobility solutions help meet evaluation criteria described in sections 4.5 and 4.18. Other ideas outside the focus areas are welcome, but must clearly explain how they meet the Company's three overarching goals, satisfy the evaluation criteria, and will overcome economic or market barriers. Section 3.8 offers guidance on ideas outside of the above focus areas. Section 2.3 describes the types of PEVs that are and are not within the scope of this RFI.

Demonstrations that are responsive to this RFI, if implemented, would be part of a statewide initiative, known as Reforming the Energy Vision ("REV"). Under REV, Con Edison is conducting a series of demonstration projects to find new ways to serve its customers with a cleaner and more resilient energy system. For more information about REV and the various demonstration projects that Con Edison has already begun implementing, please see section 6.3 and www.coned.com/energyfuture.

1.1. Important statement regarding confidentiality

Con Edison recognizes that a respondent may wish to include information in its response to this RFI that the respondent considers proprietary, a trade secret, or confidential to the respondent. If, in any response or information (initial or supplemental) that you provide to Con Edison in connection with this RFI, you include information that you consider proprietary, a trade secret or confidential, please identify such information by clearly marking both the top and bottom of each page that contains such information as "CONFIDENTIAL." Con Edison will deem any such designated information as submitted to it and its designees, including, any third party advisors retained by Con Edison to assist it with the RFI evaluation process, with the express understanding that, subject to any legally mandated disclosure requirements, such designated information will be held in confidence and will not be disclosed or used for any purpose other than the review and evaluation of the applicable respondent's response to this RFI or any resulting proposal from the respondent or the finalization and implementation of any resulting contract between Con Edison and the respondent.

By responding to this RFI, respondents are deemed to agree to keep confidential all information that is directly or indirectly provided by Con Edison to a respondent in connection with this RFI, provided that the foregoing confidentiality obligation shall not apply to any information that Con Edison has previously made generally available to the public or information that must be disclosed pursuant to law.

1.2. Background on Con Edison

Consolidated Edison, Inc. (CEI), the parent company of Con Edison, is one of the nation's largest investor-owned energy-delivery companies, with approximately \$12 billion in annual revenues and \$48 billion in assets. CEI provides a wide range of energy-related products and services to its customers through the following subsidiaries: Consolidated Edison Company of New York, Inc. (Con Edison), a regulated utility providing electric, gas and steam service in New York City and Westchester County, New York; Orange and Rockland Utilities, Inc. (O&R), a regulated utility serving customers in a 1,300-square-mile-area in southeastern New York State and northern New Jersey; Con Edison Clean Energy Businesses, Inc., which through its subsidiaries develops, owns and operates renewable and energy infrastructure projects and provides energy-related products and services to wholesale and retail customers; and Con Edison Transmission, Inc., which through its subsidiaries invests in electric and natural gas transmission projects. This RFI is led by Con Edison only and does not involve O&R.

1.3. RFI objectives

The RFI solicits information from respondents with the expectation that at least one of the responses will lead to a demonstration project filing with the New York State Public Service Commission (NYPSC) as part of the REV initiative. This RFI is a means by which Con Edison is complying with both the letter and spirit of REV initiatives (see section 6.1 for further detail). However, in addition to regulatory compliance, Con Edison has objectives for this RFI process effort that go beyond simply producing a demonstration project.

Specifically, Con Edison seeks to use the RFI process to increase transparency and efficiency of the process for developing REV demonstration projects, broaden the potential solution set and range of stakeholders (particularly to those who lack a direct connection with participants of the REV processes), and to yield actionable projects that align with the interests of its customers and shareholders. Con Edison may continue to utilize the RFI process for other topics in the future. To that end, respondents or others are encouraged to send feedback on our RFI process to: EVDemo@coned.com.

All submissions made in response to this RFI will be evaluated by a committee (the "Evaluation Committee") consisting of representatives of Con Edison and other committee members designated by Con Edison. Con Edison may seek third party subject-matter experts and advisors to serve on the Evaluation Committee and assist with the review and evaluation of the submissions received in response to this RFI. Con Edison will screen any third-party members of the Evaluation Committee to determine if they have any conflicts of interest in assisting with an objective evaluation of the any of the respondents' submissions. The goal of the Evaluation Committee will be to identify one or more Qualified Vendors who have presented ideas and concepts for a demonstration project related to electric vehicles that, if implemented, would test the hypothesis outlined below in Section 2.5 and meet the other requirements set forth in this RFI.

1.4. RFI schedule

As part of this RFI, Con Edison is making available a suggested response template, as a separate Microsoft Word document, that respondents can use. It will be made available on the website the week of April 24th. While use of the template is *strongly encouraged*, it is not required. Respondents are free to edit the template as necessary, particularly if a change or addition is necessary to explain a response. In addition to the submission itself, respondents are encouraged – but not required – to submit spreadsheets or other attachments that provide additional details/evidence to support their proposal.

Responses and supporting attachments are to be submitted electronically via email to EVDemo@coned.com. Responses should be provided as .PDF documents with spreadsheets or models in .xlsx format. In preparing responses, respondents should note the following deadlines:

RFI Milestones	Completion Date*
Con Edison issues RFI	Thursday April 20 th , 2017
Last day for respondents to submit clarification questions	Friday May 19 th , 2017 by 5:00PM EDT
Con Edison publishes responses to questions	Monday, June 5 th , 2017
Response submission deadline	Monday, June 19 th , 2017 by 5:00 PM EDT

*Con Edison reserves the right to change any of the above dates. Any date changes will be posted on the website.

Con Edison is aware that a failure to provide respondents with evaluations of their responses can be a source of frustration. To address that issue, Con Edison will provide every complete submission with a formal response. The timing will depend on the number of responses received, but Con Edison will strive to provide feedback as soon as possible.

From the responses submitted by the submission deadline, Con Edison anticipates selecting multiple responses for additional evaluation. For those selected responses, Con Edison will provide the respondents with details on next steps and timelines when Con Edison notifies the respondent(s) of its selection. All selections shall be made in Con Edison's sole and absolute discretion.

1.5. General guidelines

By responding to this RFI, respondents are deemed to accept and agree to these general guidelines. By submitting a response to this RFI, the respondent acknowledges and accepts Con Edison's rights as set forth in this RFI, including the rights set forth in these general guidelines.

Con Edison reserves the right (a) to reject any respondent's submission, (b) to request clarifications or additional information from a respondent regarding its submission, (c) to revise and re-issue this RFI or to revise any

requirements of this RFI, (d) to extend any deadlines applicable to this RFI, (e) to hold discussions with any respondent and to correct any deficient responses which do not conform fully with the instructions set forth in this RFI, and/or (f) to file and implement REV demonstration projects without initiating an RFI process and on topics other than the topic that is the subject of this RFI. Con Edison may exercise the foregoing rights at any time, without notice and without any liability to a respondent or any other party for expenses that the respondent or other party incurred in the preparation of responses to this RFI. All costs and expenses associated with the submission of any initial or supplemental response to this RFI will be borne solely by the applicable respondent.

