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## NISSAN, ENEL AND NUVVE OPERATE WORLD'S FIRST FULLY COMMERCIAL VEHICLE-TO-GRID HUB IN DENMARK

- Enel has installed 10 vehicle-to-grid (V2G) units at the headquarters of Danish utility Frederiksberg Forsyning, which also purchased 10 Nissan e-NV200s
- V2G hub will help stabilise the national electric grid in Denmark, by providing power capacity services to grid operator Energinet.dk
- Nissan, Enel, Nuvve, Frederiksberg Forsyning and Energinet.dk expect to publish initial findings from the commercial implementation of the V2G system later this year

**Copenhagen, August 29<sup>th</sup>, 2016** – The world's first fully commercial<sup>1</sup> vehicle-to-grid (V2G) hub is now operating in Denmark thanks to the collaboration between global automotive manufacturer Nissan, multinational energy company and smart grid technologies pioneer Enel, and California-based company Nuvve, a leading V2G services provider.

**Gareth Dunsmore, Director of Electric Vehicles, Nissan Europe said:** *“Tackling the environmental challenges that face societies around the world requires smart thinking and a new approach to traditional energy management and distribution models. Today’s ground-breaking announcement in Denmark marks a major step in tackling these challenges head on. With V2G technology, electric vehicles will play an integral part in the energy management systems of the future. The fact that a company has commercially integrated this technology paves the way for the wider commercial roll out of this technology across Europe.”*

**Ernesto Ciorra, Enel’s Head of Innovation and Sustainability stated:** *“Today’s launch follows the joint announcement with Nissan during COP21 back in December. Only a few years ago, the idea of commercialising V2G would have seemed unrealistic. Today, together with our partners, we make it a reality. Enel is proud to be leading the power industry in both developing V2G offers and introducing them into global markets, starting with Denmark. Now we have a fully functioning hub of EVs delivering balancing services to the Danish grid. With V2G we can enhance grid stability, further enabling the integration of renewables into the generation mix, which is the core of Enel’s overall energy strategy. V2G is one of the sustainable innovation areas that is taking us towards a low carbon society for the benefit of present and future generations.”*

**Gregory Poilasne, Nuvve’s Chairman and CEO said:** *“Nuvve is excited to be part of the first ever commercial V2G fleet with both Frederiksberg Forsyning and Energinet.dk. In collaboration with Nissan and Enel, we plan to roll out many more V2G projects in Denmark and other countries in the near future, using commercial and standard vehicles and chargers linked with Nuvve’s intelligent aggregation platform GIVe™”.*

Becoming the first customer to commercially integrate and host V2G units at its headquarters in Copenhagen, utility Frederiksberg Forsyning has installed 10 Enel V2G units and purchased 10 zero emission, 100 percent electric Nissan e-NV200 vans that will join the company's fleet. When the e-NV200s are not in use, they can be plugged in to the new Enel V2G units on site and can receive energy from and provide energy back to the national grid on demand, effectively turning

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<sup>1</sup> Fully commercial means that the project is entirely based on components and technologies that can be purchased by consumers, from the electric vehicles to the recharge units and the platform that manages the V2G system.



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the vans into mobile energy solutions. The total capacity made available by the 10 kW Enel V2G chargers amounts to approximately 100 kW.

Nuvve is the provider of the platform that controls the power flow to and from the cars. The platform, initially developed by the University of Delaware and now supported and commercialised by Nuvve, ensures that the driver's mileage needs are always met and optimises the power available to the grid.

With Nissan electric vehicles, dual energy flow enabled by Enel V2G chargers and managed by Nuvve's aggregation platform, Frederiksberg Forsyning will become an active participant in Denmark's energy management system, helping to stabilise and balance demand on the grid.

By participating in this initial project, Danish grid operator Energinet.dk is keen to apply the findings from the commercial implementation of the V2G hub to adapt the national network in order to better integrate EVs and provide ancillary services to stabilise the grid.

**-ENDS-**

#### **Notes to Editors:**

##### **About Nissan in Europe**

Nissan has one of the most comprehensive European presences of any overseas manufacturer, employing more than 17,000 staff across locally-based design, research & development, manufacturing, logistics and sales & marketing operations. Last year Nissan plants in the UK, Spain and Russia produced more than 635,000 vehicles including award-winning crossovers, commercial vehicles and the Nissan LEAF, the world's most popular electric vehicle. Pursuing a goal of zero emissions and zero fatalities on the road, Nissan recently announced its Intelligent Mobility vision. Designed to guide Nissan's product and technology pipeline, this 360 degree approach to the future of mobility will anchor critical company decisions around how cars are powered, how cars are driven, and how cars integrate into society. Nissan is positioned to become the most desirable Asian brand in Europe.

For more information about Nissan products, services and the brand's commitment to sustainable mobility and innovative technology, visit [www.nissan.eu/experience-nissan.html](http://www.nissan.eu/experience-nissan.html)

##### **About Enel**

Enel is a multinational power company and a leading integrated player in the world's power and gas markets. Enel Group operates in over 30 countries across five continents, producing energy through a net installed capacity of more than 87 GW and distributing electricity and gas through a network of approximately 1.9 million kilometres. With over 61 million business and household customers worldwide, Enel has the largest customer base among European competitors. Enel is the largest integrated utility in Europe in terms of market capitalisation and figures among Europe's leading power companies in terms of installed capacity and reported EBITDA.



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**About Frederiksberg Forsyning A/S**

We supply Frederiksberg (part of Copenhagen) with gas, water, district cooling and district heating and remove rain- and waste water. We also work with climate adaption and produce wind energy.

We do counselling, information and solve technical problems for our customers. Moreover we install meters, approve installations and take care of invoicing. Frederiksberg Forsyning has 200 employees and the Managing Director of the company is Søren Krøigaard. Frederiksberg Forsyning is the common brand name representing the Frederiksberg Energy Group companies – the Group is owned by the municipality of Frederiksberg.

**About Nuvve:** Nuvve Corp. is a San Diego based company, whose mission is to lower the cost of electrical vehicle (EV) ownership while supporting the integration of renewable energy sources, such as wind and solar. Our Grid Integrated Vehicle platform GIVe™ transforms EVs into grid assets when charging while guaranteeing the expected level of charge when the vehicle owner needs it. The aggregation of thousands of electric vehicles into a virtual power plant using the GIVe platform, allows Nuvve to participate in electricity markets with a power capacity comparable to traditional generators. Based on vehicle to grid technology or V2G, the GIVe platform gives benefits to public organisations, businesses and homes by reducing the cost of electric infrastructure and reducing CO2 emissions. [www.nuvve.com](http://www.nuvve.com)

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