INFORMATION MEMORANDUM

Empire State Connector

rev. 2
2017-12-06

Disclaimer

This Information Memorandum ("IM") is intended solely to provide interested parties with input that may be relevant to the Empire State Connector ("ESC") Open Solicitation process. All possible factors of importance to a potential transmission service customer or party to contractual arrangements have not necessarily been considered. The contents of this IM do not constitute investment advice, and do not obviate the need for a potential transmission service customer or investor to make further appropriate inquiries as to the accuracy of the information included therein. ESC encourages interested parties to undertake their own analysis and due diligence.

Revision History

Rev. 0	
Rev. 1	Updated Description of Parties
Rev. 2	Updated minimum eligibility requirements for supply offer

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Section I: Overview of Empire State Connector Project

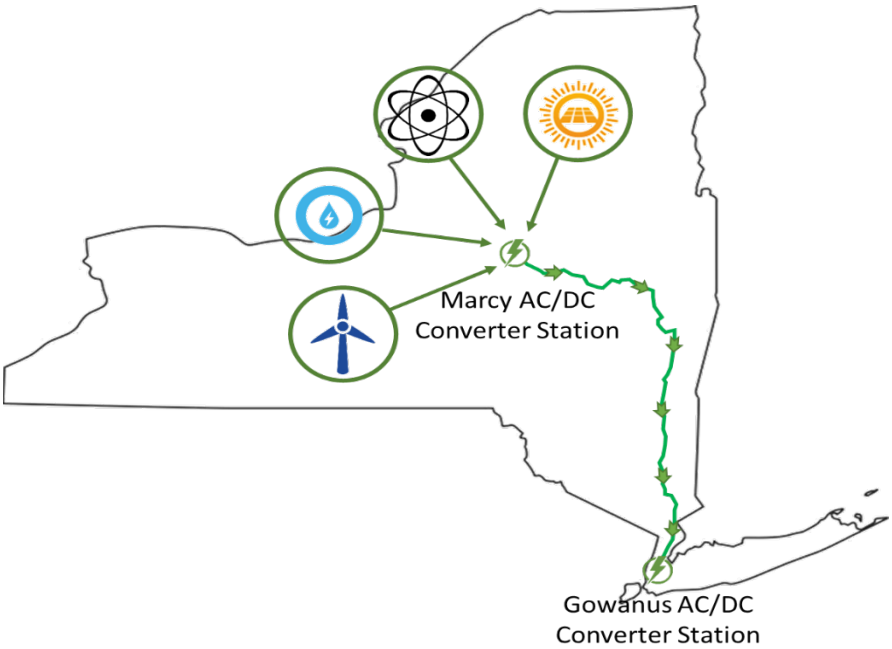
The Empire State Connector ("ESC") is a proposed 265 miles, fully buried, 1,000MW High-Voltage Direct Current ("HVDC") transmission line that will run from Upstate New York to New York City.

The project represents an "all New York solution" to the state's energy congestion, providing an opportunity for renewable, low-cost, zero-emission energy generation from upstate New York to be delivered directly into the heart of New York City. ESC will help the state achieve its Clean Energy Standard ("CES") goals of a 40% reduction in greenhouse gas emissions from 1990 levels and 50% renewable energy generation by 2030.

QUICK FACTS

Route: Upstate NY to NYC
Length: 265 miles
Rating: 1,000 MW at +/- 320kV
Technology: Underwater & underground HVDC
Interconnection Application: Submitted under Empire State Connector Corp.
NYISO queue #506
Negotiated Rate Application: FERC approval June 24, 2016
Target In-Service Date: 2022
Job Creation: More than 2,600 jobs during construction
Labor: Union

Efficient and reliable Upstate New York energy will be collected at a converter station that will be built by ESC near Utica, New York. This energy is then converted from AC to DC and transmitted via two six-inch diameter non-fluidized solid-state cables directly into the heart of New York City, where the energy is then converted back to AC and injected into the grid at the Gowanus substation. Because of the precise controllability of HVDC technology, the energy physically delivered can qualify as "in-city" capacity by the New York Independent System Operator, Inc. ("NYISO").