Con Edison may ask any or all respondents to elaborate or clarify specific points or portions of their submissions. Clarification may take the form of written responses to questions or telephone calls or in-person meetings for the purpose of discussing the RFI, the responses thereto, or any combination of the foregoing.

It is the sole responsibility of each respondent to ensure that all pertinent and required information is included in its submission to this RFI. Con Edison reserves the right to determine, in its sole discretion, whether a submission is incomplete or non-responsive. Con Edison also reserves the right, in its sole discretion, to reject or discontinue evaluation of any or all submissions to this RFI for any reason or for no reason.

Respondents should clearly state all assumptions they make about the meaning or accuracy of information contained in this RFI. If a respondent does not ask questions or clarify any assumptions, Con Edison will assume that the respondent agrees with and understands the requirements of this RFI. While Con Edison has endeavored to provide, and will endeavor to provide, accurate information to respondents, Con Edison makes no representations or warranties of accuracy.

In evaluating a respondent's submission, Con Edison may utilize any and all information available (including information not provided by the respondent).

The issuance of this RFI and the submission or a response by any person or entity does not obligate Con Edison to qualify the person or entity in any manner whatsoever. A legal obligation on the part of Con Edison to engage in any business transaction with a respondent will only arise if and when a formal written contract is entered into between Con Edison and such respondent.

If a business transaction between a respondent and Con Edison were to be entered into in connection with this RFI, there are a number of terms and conditions and special conditions that may be applicable to any such transaction, depending on the nature of the respondent's response. Current examples of Con Edison's disclosure form, standard terms and conditions and special conditions can be found using the following link: <https://apps.coned.com/supplychain/APL/tc.aspx?Ink=terms%20and%20conditions>. These forms and documents are subject to change, without notice, by Con Edison at any time.

Subject to Con Edison's statement regarding confidentiality in Section 1.1, Con Edison reserves the right, in its sole discretion and without liability, to utilize any or all of the submissions, responses and materials received in connection with this RFI (including any late responses), in Con Edison's planning efforts for REV demonstration projects and otherwise.

By responding to this RFI, respondents are deemed to agree to keep confidential all information that is directly or indirectly provided by Con Edison to a respondent in connection with this RFI, provided that the foregoing

confidentiality obligation shall not apply to any information that Con Edison has previously made generally available to the public or information that must be disclosed pursuant to law.

2. Background and objectives

2.1. Context for the EV RFI

The Role of Electric Vehicles on the Grid

Con Edison's two goals most relevant to PEVs are to increase system load factor by facilitating off-peak PEV charging and to increase penetration of new distributed energy resources (DERs) in the form of PEVs. The electric system's peak consumption of electricity is highly correlated to air conditioning use and time of day. In general, the system is most used during a hot weekday afternoon, when cooling is being used at both homes and businesses. Individual load areas and networks, however, may peak at times that are significantly different from the time of the electric system peak. Average per capita electricity consumption is leveling off as increased appliance and lighting efficiency counterbalance the continued increase in appliance size, air conditioning, and electronics usage. These trends, consumer incentives, and priorities create a growing difference between average and peak demand.

In New York, the City and State have ambitious low carbon goals that will vastly increase New York's use of renewable power and encourage the use of EVs.² Electric vehicles are 75% cleaner than a conventional vehicle when plugged into today's local grid.³ Replacing a conventional car with an electric version can have significant air quality and climate benefits. Those important results vary based on what vehicle the EV replaces and the electric generation resources providing electricity at the time of charging. Electrification of buses, ride share, or carshare may have the greatest potential to electrify passenger miles travelled, and therefore, the greatest societal and system benefits.

Con Edison believes that the greatest and most achievable grid benefits from EVs come in maximizing off-peak charging and, in the case of quick charging, siting on electrical networks with excess capacity. Some grid applications of PEVs are relevant in other service territories, but less relevant in Con Edison's. For example, in Southern California where per capita car ownership and solar penetration are high, transmitting power from the vehicle to the grid (v2g) during high solar hours may be important for increasing DER penetration. In New York City, there is less roof space for solar and there are fewer cars than the per capita statewide average, making v2g a less urgent system solution and less valuable to EV owners. To the extent that v2g becomes relevant in the Con

² New York State Governor's Office. 8 Oct. 2015. [Governor Cuomo, Joined By Vice President Gore, Announces New Actions to Reduce Greenhouse Gas Emissions and Lead Nation on Climate Change](#). Web. 31 Mar. 2017.

United States. New York City Mayor's Office. Office of Sustainability. [New York City's Roadmap to 80 X 50](#). Print.

³ United States. New York City's Mayor's Office. Long-term Planning and Sustainability. [Exploring Vehicle Adoption in New York City](#). 2010. Web.

Edison service territory, the Company believes that it will build sufficient technical expertise with v2g school buses (section 3.7) and customer experience with smart home chargers (section 3.3).

Factors Affecting Market Adoption for PEVs

Per vehicle factors like system and environmental benefits have to be considered in conjunction with scalability, and in the case of demo projects, viability. To be sustainable, electric vehicles must be attractive to both early adopters and mainstream buyers. The State's ambitious zero emission vehicle targets and the fundamental viability of electric vehicles require that electric vehicles have strong and wide appeal.

For many use cases electric vehicles are already the right economic choice. Con Edison has completed a study that examines a ten-year projection of vehicle total cost of ownership for many New York use cases. The study finds that in 2017 electric delivery vehicles, some passenger cars with dedicated parking, and transit buses are already economic from a total cost of ownership (TCO) perspective. By 2020, PEV applications for taxis, ride hailing, and passenger PEVs charging curbside may also be cheaper than gasoline alternatives. PEV demand is potentially at an inflection point because of advances in battery technology over the last seven years. Most notably, since mass market PEV passenger vehicles were introduced, battery prices have declined by 75%. The ten year economic study's projections are dependent on further evolutionary reductions in vehicle costs and other market factors such as expected changes in gasoline prices and sustaining the federal electric vehicle tax credit. They do, however, exclude other potential technological breakthroughs, such as high density solid state batteries, that would make PEVs more economically attractive. These market-based projections support Con Edison's belief that favorable vehicle economics are a prerequisite for wide-scale adoption and that we have reached a tipping point where, for certain use cases, consumers will choose PEVs voluntarily because they are more economic than the alternatives.

While fundamental economics will drive long-term PEV adoption, other market factors can play a decisive role. For example, while PEV delivery trucks can make financial sense on paper, there is a very limited selection of vehicles that are acceptable to fleet operators. PEV taxis can have a positive TCO compared to gasoline vehicles, but other factors inhibit PEV growth in that segment. With the street-hail taxi industry facing economic competition from the ride sharing businesses, efforts to advance PEV taxis would require the support of an interested fleet owner. In short, ownership economics, vehicle availability, and market readiness are the three most important market factors for vehicle electrification.

