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EECBG Electric Vehicle and Electric Vehicle Charging Stations Pilot Project

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This Memo contains detailed information on the City's upcoming Electric Vehicle and Electric Vehicle Charging Stations Pilot projects.

Background

In August 2009, the U.S. Department of Energy allocated to the City of Charlotte $6.78 million as part of the Energy Efficiency and Conservation Block Grant (EECBG) program. The EECBG was funded through American Recovery and Reinvestment Act (ARRA) funds. To receive the grant, the City was required to create a strategy outlining how the funds would be spent. The subsequent Energy Strategy document, developed with assistance from the firm Camp, Dresser and McKee, was approved by City Council in November 2009. In April 2010, after approving the Energy Strategy, DOE awarded Charlotte the funds and authorized the City to proceed with the 17 projects described in the Energy Strategy.

The projects in the Energy Strategy were developed using input from the Charlotte community, City staff, City Council and the City's Energy Efficiency Partners. Selected projects reflected a high level of community support, provided education opportunities that affected behavior change, were highly visible, and had the potential to serve as a catalyst for future progress. DOE required the projects create jobs, save energy, and reduce greenhouse gas emissions. Electric Vehicles and Electric Vehicle Charging Stations are a catalyst project, one that could motivate other entities or individuals to adopt electric vehicles.

Electric Vehicle Charging Stations

$215,000 of EECBG funds will be used to purchase and install twenty-six electric vehicle charging stations at locations throughout the community. These stations will be available for use by the general public and will be strategically placed at locations to aid the public with the adoption of electric vehicles. The stations will be located at the following sites:

- CMGC Parking Deck (six charging stations in the public portion of the deck);
- CATS I-485 Station Park & Ride (five charging stations);
- CATS Park & Ride at Mallard Creek (five charging stations);
- CATS Greenway Park & Ride in Huntersville (four charging stations);
- North Tryon Street on-street parking near The Square (two charging stations);

- South Tyron Street on-street parking near Mint Museum (two charging stations); and
- South Boulevard on-street parking near Circle at South End apartments (two charging stations).

The charging stations will be installed this fall and will be available to the public during the facilities' regular hours of operation. The stations located in the CMGC deck will also be used for overnight charging of the City's electric fleet vehicles described in more detail below.

Each station will be connected to the ChangePoint network, a national network of charging stations. The ChargePoint network requires users to sign up for a free ChargePass card, which is used to activate the charging station. The $200 per year ChargePoint subscription fee will be paid by the manufacturer, Siemens, for the first year. The stations are equipped to charge customers in the future if the City so chooses, but charging will remain free through the life of the EECBG grant, July 27, 2012. The approximate cost of a full charge is $2. Connection to the ChargePoint network also enables staff to monitor and track station usage.

The City will advertise the location of the charging stations through several forms of media. A free mobile app provided by ChargePoint that drivers can use to locate nearby charging stations and to determine whether the stations are unoccupied is available for iPhone, Android, and Blackberry users. The locations of these charging stations will also be publicized through the City's EECBG website, www.power2charlotte.com, local car dealerships who sell electric vehicles, the Centralina COG's website and a national database of charging station locations.

Electric Vehicles for City Fleet

This project also funds the purchase of eight electric vehicles for the City's fleet: seven Nissan Leafs and one Chevrolet Volt. The vehicles will be delivered in the first quarter of calendar year 2012. Bids for the Chevrolet Volt have already been received; the City will purchase this vehicle from Parks Chevrolet. Staff has evaluated the bids for the Nissan Leafs and will seek Council approval of the winning bid on October 10, 2011. The grant will fund the incremental cost of the electric vehicle over a normal replacement vehicle, which is approximately $15,000 per vehicle. The remaining cost will be paid for by the KBU receiving the vehicle from their vehicle replacement budget. The City's cost will be around $20,000 per vehicle.

The new Leafs will be assigned to: CDOT (2); N&BS (1); E&PM (2); CMUD (1); and Aviation (1). The Volt will be available for shared use by City staff within the CMGC. The City's vehicles will be charged using the stations located in the CMGC parking deck. Even with a fully depleted battery, the Nissan Leaf's battery can be recharged in less than eight hours with this type of charging station.

This project is a way to demonstrate the City's commitment to leading by example in energy and environmental initiatives. The benefits of these vehicles include: reduced fuel and maintenance costs; reduced fossil fuel use and the associated cost savings and greenhouse gas emissions

reduction; and an opportunity for the City's vehicle maintenance staff to evaluate the use of electric vehicles as a viable component of the City's larger vehicle fleet.

Charlotte-Mecklenburg Utilities Department and Airport Projects

In addition to the twenty-six EECBG-funded charging stations, CMUD and the Airport are also installing electric vehicle charging stations. These stations were donated to the City by Praxis Technologies Inc. as part of the stipulation for a NC Green Business Fund grant that the company recently received. The labor for installation is being donated by CPCC as part of a collaborative training program involving Vector Electric Company. CMUD's station has been delivered and will be installed during the month of October, with activation soon thereafter. Located at the Environmental Services Facility (ESF) at 4222 Westmount Drive, the station will be available for public use. This site was also selected so that City vehicles could charge at the ESF. Like the EECBG-funded stations, the ESF stations will be part of the ChargePoint network. Power for the charging station will be provided by CMUD.

The Airport has recently installed two charging stations. Managed by Park Inc., the vendor that manages the valet parking deck at the airport, these two stations will be located in the business valet deck located at the corner of Wilkinson Boulevard and Harlee Avenue. These stations are also attached to the ChargePoint network. Power for the charging is available at no extra cost to deck customers, and Park Inc. will be able to move vehicles around within the deck to charge many more vehicles than the two charging stations would typically allow. The subscription to the network will be paid by Praxis for the first year and by the Airport after that. At this point in time, the Airport plans to keep offering vehicle charging as a complimentary service to those using the business valet deck