The ESC Project will be a 1,000 MW HVDC transmission cable circuit. The Project's cables will be routed primarily underwater in the Erie Canal and Hudson River, and underground, using areas that are already designated as utility rights-of-way, to minimize the Project's environmental impact and eliminate any visual impact.

Development is being jointly led by both oneGRID Corp. ("oneGRID") and Forum Equity Partners Inc. ("Forum"), with oneGRID as project manager and Forum providing development advice and financing. Commencement of construction is expected end of 2019 with in-service date anticipated in 2022. The Project is being built by union labor and it is anticipated it will create more than 2,600 jobs during the three-to-four-year construction period.

The ESC has seen significant development in recent months, with more milestones to be reached by end of the year. Environmental and technical prefeasibility studies for the Project have been received with no fatal flaws identified. Significant design engineering work, including a complete route assessment, has also been completed with Siemens.

On June 24, 2016, the U.S. Federal Energy Regulatory Commission ("FERC") approved the request for negotiated rate authority for the ESC project.[1] The approval allows ESC to conduct an open solicitation and transmission capacity allocation process for all parties interested to subscribe for transmission capacity.

Project Milestones	Completion Date
Interconnection Application #506 with NYISO	Q2 2015
Preliminary engineering	Q3 2015
Environmental Pre-Feasibility Analysis	Q4 2015
FERC Application for Negotiated Rates	Q2 2016
Windshield Survey	Q2 2016
NYISO Interconnection Feasibility Study	Q2 2017
Routing Assessment	Q3 2017
Open Solicitation	Q4 2017
Agency Consultation	In Progress
Public Outreach	In Progress

Looking ahead, the ESC has a clear pathway to approval of the required State and Federal permits, construction, and start of commercial operations. ESC intends to file its Article VII application with the Public Service Commission by year end. A Feasibility Study with the New York Independent System Operator (NYISO) was completed in August 2016, paving the way for the System Impact Study and participation in the Class Year process. ESC anticipates receiving major state and federal permits by Q4 2019, commencement of construction in 2019 and commercial operation in 2022.

[1] Empire State Connector Corp., News Release <http://empirestateconnector.com/images/news/ESC_FERCOrder_pressrelease_7_5_16.pdf>

The oneGRID team has significant past experience successfully developing similar HVDC transmission projects in North and South America, including:

- **Champlain-Hudson Power Express**: 1,000 MW submarine HVDC transmission line connecting Montreal to NYC; acquired by Blackstone in 2010;
- **Lake Erie Connector**: 1,000 MW submarine HVDC transmission line connecting Ontario to PJM network; acquired by ITC Holdings in 2014; and,
- **Pacifico HVDC Link**: 1,000 MW HVDC transmission line connecting Peru and Chile.

More details on oneGRID and other parties involved in the ESC project are provided in Section IV.

Section II: Overview of Open Solicitation Process

On June 24, 2016, FERC issued its Order granting ESC the authority to sell transmission rights at negotiated rates, provided ESC conducts an Open Solicitation to allocate the transmission capacity.[2] ESC has retained LEI as the Independent Solicitation Manager to design the solicitation process and ensure that the process complies with FERC policy guidelines. These duties include ensuring that all participants get access to the same information, that the evaluation is consistent with criteria provided in notice material, and that the overall process is fair, transparent and non-discriminatory. At the conclusion of the Open Solicitation, LEI will provide supporting information to FERC regarding the reasonableness of the process and the absence of any undue discrimination or undue preference.

