NUTC Workshop – Electrification of Transportation

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Challenges of Electric Vehicle Adoption
Key Challenges

Electric Vehicle Price

Driving Range

Availability of Public Infrastructure
Making Zero Emissions Affordable

2012 Nissan LEAF – $27,700 after $7,500 Federal Tax Credit

• Additional incentive examples:
  – West Virginia: tax credit up to $7,500
  – Georgia: tax credit up to $5,000
  – Hawaii: rebate up to $4,500
  – Illinois: rebate up to $4,000

Incentives are an important bridge until mass production can bring down price through economies of scale.
Localized Nissan LEAF Production

- New state-of-the-art facility currently under construction
- Electric Motor Powertrain to be built at the Decherd Powertrain Assembly Plant
Understanding Driving Range

On average 90% of the U.S. population drives less than 100 miles a day

Typical consumer driving patterns:

- **Weekday** – 73% drive less than 50 miles per day
  - 27% drive 5-10 miles per day

- **Weekend** – 66% drive less than 50 miles per day
  - 24% drive 20-29 miles per day
Life with an EV: Infrastructure Eco System

Charging an EV will be much more convenient than most people think.
Public (Planned) Infrastructure

More than 13,000 EV Charge Stations on the way by the end of 2012…

The infrastructure of the future.

Electric vehicle infrastructure is growing rapidly, with plans to have more than 13,000 charging stations online in 2012. Use this interactive map to see how many charging stations are planned for your market.
Installed Public Infrastructure

Estimated Number Of Public Charging Stations:
- Level 2 (240V): 5,300
- DC Fast Charge (480V): 50

Station map legend:
- Available ChargePoint
- In use ChargePoint
- Out of Network
- Future ChargePoint
- Unresponsive ChargePoint
Infrastructure Priorities

**Public**

**Workplace Charging**

**Residential Home Charging**

**Allows for Mass Adoption**
- Relieves “range anxiety”
- Fast charging capability enables timely travel over longer distances

**Supports EV Ownership**
- Supports corporate “green” image
- Provides charging for those without dedicated home charging

**Majority of Charging**
- Owners with single family homes will charge overnight at off-peak rates
- Issue – Multi-Dwelling units
The Nissan Vision

“A new era is beginning in the global automotive industry. At Nissan and Renault, we are working together to lead the way to mass-market zero-emission mobility.”

—Carlos Ghosn, Chairman & CEO, Renault-Nissan Alliance