2.2. Goals and objectives

Based on the context above, Con Edison has three goals for the EV RFI, which can be categorized as:

- **Increase PEV penetration:** Replace ICE (Internal Combustion Engine) miles driven in Con Edison's service territory with PEV (Plug-in Electric Vehicle) *passenger miles*⁴

⁴ The term passenger miles, as opposed to vehicle miles, accounts for the societal value of transit and carpooling.

- **Create customer benefits:** Create cost of service benefits for all Con Edison customers by optimizing the utilization of the electric infrastructure
- **Maximize third party investments:** Maximize the impact of Con Edison's efforts by inducing the deployment of private sector capital and/or other resources (such as a commitment to utilize electric vehicles)

Demonstration projects proposed under this RFI may take many forms such as charger hardware and software deployment; tools for smart charging, as well as modeling of the grid, charger network and vehicular travel patterns; relevant data identification and methods of data generation and evaluation; PEV related distributed energy resources; and many others.

2.3. Definition and eligibility criteria

This RFI seeks proposals that facilitate adoption of PEVs. These are vehicles, that a) use one or multiple electric motors to (at least partly) drive the wheels and b) power the motor with electricity from a battery, which can be charged via a connection to the electrical grid.

PEVs break down into 2 categories: battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). There are other forms of EVs like hybrids and fuel cell vehicles, but because these cannot directly be charged from the electrical grid, they are not classified as PEVs and are not in the scope of this RFI.

2.4. Available funding

Con Edison will allocate up to \$25 million to demonstrations related to this RFI. It is expected that the \$25 million budget will be used to fund more than one demonstration project proposed through this solicitation. Therefore, Con Edison will look favorably on cost effective responses and third-party funding matches. The available funding can be used in part to cover project development and administration costs, but it is expected that the majority of the funding will support demonstration project activities that directly serve the goals of the RFI (as described in section 2.2). As detailed in sections 4.7 and 4.8, respondents should indicate the amount of Con Edison funding that is being requested as well as any third-party funding matches. There is no minimum dollar amount or size for a demonstration proposal.

2.5. Hypothesis being tested

A demonstration project, in some ways, is similar to an experiment. Experiments are designed to test a hypothesis. Con Edison believes that PEVs can have a positive impact on the Company's business, our customers, and society. Therefore, the overarching hypothesis Con Edison is trying to test is as follows:

Con Edison can advance new business models and associated technologies that accelerate PEV adoption and/or lower total costs of PEVs, while improving overall electric system efficiency.

There are certain market segments and activities the Company believes present a promising means to prove the hypothesis (see sections 3.2 to 3.7). Because of a combination of market size, readiness, and ability for Con Edison to add value, these are the areas where the Company believes the most impact can occur. However, Con Edison is intentionally not requiring a specific approach and welcomes proposals outside of these segments or activities,

especially those that further vehicle electrification and societal benefits. All proposals and especially those that are in unforeseen categories should explain, with such explanation supported by any available data, how they test the overarching hypothesis, when they believe that the submarket the proposal targets will become viable and how to overcome barriers to adoption.

2.6. Earnings Adjustment Mechanisms (EAMs) and incentives

The NYSPSC has adopted certain financial incentives in Con Edison's current rate plan that relate to electric vehicles. *Assisting Con Edison in achieving these incentives should not be the sole focus of responses to this RFI.* Con Edison has three such outcome-oriented EAMs:

- **Customer load factor:** Improve Con Edison customers' load factor, calculated as average demand divided by peak demand. Because of their ability to use and store electricity and thereby shift load usage, PEVs lend themselves to improving load factor. Demonstrations that discourage charging during peak hours and increase uses of electricity during off-peak periods can help meet this EAM
- **Energy Efficiency:** As part of its energy efficiency efforts, Con Edison has a program, SmartCharge New York, to encourage off-peak charging. PEV owners who enroll in the program are rewarded with gift cards based on the amount of off-peak charging they do. Charging is tracked through a small accessory attached to the vehicle.⁵
- **DER penetration:** Increasing the overall number of PEVs in the Con Edison service territory contributes to the penetration of distributed energy resources (DERs), which include PEVs as well as battery storage and cogeneration.

With the exception of proposals that focus on enhancing network planning, *proposals should not rely solely on EAMs (particularly the DER penetration EAM), as a project justification.* Con Edison believes that PEVs can create economic value and result in reduced rates for all customers. Section 2.8 describes how project profitability, a path to profitability, or creating system savings would be viewed favorably by the Company. Con Edison anticipates that meeting the criteria in that section would make generating revenue through existing or future EAMs more likely.

2.7. Relevant stakeholders

Government, non-profit organizations and private companies already have, or will have, a role in vehicle electrification. Some of these commitments create opportunities to deploy charging or electric vehicles and can be incorporated into a project. Several offer financial assistance. Utilizing existing funding sources and creating strategic partnerships with key stakeholders may help respondents meet key assessment criteria such as: capital contribution, project viability and scalability.

⁵ www.coned.com/smartchargenewyork

New York City

New York City has climate and air quality goals that require the electrification of transportation. Vehicles produce nearly 25% of the City's carbon emissions and are the City's second largest emissions' source after buildings. In its 80 x 50 carbon reduction plan, the City identifies "accelerat[ing] the purchases of zero emission vehicles" as a key goal.⁶ Electric vehicles also help achieve the City's OneNYC objective of "hav[ing] the best air quality of any big city."⁷ The City has several initiatives to further adoption of electric vehicles. It is well on its way to a 1,000 EV light duty fleet. Additionally, the City passed an innovative law that requires 20% of new parking to be built 'charger ready'.⁸

New York State

The State has several climate and electric vehicle commitments. New York State has a commitment to reduce CO₂ emissions by 40% below 1990 levels by 2030, and 80% by 2050. Additionally, it is one of 8 states that require up to 15% of new vehicle sales be zero emission by 2025.

New York State has several programs and entities working to meet these goals. The New York State Energy and Research Development Authority (NYSERDA) has several initiatives to further vehicle electrification. A significant one is the NYT-VIP program, which expires in 2018 and can offset the marginal cost of medium duty electric vehicles by up to 80%. This program could complement depot, transit, or school bus proposals. Others include free charging hardware and other incentives for workplace charging and an up-to \$2,000 per vehicle rebate to passenger vehicle purchasers beginning in April 2017.

New York Power Authority (NYPA) generates power from 16 facilities and sells it to government and commercial customers across the state, including in Con Edison's service territory. In addition to energy sales, it provides a host of services for its customers, including energy efficiency financing and distributed energy solutions such as on-site solar and cogeneration, and electric vehicle charging. Two of its signature initiatives include working with municipalities to install publicly accessible charging and creating quick charging corridors, including along the New York State Thruway.

The Metropolitan Transit Authority runs the nation's largest bus and subway systems in the nation. The subway is already electrified, while the nearly 6,000 buses run predominately on diesel. The MTA already helps New Yorkers avoid creating nearly 15 million tons of CO₂e per year. Electrifying buses could further increase that benefit.