A traditional Open Solicitation seeks transmission service clients who will purchase a given amount of transmission capacity for a specific, typically long-term, duration. In the current power markets environment, generation suppliers or Load Serving Entities ("LSE") are generally unwilling to purchase long term transmission capacity on a pure "merchant" basis (i.e., without some form of price guarantee for the power supply). Not surprisingly, in recent years, the completion of large transmission projects has been facilitated by long-term Request for Proposals ("RFP") from LSEs or their agents (e.g. NYPA[3] and LIPA[4])

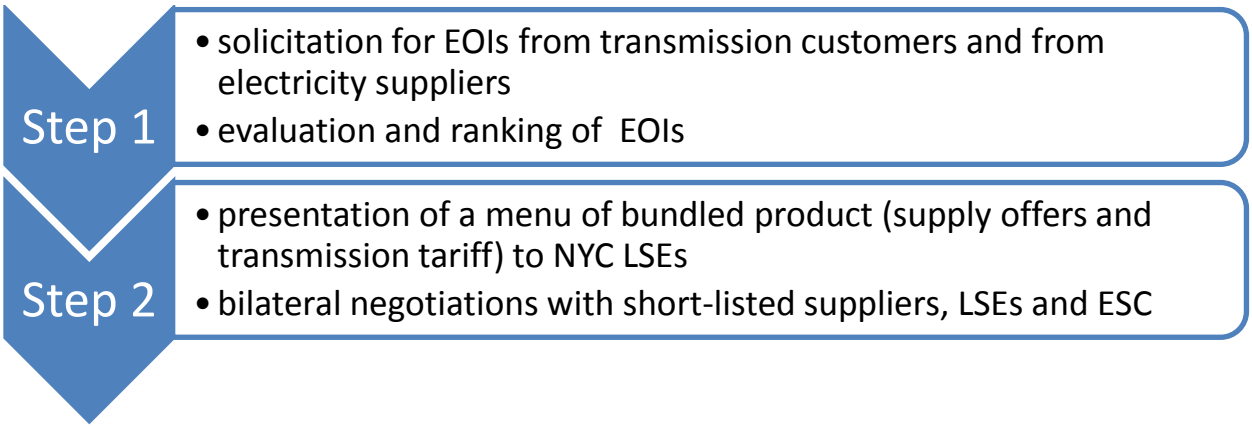
In the current environment, there is not yet an official RFP from an LSE which would fit the ESC project. Yet there may be interest from some LSEs to purchase supply for a long-term period, if that supply can be cost-competitive with their current supply sources (e.g. NYC energy & capacity prices) and if the supply resources can also provide sought-after attributes given environmental policies in the state (such as the Clean Energy Standard[5]). As such, if ESC can solicit offers from suitable upstate suppliers willing to offer the energy, capacity, and environmental attributes, then a situation could arise where NYC LSEs would be interested in providing contracts to these suppliers in order to secure the supply resources for the benefit of NYC customers.

Similarly, upstate suppliers would probably not be interested in acquiring transmission rights for a long period without some form of price guarantee. They might be interested, however, if an LSE was willing to offer them a contract which would provide them with revenue certainty and ensure that they recover, at the very least, their going-forward costs.

[2] FERC, *Order Granting Application for Authorization to Charge Negotiated Rates Subject to Condition and Granting Waivers*, Docket ER16-1495, June 24, 2016.
<http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14284003>
[3] A NYPA RFP resulted in the construction of the 600 MW HTP transmission line in 2013.
[4] A LIPA RFP resulted in the construction of the 660 MW Neptune transmission line in 2007.
[5] NY Public Service Commission, *Order adopting a Clean Energy Standard*, Case Number 15-R-0302, August 1, 2016.

II.1 Open Solicitation Design

The ESC Open Solicitation is designed as a two-step process in order to include provisions to facilitate long-term contracts between upstate suppliers (submitting Expression of Interest ("EOI") documents for using the ESC) and NYC LSEs.



In the first step, the Open Solicitation will seek offers in the form of EOIs for two categories of products:

- ***EOIs for transmission service*** – from those entities that are willing to sign up for transmission service on ESC pursuant to the minimum requirements of the Open Solicitation; and
- ***EOIs for supply*** – from those entities that are looking to deliver power through the ESC contingent upon long-term contractual arrangements for the purchase of energy, capacity and/or Renewable Energy Credits ("REC")/Zero-Emission Credits ("ZEC").

Expression of Interest forms must be emailed to ESCSolicitation@londoneconomics.com before December 22, 2017 at 5:00 pm Eastern time. Interested parties are allowed to submit more than one expression of interest. These documents will be treated confidentially; parties are encouraged to execute and return the Non-Disclosure Agreement that can be found in the "Documents" section of the website.

Transmission service customers having submitted EOIs meeting the minimum requirements would have priority for transmission rights in the evaluation stage of the ESC Open Solicitation. It is anticipated that qualified transmission service customer(s) would enter into negotiations for a Transmission Service Agreement ("TSA") with ESC at the conclusion of the first step.

If the ESC is not fully subscribed with transmission service customers, there would be a ranking of EOIs for supply according to predetermined criteria. There will not be a selection of any "winning" suppliers at this stage.

In step two of the process, ESC and LEI would contact several large LSEs (or retailers) serving load in NYC and present them with bundled supply and transmission product that consists of a menu of the previously received suppliers' offers (with supplier identity masked) and the ESC

transmission tariff. After the presentation of the menu of bundled product offerings, a tri-lateral negotiated process would ensue between ESC, the short-listed suppliers on the menu and interested LSEs in order to match supplier offer characteristics and LSE supply needs. The negotiations would conclude with one or more LSEs entering into one or more power purchase agreement ("PPA") with one or more supplier(s) and those supplier(s) would enter into TSAs with ESC.

II.2 Open Solicitation mechanism

1. Offer types from potential transmission customers

The ESC project solicitation would seek two categories of product:

a. EOIs to purchase transmission service

These EOIs could come from marketers, LSEs, or suppliers, renewable or not, as long as the EOI meets the minimum eligibility criteria (discussed below). Any potential transmission service customer would need to procure its supply at the source converter and arrange for marketing of the energy at the sink converter. Each offer would include:

- the amount of transmission capacity (MW) sought;
- contract term desired;
- desired start of transmission service; and
- credit and financial information.

At this stage, the Expression of Interest form allows bidders to include conditions for acquiring transmission rights.

b. EOIs for supply

The non-binding offers for supply would come from generation owners or marketers[6] willing to deliver energy, capacity and/or RECs/ZECs (if applicable) to the upstate ESC terminal. Suppliers will be allowed to submit multiple offers with different characteristics. Each offer would include:

- the maximum net capability of the generation resource(s);
- the amount of annual energy (e.g. intermittent resources would have a Capacity Factor lower than one);
- indicative pricing for energy, capacity, and attributes (non-binding at this point);
- nature of supply (baseload, intermittent, or "firming");[7]

[6] Marketers would need to demonstrate control over the proposed assets, or authority to offer the resources into the Open Solicitation

[7] "Firming" does not necessarily imply that the resource must ramp up/down its production, but rather it means that the generator's output would be commercially switched between sales on the ESC and sales at

- environmental attributes included (RECs, ZECs, or none);
- contract term desired (minimum 10 years);
- desired start of transmission service; and
- credit and financial information.

At this stage, the Expression of Interest form also allows suppliers to include commercial arrangements or conditions that are essential for them, or conversely, commercial arrangements that they would consider show-stoppers.

2. Minimum eligibility criteria

The eligibility for transmission service bids or supply offers are as follows:

- minimum quantity:
  - 50 MW/438 GWh annually for EOIs to purchase transmission service;
  - 1 MW/ 8.76 GWh annually for EOIs for supply
- minimum service term: 10 years; and
- minimum level of creditworthiness and financial strength.

3. Evaluation criteria

When performing the evaluation, the "EOIs to purchase transmission service" will have priority over "EOIs for supply".

The evaluation criteria for selecting between different "EOIs to purchase transmission service" are as follows, ranked in terms of importance:

i. amount of reserved transmission capacity;
ii. transmission service contract term;
iii. creditworthiness, financial strength, general project viability; and
iv. start of transmission service.

"EOIs for supply will be ranked using the following criteria, although at this point ranking is purely indicative as interested LSEs will ultimately determine the "winning" suppliers that match their needs:

i. supply price;
ii. amount of environmental attributes (RECs or ZECs);
iii. transmission service contract term;
iv. amount of annual energy;
v. creditworthiness, financial strength, general project viability; and
vi. start of transmission service.