Con Edison

Con Edison has a number of clean energy goals with which RFI respondents should consider aligning. The Company's experience with electric vehicles includes pilot projects and customer incentive programs. The Company has installed a number of Level 2 and DC fast charging stations for Con Edison's EV fleet. The Company's

⁶ United States. New York City Mayor's Office. Office of Sustainability. [New York City's Roadmap to 80 X 50](#), p.27 Print.

⁷ United States. New York City Mayor's Office. Office of Sustainability. [One New York](#), p. 161 Print

⁸ <http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=1123808&GUID=D1C5A1D1-B594-41DB-8B94-DA689EC3FA35&Options=&Search=>

newly launched SmartCharge New York program deploys a connected device to EV-owning customers to monitor charging time and duration, and incentivize off-peak vehicle charging. It can also provide the customer with driving information.

In addition, Con Edison has several energy efficiency and demand side management programs that cover residential and commercial customers. These range from rebate programs for energy conservation measures to demand response / peak load management incentive programs. We are also pursuing community solar PV as well as a number of other REV demonstrations, including energy efficiency related offers and battery storage.

Electric Vehicle Industry

Many automakers have a strategic commitment to selling electric vehicles, pursuing new modes of urban mobility, or both.

Private Fleet Operators

Many private companies in New York are already electric vehicle leaders. Other fleets are interested or showed past leadership in hybridizing taxis or using other alternative fuel vehicles.

2.8. Response and demonstration evaluation

Con Edison has worked with stakeholders to develop an extensive set of metrics against which the Company will measure both responses to this solicitation and, ultimately, demonstration project success. Responses will not necessarily be measured by every criterion below. Con Edison does not use a formulaic “weighting” of evaluation criteria to determine project selection. However, certain criteria will have a higher priority than others, and include: coverage of demo scope, resource contribution, expected usage and adoption, scalability, long term sustainability of the business model, and additional earnings opportunities for Con Edison. External resources such as the amount of partner money and resources invested, is particularly important for 3.6, fast charger deployment.

Evaluation metrics

Impact		Feasibility	
During demo project	Long-term effects	Required resources	Respondent's background
Resource contribution Financial contribution of partners & third parties. (More is better.)	Scalability Ability to offer solution which can be scaled up for large implementation after successful end of demo project	External resources External \$ invest required, other resources required	Track record of team Demonstrate experience and impact
Expected usage and adoption A user committing to use electric vehicles		Invest from Con Edison \$ invest required from Con Edison. (Less is better.)	Diversity MWBE businesses and employee diversity
Other Benefits Qualitative & quantitative benefits, e.g. for environment, citizens of New York, etc.		Others from Con Edison E.G. data, grid capacity, electrical services, etc.	Delivery Capability
		Demands on Con Edison Required FTE from Con Edison to manage projec	Project Management Prove current ability to deliver promised results

3. Demonstration proposal

This section outlines the requirements for respondents and responses to this solicitation. The RFI invites respondents from all over the United States as well as from abroad. However, the implementation of any demo projects is to be conducted within Con Edison's service territory. Please also refer to the requirements concerning respondents' commitment to New York detailed in section 4.18.

3.1. Scope of demo projects

As described in the overview and reiterated in Section 2.1 Con Edison has three goals for the RFI and several assumptions about how best to further the PEV market. Con Edison has identified six demo areas that the

Company believes are promising for creating value for ConEd customers, EV operators and the environment. These areas either seek to minimize the marginal cost of new EV load or foster EV penetration in the areas that have the fastest anticipated adoption. These demo areas are:

- **Charging network planning and design**
- **Smart Level 2 (L2) home charging**
- **Transit bus charging**
- **L2 curbside**
- **Direct current fast charging (DCFC) stations**
- **Vehicle to grid enabled electric school buses**

While specific demonstration project focus areas are below, the following guidance should be kept in mind for all projects:

- The word “charger” refers to L2 curbside, home wall box, or DCFC. Questions can be answered for all charging types in general or can be specified per charger type
- **Describe what it takes to develop these capabilities over the next three years and specify**
 - **which products, services, and capabilities you would provide and at what cost**
 - **which tasks, capabilities, resources and financing Con Edison would need to provide**
 - **what third parties would need to provide (if you cannot supply all required elements)**
- **Describe potential lead participants (OEMs, charger network operators, car sharing companies, fleet managers, etc.) you would bring to co-develop the team, tools, and services (and whether lead customer would provide capital and knowledge to implement the proposed demo project), i.e., make this a collaborative exercise of partners**
- **Describe how a cooperation model with stakeholders would be developed, designed and tested**
- **Always describe how network planning & design would be incorporated**
- **Describe how the demonstration would improve Con Edison’s ability to make business decisions regarding the electrification of transportation**

3.2. Electric Vehicle charging network planning and design

Description:

Con Edison seeks expertise to consolidate / predict demand for chargers and determine optimal charger locations.

Hypotheses being tested:

- The required expertise to support several fleets across multiple use cases can be built within three years
- Significant infrastructure cost can be avoided, through Con Edison’s monetization opportunities through EAMs; cost avoidance has to be provable and persuasive
- Con Edison can create monetizable services for third parties through network design, data access & analytics, and by providing distributed resources and time of use signals to charging platforms, fleet managers, and drivers

Requests for respondents:

- Describe what is needed to develop a comprehensive, interactive mapping tool to derive the required number of DC quick chargers and identify most suitable locations (based on local grid capacity, customer driving patterns, and city planning)
- To the degree possible, given that most of the Company's customers are on a network grid and not a radial network, explain how such a tool would leverage existing Utility efforts in other areas to map preferred quick charge locations
- Describe how such a tool could be extensible if charging speeds increase
- Describe how a mapping tool could be used to help determine charging for all private passenger PEVs (main priority), MTA's city bus fleet (second priority) and NYC's taxi / for-hire-vehicle fleets (third priority)
- Describe what is required to apply this tool and indicate how to prove case-by-case potential grid investment avoidance and indicate how to prove the savings to regulators
- Describe what it takes to develop these capabilities over the next 3 years to ultimately offer this to third parties (charger operators, OEMs, fleet managers, etc.)
- Describe what a competitive service to third parties looks like, what influences the success and profitability of the service and how gradual improvement towards a competitive service can be measured (KPIs)
- Describe how you could support Con Edison in building the required expertise and at what cost

3.3. Smart L2 home charging

Description:

In order to foster PEV penetration and generate data on home charging, Con Edison aspires to test smart 208V (L2) home charging with up to 500 AC wall box chargers. Con Edison may subsidize these chargers to acquire willing participants for the demo.