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the resource's generator bus. As such a baseload resource could participate both as "baseload" and/or "firming".

4. Bilateral negotiations

Prior to the Open Solicitation, ESC and LEI have reached out to potential LSEs who would be interested in reviewing the "menu" of supply offers received through the Open Solicitation. If additional LSEs who ESC and LEI have not yet reached out to are interested in being part of this second step, please contact LEI through the Open Solicitation website.

Qualified transmission service customer(s) that meet the minimum eligibility criteria would enter into negotiations for a Transmission Service Agreement ("TSA") with ESC at the conclusion of the first step.

If the ESC is not fully subscribed through transmission service customers, step two of the process would ensue. ESC and LEI will contact several large LSEs (or retailers) serving load in NYC and present them with bundled supply offers that consist of a menu of the previously received suppliers' offers and the ESC transmission tariff. At this point, the ESC tariff would be the same across different supply offers.

The identity of potential suppliers will be masked during the initial presentation of the menu of bundled products to LSEs. Supply offers will be presented to LSEs based on the characteristics of the supply, such as indicative pricing, quantity, nature of supply, and environmental attributes (if applicable), and on a general measure of the company's size.

If the amount of energy sought by LSEs exceeds the capacity of the ESC, requests from LSEs would then be ranked according to the following criteria so as not to oversubscribe the line:

i. amount of energy sought;
ii. transmission service contract term;
iii. creditworthiness, financial strength, general project viability; and
iv. start of transmission service.

Following ESC selection of supply sources that meet their needs, the tri-lateral negotiation phase will begin, so that suppliers, ESC, and LSEs can discuss the terms of the PPAs and TSAs and reach an agreement on price for energy, capacity, attributes, and transmission service. The LSEs would enter into PPAs with the selected suppliers.

At the conclusion of the Open Solicitation, LEI will provide supporting information to FERC regarding the reasonableness of the process and the absence of any undue discrimination or undue preference.

II.3 Open Solicitation Schedule

The Open Solicitation for the ESC transmission project was launched on November 27, 2017 with non-binding Expressions of Interest due on December 22, 2017 at 5:00 pm Eastern time.

ESC and LEI will hold a virtual information session on December 5, 2017 at 1:00 pm Eastern time. The information session will provide an opportunity for ESC to present the project and open solicitation design to interested parties, as well as for participants to ask questions.

From December 22, 2017 to January 5, 2018, ESC and LEI will review the Expression of Interest documents received during the submission window. LEI and ESC will then select parties interested in acquiring transmission rights on the ESC according to the evaluation criteria set forth in the preceding sections. In the event the line cannot be fully subscribed through transmission service customers, LEI will prepare a "menu" of non-binding supply offers bundled with transmission service to present to participating LSEs. As mentioned previously, at this stage, the identity of the potential suppliers will not be disclosed.

Description	Date
Launch of Open Solicitation	November 27, 2017
Virtual information session	December 5, 2017 *1:00 pm Eastern time*
Expressions of Interest due	December 22, 2017 *5:00 pm Eastern time*
Review of Expressions of Interest	December 22, 2017 – January 5, 2018
Presentation of supply offers to participating LSEs	January – February, 2018
Negotiation and Execution of Precedent Agreement(s)	February – April 2018
Negotiation and Execution of Transmission Service Agreement(s), Power Purchase Agreement(s)	April – August, 2018
Submit Section 205 filing to FERC	End of August, 2018

ESC and LEI anticipate that bilateral negotiations involving suppliers, LSEs and ESC would begin in February 2018, with the signature of Precedent Agreements or Memorandum of Understanding ("MOU") in April. Following that, Transmission Service Agreements and Power Purchase Agreements could be finalized by the summer 2018.

II.4 Open Solicitation communications

Throughout the duration of the Open Solicitation, LEI will maintain the website up to date with the latest information, including press releases and presentation materials related to the ESC and other pertinent information (such as links to NY PSC Order on CES). LEI will also publish questions and answers on the website which are related to the Open Solicitation process and/or the Project. The Open Solicitation website can be accessed at
www.ESCsolicitation.com

In addition to public documents, confidential information such as data about the proposed ESC tariff or other confidential studies will be made available through the website to those parties that execute a Non-Disclosure Agreement. Complete information to access these restricted documents is available in the "Documents" section of the website.

Furthermore, all parties are encouraged to attend the virtual information session to be held on December 5, 2017 at 1:00 pm Eastern time. Information for registering for the session will be provided through the website.

Throughout the duration of the Open Solicitation, any party will be able to ask questions either by using the appropriate form on the website, or by sending an email to ESCsolicitation@londoneconomics.com

All questions and answers will be made available publicly through an FAQ document posted on the website and updated regularly.

Section III: Potential Value Proposition

New York State has launched several initiatives to put the state on a path to achieving its renewable targets by 2030, including a goal of 40% reduction in GHG emission from 1990 levels and a goal of 50% of load served by renewables resources.[8]

New York needs clean energy

Following the recently adopted Clean Energy Standard,[9] almost 34 TWh annually of new renewable energy is needed by 2030 to meet this target. In addition to new resources, NY PSC staff has also noted that NY must retain its existing renewable and carbon-neutral sources of energy. The CES design contains provisions to support the substantial fleet of nuclear-powered carbon-neutral generators already in operation and available to meet NY's CES targets from within NY or adjacent control areas.

New York City consumers do not have ample access to many new and existing clean energy resources

Historically and currently, significant congestion is observed on the transmission system in New York as energy flows from west to east and from north to south towards the largest load zones, including NYC (Zone J). Existing transmission bottlenecks may hinder delivery of incremental needed renewable energy to load centers in NYC. The New York Independent System Operator ("NYISO") submitted comments in the New York Public Service Commission ("NY PSC") Case related to the Clean Energy Standard confirming that additional transmission capability will be required to transfer energy from upstate renewable resources to New York's load centers, including New York City.[10] The NYISO stated this need for transmission capability is in addition to the anticipated transmission expansion resulting from the Western New York and AC Transmission Public Policy Transmission Needs proceedings before the NY PSC.

Given the physical location of large load centers, the costs of the CES will be primarily borne by downstate (NYC) customers, and those customers are entitled to receive benefits commensurate with the costs that they incur. However, without additional transmission capacity as proposed by the ESC, there is a risk that a surge in the development of upstate renewable resources will not benefit NYC customers, in the form of lower local energy and capacity market prices, due, in part, to the demonstrated transmission congestion into the downstate area.

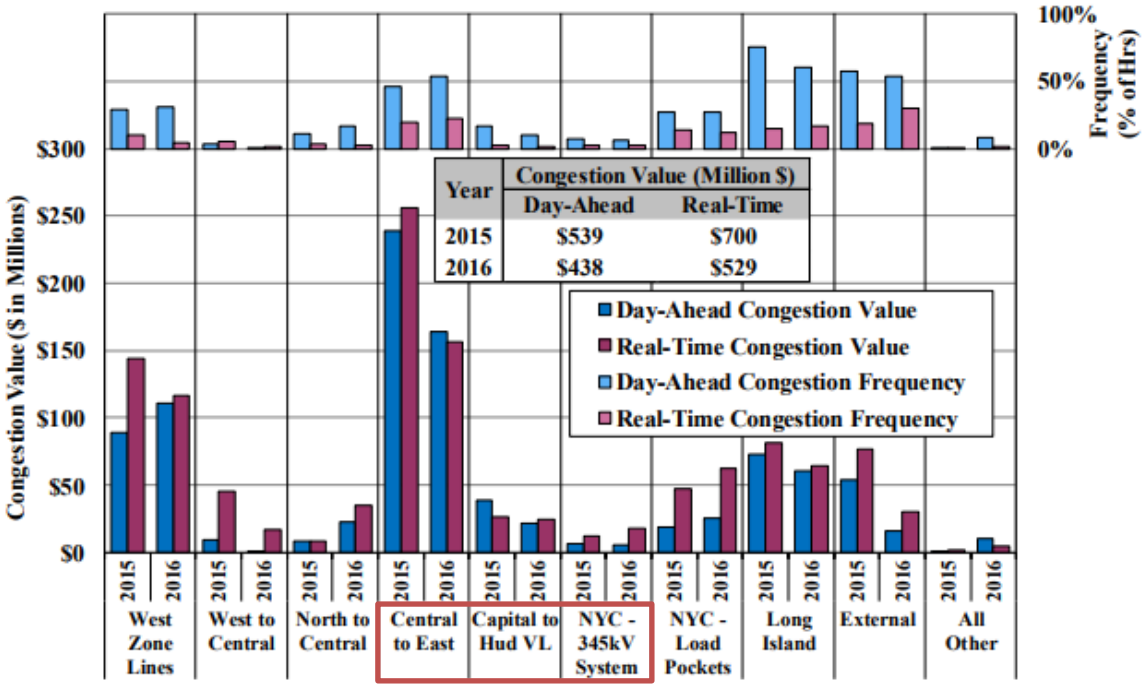
Furthermore, with a surge in upstate renewable resource developments, transmission congestion issues would result in a decline in energy and capacity prices in those regions as they are unable to deliver their power to load centers. As a result of lower energy and capacity