Hypotheses being tested:

- Smart L2 home charging can be deployed to effectively shift PEV load to off-peak hours with little inconvenience for customers
- Tools and knowledge to achieve meaningful revenues from L2 home charging can be acquired over the course of the demo project

Requests for respondents:

- Describe the best available and futureproof charger you can supply and at what cost (specify charger kW and Amps)
- Describe how you could support Con Edison in building the required expertise for installation and maintenance
- Describe how you could lower the charger installation and maintenance cost for Con Edison through technology, operational excellence, or other means
- Describe the best fully automated customer user experience to achieve high levels of customer satisfaction

- Describe how charging patterns can be captured, analyzed and influenced to improve charger utilization and minimize grid impact while satisfying customer charging needs and what technology or service you could offer to do this
- Indicate how managed / smart charging techniques and standards can be designed and tested to minimize grid impact

3.4. Transit bus charging

Description:

The Metropolitan Transit Authority (MTA) is planning trials of electric buses over the coming years. Con Edison wants to determine what role it could play in the charging of e-buses, how smart charging can be integrated, and what meaningful data can be generated and gathered.

Hypotheses being tested:

- 50-100 kW per bus depot charging and approximately 250 kW street DC bus charging can be deployed while minimizing grid investment costs by managing charging
- Charger management is a service that can reduce customer costs
- Charger management is useful for fleet deployments of electric vehicles, including but not limited to transit buses

Requests for respondents:

- Describe what is needed to enable charging a fleet of about 60 e-buses during an approximately 10-hour overnight charging window daily plus potentially allow for some mid shift charging
- Show how you would lower the charger installation and maintenance cost through technology, operational excellence, and other means
- State how grid impact can be minimized through
 - designing managed / smart charging techniques and standards
 - capturing, analyzing, and influencing charging patterns, including through integration with building energy management systems
 - matching charging to a network's load profile
 - other solutions
- Describe what technology or service you would offer to achieve this. Also, state how the proposed solutions can be tested, what influences the performance and profitability, and how performance can be measured (KPIs)
- Charging hardware should utilize open, interoperable standards
- Indicate what other benefits for Con Edison, its customers, or third parties your solution would include
- Describe how you would support Con Edison to gradually build the required expertise and at what cost
- Include a description of how your proposed solution could be scaled up to a larger fleet of e-buses in the future

3.5. L2 curbside

Description:

Con Edison seeks to test public charging via a network of 100 – 250 L2 curbside chargers from 1 to 3 vendors. This project is contingent on finding responses that address the unique challenges of deploying curbside charging in New York City. Creating a siting method, marketing plan, and turnover and enforcement strategy will be key to creating an implementable project. ConEd is in discussions with the New York City Department of Transportation (NYC DOT) regarding on-street EV charging.

Hypotheses being tested:

- Tools and knowledge to achieve meaningful revenues from public charging can be acquired within 3 years
- L2 curbside charging can be achieved with a positive impact on overall customer bills through increasingly efficient installation and rising utilization
- Curbside charging can be provided at an attractive fueling cost to EV drivers
- Curbside charging infrastructure can effectively serve the needs of both private vehicles and fleets, such for hire vehicles, carshare vehicles, and the municipal fleet
- Pricing strategies can be developed to encourage efficient usage of curbside charging, including vehicle turn-over for different types of users, including: personal carshare, and commercial users

Requests for respondents:

From 100 to 250 curbside chargers to be deployed over 12-24 months. Deployment locations are to be determined based on expected utilization, electrical and operational feasibility, and in consultation with the NYC DOT and community stakeholders

General

- Describe any societal benefits or potential benefits for economically disadvantaged communities that may be possible

Hardware

Describe:

- the best available and futureproof charger you can supply and at what cost
- how the supplied charger would be rugged enough for a New York City deployment, and able to withstand inclement weather, robust use, and vandalism
- how the hardware would be Americans with Disabilities Act (ADA) compliant
- your process for getting New York City Design Commission approval
- how the design of your charger fits into the New York City streetscape and the City's existing palette of street furniture. An on-street EV charging pilot will require approval from the New York City Public Design Commission.

Siting & Location Requirements

Describe:

- how you would identify where chargers should go and general deployment patterns
- if you would install the charger or how you would support Con Edison in building the required expertise for installation in terms of minimizing build out time and cost.
- the kind of parking regulations and enforcement that would be required at curbside charging locations for: economics, EV users, and the general public. If you expect either the regulations or necessary enforcement to change over time, please note that as well.

Maintenance & Management

Describe:

- how the chargers would be maintained
- how you could lower the charger installation and maintenance cost through technology, operational excellence and other means
- how you would increase charger availability for EV drivers through technology, operations, or pricing
- the necessary level of enforcement to maintain acceptable charger availability

Economic

Describe:

- how charging patterns can be captured, analyzed, and influenced to improve charger utilization and minimize grid impact and which technology or service you could offer to do this
- customer costs and rate structures
- how you would maximize charger usage at all project stages, including through marketing
- how transactions (fueling payments) would be handled
- how managed / smart charging techniques and standards can be designed and tested to minimize grid impact
- forecast and describe in detail expected net income
- how chargers could support both individual EV users and fleet EV users, including carshare providers and the City of New York's municipal EV fleet

Public Engagement

- Describe steps that can be taken to ensure that public charging is viewed positively by electric vehicle drivers and non-electric vehicle drivers

Describe any other aspects that are vital to a curbside charger deployment.

3.6. DC Fast Charge Stations

Description: Con Edison plans to work with hardware manufacturers and charger providers to test various deployment styles of fast charging (greater than 50 kW). Con Edison is open to business models, which could include, but are not limited to, Con Edison being a:

- **Space and Energy Provider:** Con Edison is analyzing its ability to use one or more of its properties as quick charge sites. Locations being considered are in all five boroughs of New York City and in Westchester County. Con Edison would own the charging lot and lease space to charging providers. Providers would pay for the energy. Con Edison may control power demand through energy storage or load management. In this scenario, Con Edison would be providing access to land and engaging in either passive or active energy management.
- **Partner:** Con Edison would work closely with a charge provider as a project partner. Con Edison would provide some combination of property, upfront capital, and/or ongoing investment in exchange for revenue or other consideration.

Hypotheses being tested: DC fast charging can be achieved with a positive impact on overall customer bills through more efficient installation, learning and scale effects during installation, and improving utilization.

Requests for respondents:

General:

- Describe who you expect your customers to be and how you would make quick charging financially or experientially attractive to them
- If your concept includes committed charger users, please describe them and their:
 - financial commitment
 - expected usage in terms of annual charge events or total energy consumed
- Describe how you would share information to inform Con Edison of charging patterns, trends, usage, and operational lessons
- Describe the expected economics and the charges per day required for the charger to be economically viable
- Describe the proposed financial arrangement for the vehicle charging customers
- Describe any societal benefits or potential benefits for economically disadvantaged communities that may be possible

Con Edison as Space and Energy Provider

- Describe preferred locations for charging stations
- Describe whether you expect demand to differ amongst your preferred locations and what your willingness to pay for locations is
- Describe how you could support Con Edison in building the required expertise for installation
- Indicate how managed / smart charging techniques and standards can be designed and tested to minimize grid impact for one or multiple quick charge providers

- Describe whether you would seek to include a battery or other DER
- Describe the proposed financial structure for the charging customer and for Con Edison

Con Edison as Partner

- Describe how you could support Con Edison in building the required expertise for installation
- Describe how you would identify where chargers should go and general deployment patterns
- Describe how you could lower the charger installation and maintenance cost through technology, operational excellence and other means
- Indicate how managed / smart charging techniques and standards can be designed and tested to minimize grid impact
- Describe how you would identify where chargers should go and general deployment patterns
- Describe the proposed financial structure for the charging customer and for Con Edison

3.7. Electric School Bus Vehicle to Grid

Electric school buses can transport children in the cleanest possible vehicles during the school year and serve as dedicated DERs in the summer. This has particular value in Con Edison’s service territory, which has high summertime electricity demand and low seasonal school bus demand.