[8] 2015 New York State Energy Plan
[9] NY Public Service Commission, *Order adopting a Clean Energy Standard*, Case Number 15-E-0302, August 1, 2016.
[10] NYISO, *Supplemental Comments on the Clean Energy Standard*. NY PSC Case Number 15-E-0302, July 8, 2016

market revenues, the price for Renewable Energy Credits ("REC") could increase dramatically as renewable resources seek to earn sufficient revenues.

Transmission-driven reliability issues could also result in the curtailment of upstate renewable resources and continued use of downstate fossil-fueled generation, further limiting environmental benefits.

The following figure[11] illustrates the recent historical energy market congestion value across the major congested interfaces in New York. By virtue of the location of its converter stations, the ESC transmission line would bypass the "Central to East", "Capital to Hudson Valley" and "NYC – 345kV System" interfaces to deliver energy and capacity directly into NYC.



In conclusion, ESC provides NYC LSEs with an opportunity to contract with resources that would deliver power to NYC and therefore provide NYC customers not only with the environmental benefits but also the market benefits of such resources. LSEs will then be able to show leadership in achieving environmental goals and helping the State meet the ambitious CES targets while also maximizing the benefits that their customers will realize from this policy-driven change in the makeup of the resource mix in New York. The additional transmission capacity provided by the ESC would ensure that NYC consumers are provided all the energy, capacity, and REC price benefits, in addition to the environmental benefits, afforded by new renewable generation resources.

[11] Potomac Economics, 2016 State of the Market Report for the NYISO Markets, Figure 2

Section IV: Description of Parties

oneGRID Corp.

oneGRID is an independent electricity transmission developer that focuses on innovative routes that will unlock renewable generating sources by relieving transmission congestion with minimal environmental impact. oneGRID uses safe and reliable HVDC technology to improve and strengthen grid performance. With projects in both North and South America, oneGRID is committed to responsible development that respects local communities and minimizes environmental impact.

For more information about oneGRID, please visit www.onegridcorp.com

Forum Equity Partners

Forum Equity Partners is a privately owned alternative investment, asset management and development firm with a focus on energy & renewables, infrastructure and real estate. Headquartered in Toronto, Ontario, with $1 billion of assets under management, Forum is committed to achieving aggressive growth through investments and partnerships across rapidly emerging industries and markets, with innovative structures and unconventional investment approaches.

For more information about Forum Equity Partners, please visit www.forumequitypartners.com.

London Economics International LLC

London Economics International LLC ("LEI") is a global economic, financial, and strategic advisory professional services firm specializing in energy, water, and infrastructure. The firm combines detailed understanding of specific network and commodity industries, such as transmission and distribution, electricity generation, with sophisticated analysis and a suite of proprietary quantitative models that together produce reliable and comprehensible results. LEI's array of clients extends from the private sector to market and government institutions.

LEI has been engaged as the Independent Solicitation Manager to design and manage ESC's Open Solicitation. For more information, please visit www.londoneconomics.com.