Con Edison will seek to find school bus operators interested in obtaining reduced-price electric school buses in exchange for providing the Company with exclusive use of the busses during the summer to function as grid batteries. For this RFI, Con Edison is seeking companies that can provide the technology and manage the grid integration between the electric school buses and the grid. The Company is not seeking to integrate the buses into the Company’s energy dispatch systems at this time. Mobile use is not a priority. The busses will be stationary on site for their summertime v2g operations.

Hypotheses being tested:

- Electric school buses can be used as grid integrated batteries and output daily over a minimum 4 hour period
- Bus operators will accept little to no use of a bus during the summer in exchange for reduced bus costs

Requests for respondents:

General:

- How your hardware will output balanced power onto Con Edison’s 3 phase 120/208 volt electricity grid
- The best available v2g inverter for the application and at what corresponding cost
- Whether your hardware has appropriate Underwriter’s Laboratories certification, including UL 1741
- Your software management system
- Your record implementing v2g with currently available vehicles, ideally school buses
- What electric school buses you think are best suited for use as vehicle to grid

- What electric school buses your system is compatible with. If it is only compatible with one type of bus, explain why this limitation is worthwhile

3.8. Other Problem to be solved

If proposing a concept not specified, please describe the exact problem or challenge that the solution in question is designed to solve. Respondents should explain why the chosen solution is best suited to address this particular challenge, and how it relates to the hypothesis and objectives of the proposed demonstration. Please also list what general assumptions your solution is dependent upon, such as regulations, capabilities by Con Edison or third parties, etc.

4. Format for Responding

The following sections set forth the recommended structure of describing the proposed solution.

4.1. Executive summary

Respondents should provide a brief summary of their proposal for a demonstration project. This summary should include a brief description of the company(ies) proposing, any identified or participating customers and partners, a clear and concise explanation of the product/service to be demonstrated, a basic overview of how value will be distributed between key constituents, a description of how success or failure will be measured at the end of the demonstration project, and address any other topics necessary for a basic understanding of the proposal. Please note that Con Edison asks for these items in greater detail later in this RFI so, in this section, respondents should focus on providing a concise high-level summary of their proposal.

4.2. Technology or product characteristics

Please describe the performance characteristics of the product or service proposed. Respondents are welcome to include supporting performance data or characteristics as a separate attachment. For each measure subcategory please provide a short description about the product or technology, whether it is widely available commercially, its lifespan, maintenance needs and schedule, and costs. Please also describe the process by which each measure would be delivered to the customer (e.g., contractor model) including the cost responsibility. Lastly, please explain how the performance would be measured.

- **MEASURE 1 (TBD):** [Short product or service description, commercial availability, lifespan, maintenance needs and schedule, costs, delivery to customer including cost responsibility, performance measuring]
- **MEASURE 2 (TBD):** [Short product or service description, commercial availability, lifespan, maintenance needs and schedule, costs, delivery to customer including cost responsibility, performance measuring]

4.3. Customer experience

In this section, respondents should describe how customers would experience their product or service, from start to finish. Con Edison seeks partners who will exhibit the qualities of empathy, credibility, responsiveness, accountability, and commitment in dealing with customers. To that end, respondents should use this section to give examples of how they have and would demonstrate those qualities. Respondents are encouraged, but not required, to submit attachments in any form of media that provide evidence of demonstrating these qualities in customer experience.

4.4. Contribution to goals of the RFI

When describing benefits of the proposed solution, please relate them to the problem to be solved. Please reference how the stated hypotheses (sections 2.5 and 3.2 –3.8) will be tested and which of Con Edison’s evaluation metrics, listed in section 2.8, will be addressed. Furthermore, describe direct and residual benefits expected to accrue to all relevant parties (e.g., Con Edison, Con Edison’s customers, vendors/third parties, etc.).

Please clearly identify the assumptions necessary to result in the expected benefits and include the estimated lifetime of such benefits. As an example, discuss behavioral impacts, depreciation of the technology/product, Operation & Maintenance (O&M), and recommissioning costs. Try to quantify the impact of your solutions whenever possible.

4.5. Scalability

Respondents should explain why the products/services in question are scalable to a larger set of Con Edison’s customers, and/or to more points in Con Edison’s system, assuming a successful demonstration. Please identify the key parts of the demonstration that would be scalable as-is, and other parts, if any, that, in order to be scalable, would need to change for different customers, locations, or other conditions. Respondents should be clear to explain if and how the financial structure proposed under this demonstration is scalable to scenarios where no subsidies in the form of demonstration project funding are available and to which degree other subsidies (e.g., state tax credit) might be required. You should also describe what obstacles would need to be surmounted to achieve scalability, such as the rollout of a parallel technology or government policy/legislative issues surrounding e-mobility.

4.6. Safety / permitting

Respondents should address whether their proposed product or service requires special environmental, health and safety procedures and any technical permitting approvals.

4.7. Required resources & cost

Con Edison is very interested in the cost effectiveness of this demonstration project. Therefore, respondents should provide an estimated budget for the proposed demonstration. This budget should include key cost categories, incurred by quarter, and should clearly identify any underlying budgeting assumptions. Con Edison encourages respondents to provide as much detail as possible to enable the Company to make a judgment on the cost effectiveness of the demonstration proposed. Note that Con Edison encourages – but does not require –

respondents to submit much of the detailed information in this section as an Excel file (in a format of the respondent's choosing) to be included as an appendix to the response.

4.8.Sources of funding

Please clearly identify the sources of funding for the proposed demonstration. Note that Con Edison is interested in utilizing other funding streams (i.e., City, State, Federal) to mitigate the overall demonstration cost. Please also note that third-party capital contribution is a principle of REV demonstration projects. To the extent this topic has not already been addressed, respondents should identify assumptions regarding the resources and capabilities they expect Con Edison to provide for the proposed demonstration project.

4.9.Communication & outreach strategy

Respondents should describe how they plan to market their products and services where applicable. Please describe the media (e.g., mailers, online, phone, text message, etc.) by which you plan to communicate. Respondents are encouraged – but not required – to submit samples of their outreach approach as a separate attachment. All forms of media are welcome.

Please note that all marketing materials that would be used as part of a demonstration project would be subject to prior review and approval by Con Edison.

4.10. Project management

Respondents should outline how responsibilities would be divided among themselves, Con Edison and third parties in as much detail as possible. Please describe the relationships among, and the responsibilities of all parties that would be involved in the project.

4.11. Data collection

The data collected over the course of a demonstration project will be key to proving whether the approach undertaken is a successful one. For this reason, respondents should consider carefully which sources of data are necessary, how this data would be collected, and Con Edison's role (if any) in collecting and/or sharing data.

In this section, please describe the key pieces of data to be collected during the demonstration, why this data is important/necessary for proving (or disproving) success, how it would be captured and delivered, and who would own the information.

4.12. Timeline & milestones

Assume the project proposed is presented to and approved by the NYSPPSC, and work on this project commences in early 2018. Based on those assumptions, please provide high level milestones and a timeline for the project. Respondents are encouraged, but not required, to submit a basic, high-level project plan as an attachment that describes activities and responsibilities and expected timing over the course of the demonstration project. Demonstrations should last no more than 3 years.

4.13. Key risks

Respondents should complete this section as openly, honestly, and comprehensively as possible. Con Edison is well aware that there are risks associated with undertaking innovative and novel projects. Therefore, Con Edison expects respondents to identify all meaningful risks, explain why these risks have been identified, describe the likelihood and severity of the risks, and provide a brief explanation for how each risk could be mitigated or avoided. Con Edison is also interested in how the specific design of the proposed demonstration will help to mitigate or avoid risk.

4.14. Demonstration site

Con Edison fully appreciates that siting and permitting a demonstration could be a major timing and deployment risk to this effort. Therefore, this RFI seeks responses that either have a particular site identified or – at a minimum – have clear siting requirements that can result in Con Edison and the applicant quickly identifying a viable site together.

With that context, respondents should address whether they have identified a viable site for the proposed demonstration. If respondents have not identified a site, please describe in detail the desired or required criteria for a demonstration location. Please also describe, briefly, any relevant previous siting or permitting experiences.

Finally, some responses may not require a demonstration site and, if so, respondents should state this clearly.

4.15. Measurement & verification to date

Please provide measurement and verification information to support the claims made in the sections above. Any methodologies or data parameters may be used by Con Edison or a third-party measurement and verification vendor during the RFI process. Please indicate whether this information is being provided directly by you or by a third party.

4.16. Background of the respondent

4.16.1. Team

Selecting high-quality project teams and partners is of the utmost importance to Con Edison. To that end, in a separate attachment, respondents should include CVs for all key team members, including organizations with which the respondent will partner (“project partners”). Respondents should also describe each listed team members’ role on the proposed project.

In this section, respondents should summarize the following:

- **Delivery capabilities:** A successful project necessitates a project team with proven skills and experience to deliver what it is being proposed in this solicitation. Therefore, respondents should describe and provide evidence of their capabilities to implement the proposed project, including technical, sales, communication, management, and any other relevant capabilities.

- **Track record:** Please describe the project team’s already proven experience in delivering positive outcomes in the field of e-mobility, especially charging infrastructure and grid integration.

4.16.2. Diversity

Con Edison is committed to engaging with respondents that are reflective of our diverse customer base. Con Edison relies on the contributions of businesses that are owned by individuals of diverse backgrounds in order to deliver the best products and services, with the greatest value, to an increasingly diverse marketplace. Partnering with diverse suppliers and vendors also helps Con Edison invest in the social, cultural and economic vitality of the communities Con Edison serves. Accordingly, Con Edison would welcome and is encouraging proposals from respondents that reflect the diversity of current and future customers that Con Edison is seeking to acquire through this RFI. Please indicate whether your organization is currently certified as a Minority and Women-owned Business Enterprise (“M/WBEs”).

An M/WBE is a U.S.-based business that is certified by a third party as 51% independently owned and operated by a minority or a woman. For a publicly owned business, at least 51% of that business’ stock must be owned by one or more women or minorities, and the business must be managed and operated by the one or more of the people who own it. Minorities include people of African, Hispanic/Latino, Asian-Pacific, Asian-Indian, and Native American heritage. For M/WBEs, Con Edison prefers certifications from the following organizations: (a) women-owned businesses certified by an affiliate of the Women’s Business Enterprise National Council such as the Women Presidents’ Educational Organization or (b) minority-owned businesses certified by an affiliate of the National Minority Supplier Development Council such as the New York New Jersey Minority Supplier Development Council. Respondents can find further information at <https://apps.coned.com/supplychain/diversity/faq.aspx>

4.17. Ethics & compliance

It is of paramount importance to Con Edison that any respondent selected to implement a demonstration has a proven commitment to operating its business in compliance with all applicable laws, rules and regulations and in accordance with high ethical standards, including the Con Edison Vendor Code of Conduct, which respondents can view here: https://apps.coned.com/supplychain/supplierpolicies/VENDOR_CODE_OF_CONDUCT.pdf.

In this section, respondents should call attention to evidence of ethical business behavior, and should proactively identify and address any relevant outstanding or past legal or ethical issues.

4.18. Commitment to New York

In the State of New York’s Public Service Commission (NYSPSC) Memorandum and Resolution on Demonstration Projects, issued on December 12, 2014, NYSPSC calls for demonstration project partners to demonstrate “willingness to invest in the New York market.” With that context, respondents should address whether their company and key project partners are based, or have offices in, New York City or elsewhere in New York State. If the respondent is neither based nor has offices in New York City, or elsewhere in New York State, please provide evidence of commitment to enter or invest in the New York market.

4.19. References

In general, Con Edison will only select respondents after speaking to multiple references. Such reference-checking is a very important input to our selection process, and to verifying the integrity and performance of project teams. For that reason, respondents should *not* respond to this section with, “references available upon request.” Instead, respondents should include references and basic contact information such as email addresses and phone numbers, so that Con Edison can learn more about the team’s prior work. The best references will be those who were involved in similar efforts to the demonstration being proposed here.

4.20. Privacy & cybersecurity

Respondents should describe the policies and procedures that would be implemented to protect Con Edison information and data and its customers’ privacy and personally identifiable information, as applicable. In addition, describe the policies and procedures that would be followed to ensure the privacy and protection of sensitive information of all other demonstration partners and participants. Finally, respondents should address whether the solution proposed impacts cybersecurity, and what measures the respondent would take to ensure cyber protections. For more information on the Company’s privacy policy, please visit:

<https://www.coned.com/en/conedison-privacy-statement>.

5. Instructions to respondent

Respondents are instructed to prepare their proposals in accordance with the instructions outlined below, with the response focused on the demonstration proposal (see section 0).

5.1. Response and submittal instructions

Responses will be submitted by email to: EVDemo@coned.com. Please format the email subject line as follows: "Company Name – Electric Vehicles Demonstration Proposal" (e.g. Subject: "ABC Company- Electric Vehicle Demonstration Proposal")

Responses delivered by hand or fax, regular mail, or any other method will not be accepted. Con Edison will not be responsible for late, lost, illegible or misdirected submissions.

Con Edison may, at its option, contact respondents with additional questions or information requests. If the Company is interested in a respondent's solution, Con Edison will contact the respondent and provide additional details regarding the process subsequent to this submission that may ultimately lead to implementation of a demonstration project.

Any questions or clarifications concerning this RFI should be directed to the Company at EVDemo@coned.com. The deadline to submit questions via email is 5:00 PM EDT on Friday, May 19th. Emailed questions received after this date will not receive a response. The Company will not respond to any questions received in-person, by mail, by fax, or by phone. A summary of all questions submitted and the corresponding answers will be posted online at <https://www.coned.com/en/business-partners/electric-vehicle-project-partners> on Monday June 5th.

5.2. Response format

Respondents should be sure to include each of the required components outlined below.

Required components
Cover letter
Table of contents
Demonstration proposal
Team description
Supplemental information Number/label if more than one included

5.3.Cover letter

The cover letter must include the following:

- The legal name and address of respondent
- The name, title and telephone number of the individual authorized to submit information
- A statement that the respondent has read, understands, and agrees to all provisions of the RFI

5.4.Table of contents

Include a clear identification of the response by section and by page number.

5.5.Demonstration proposal

This section should include the items outlined in sections 3.1 and 3.8.

5.6.Team Description

This is a response to section 4.16.1. As a separate PDF attachment, respondents should include CVs for all key team members, including project partners. Respondents should also describe each listed team members' role on the proposed project.

5.7.Supplemental information

Respondents should include any supplemental or supporting attachments, as separate documents, in this section. These could include, but are not limited to, detailed information regarding the unique aspects of the demonstration being proposed, background on the organization, budget and financials, evidence to support key assumptions, letters of support, etc. (incl. material requested in sections 4.16.2 – 4.20). Submissions can be provided in either Excel or PDF format, depending on the nature of the attachment. Respondents should not include attachments in any other format.

If respondents submit more than one attachment, please clearly label and number each attachment.

6. Appendices

This section intends to provide respondents with background information to inform and improve responses. Not all the information that follows will be relevant to every response. Con Edison recommends respondents read, at a minimum, the New York State Public Service Commission (NYPSC) Memorandum and Resolution on Demonstration Projects (6.4) in order to understand the NYPSC and Con Edison's shared objectives.

6.1. Reforming the Energy Vision (REV)

In 2014, New York State launched Reforming the Energy Vision (REV), which is a "comprehensive strategy to develop a cleaner and more reliable, resilient and affordable energy system for all New Yorkers." Over the past two and a half years, the NYPSC has conducted a number of proceedings in support of REV. Several key outputs are described below.

6.2. Ratemaking and Utility Business Models

On May 19, 2016 the State of New York's Public Service Commission (NYPSC) issued an Order Adopting a Ratemaking and Utility Revenue Model Policy Framework. This document contains a discussion of Platform Service Revenues (or PSRs). It can be found here:

<http://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=160469&MatterSeq=44991>

6.3. REV Demonstration Projects

On December 12, 2014 the State of New York's Public Service Commission (NYPSC) issued a Memorandum and Resolution on Demonstration Projects. That order describes ten guiding principles for REV demonstration projects. The document can be found here:

NYPSC Memorandum and Resolution on Demonstration Projects:

<https://wem-cd-p1.coned.com/external/coned/lmi/documents/Resolution-on-Demonstration-Projects.pdf>

6.4. REV Demonstration Principles

The State of New York's Public Service Commission (NYPSC) Memorandum and Resolution on Demonstration Projects describes ten guiding principles for REV demonstration projects. Below, we briefly describe or re-state each key principle and then describe, *in italics*, how this RFI addresses them:

1. **Flexibility:** The Commission does not intend "to specify the types of project expected but instead to establish guiding criteria." *In this section, Con Edison makes explicit how this RFI process meets the guiding criteria. In addition, the detailed and targeted RFI should also filter for only those respondents who have addressed the guiding criteria.*
2. **Demonstrating Innovation:** NYPSC wants utilities to have "a portfolio of demonstration projects to test various technologies" that include "various DER technologies and products that can be into the utility distribution system planning and operations; customer engagement and response; and DSP technologies

that will allow for the integration, visualization, and market operations related to DERs.” *Con Edison is soliciting solutions for DER technologies and new tools for customer engagement.*

3. **Value Distribution:** The Commission seeks a clear delineation of how generated economic value is divided between the customer, utility, and third party service provider. It also seeks a proposal for how much capital expense should go into the rate-base versus competitive markets. *Any successful response should be clear on the division of economic value between each key constituent. An intended outcome of this demonstration – like others – is to shed light on optimal recovery mechanisms.*
4. **Partnerships:** The Commission seeks partnership between the utility and the third party service provider with the goal of a significant third party capital contribution. *This RFI seeks to identify specific partners best suited to execute the objectives above. Any successful response will require partnerships, likely multiple partnerships, and will also require third party capital.*
5. **Customer Engagement:** The Commission states that, “customer engagement and measuring customer response to DER and data sharing will be a crucial element of these demonstrations.” *While Con Edison is not mandating a particular approach to customer engagement, we ask about customer acquisition and engagement in this RFI and therefore expect successful respondents to have an effective strategy and process for maximizing value to – and engagement with – customers.*
6. **Market Solutions:** The Commission states, “utilities should identify the problem and the market should propose solutions.” *Con Edison could not agree with this sentiment more. This RFI seeks to describe our “problem” or objective, and let the market propose specific solutions.*
7. **Developing Competitive Markets:** The Commission desires demonstration participants to propose rules that will help to create competitive markets. *This RFI focuses heavily on “experiment” or demonstration design in an attempt to derive the information necessary to create an informed perspective on what an optimal competitive market might look like.*
8. **Ensuring Cyber-Security:** The Commission desires to “maintain customer data privacy and keep platform operations safe.” *The RFI asks respondents to address these specific issues in section 4.20.*
9. **Scalability:** The Commission wants to “ensure the scalability of the technologies and products tested.” *This RFI asks respondents to address these specific issues in section 3*
10. **Cost Recovery:** The Commission asks utilities to “bring proposed cost allocation methodologies and cost recovery mechanisms to the Commission for consideration.” *Successful respondents will envision and articulate these mechanisms as part of their response.*

6.5. NYSPSC Table of Contents for Demonstration Filings

After Con Edison selects the respondent(s) with whom it will file a demonstration project(s), Con Edison is required to file the project with the NYSPSC for approval. This document is the table of contents that Con Edison will have to follow for the demonstration project filings. Respondents should note that Con Edison has designed this RFI to address many of the topics to be discussed in the formal filing. The document can be found here:

<https://wem-cd-p1.coned.com/external/coned/lmi/documents/REV-Demo-Table-of-Contents.pdf>

6.6. NYPSC Criteria for Demonstration Project Evaluation

After Con Edison submits a demonstration project to the NYPSC for consideration, the NYPSC has established criteria upon which to evaluate the proposed project. Respondents should note that this is the NYPSC's criteria, and not Con Edison's. This document can be found here:

https://wem-cd-p1.coned.com/_external/coned/lmi/documents/REV-Demo-Criteria-for-Evaluation.pdf