

***New Jersey Electric Vehicle Infrastructure
Stakeholder Group
Kickoff Meeting***



prepared by

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New Jersey Board of Public Utilities

Office of Policy and Planning

September 15, 2017

AGENDA

- **Opening Remarks – Mike Winka**
- **Summary of NJ Energy Plan on EVs**
- **EVs and EV Chargers – Current State of Play in NJ**
- **EVs and EV Chargers – Market Trends**
- **Recent BPU & State Activities**
- **Regulatory Assistance Project Report & Board Order**
- **Key Questions**
 - Goals
 - Stakeholder Roles
 - EVs as Energy Efficiency
 - Resale of Electricity
- **Next Steps**
- **Stakeholder Comments**

ALTERNATIVE FUEL VEHICLE (AFV) ELEMENTS IN NJ ENERGY MASTER PLAN

High level support:

- **Implement cost effective new technologies that advance economy and environment, but have yet to penetrate the market**
- **Develop policies and incentives to promote AFVs**

AFV Related Comments on the 2015 EMP Update

- **Virtually all comments by individuals, business groups, environmental groups, utilities, and trade associations urge state AFV action**

2011 EMP AFV Work Group Report Remains Relevant

NJ HISTORY WITH EVs

- **The most significant incentive is a **sales tax exemption** for zero emission vehicles**
- **NJ's Low Emission Vehicle (LEV) "California Car" program – operated by NJDEP.**
- **NJ history with AFVs includes 1998 Executive Orders (Gov. Whitman) establishing an AFV task force.**

12,765 NJ PEV REGISTRATIONS

SOURCE: DEP, JULY 2017

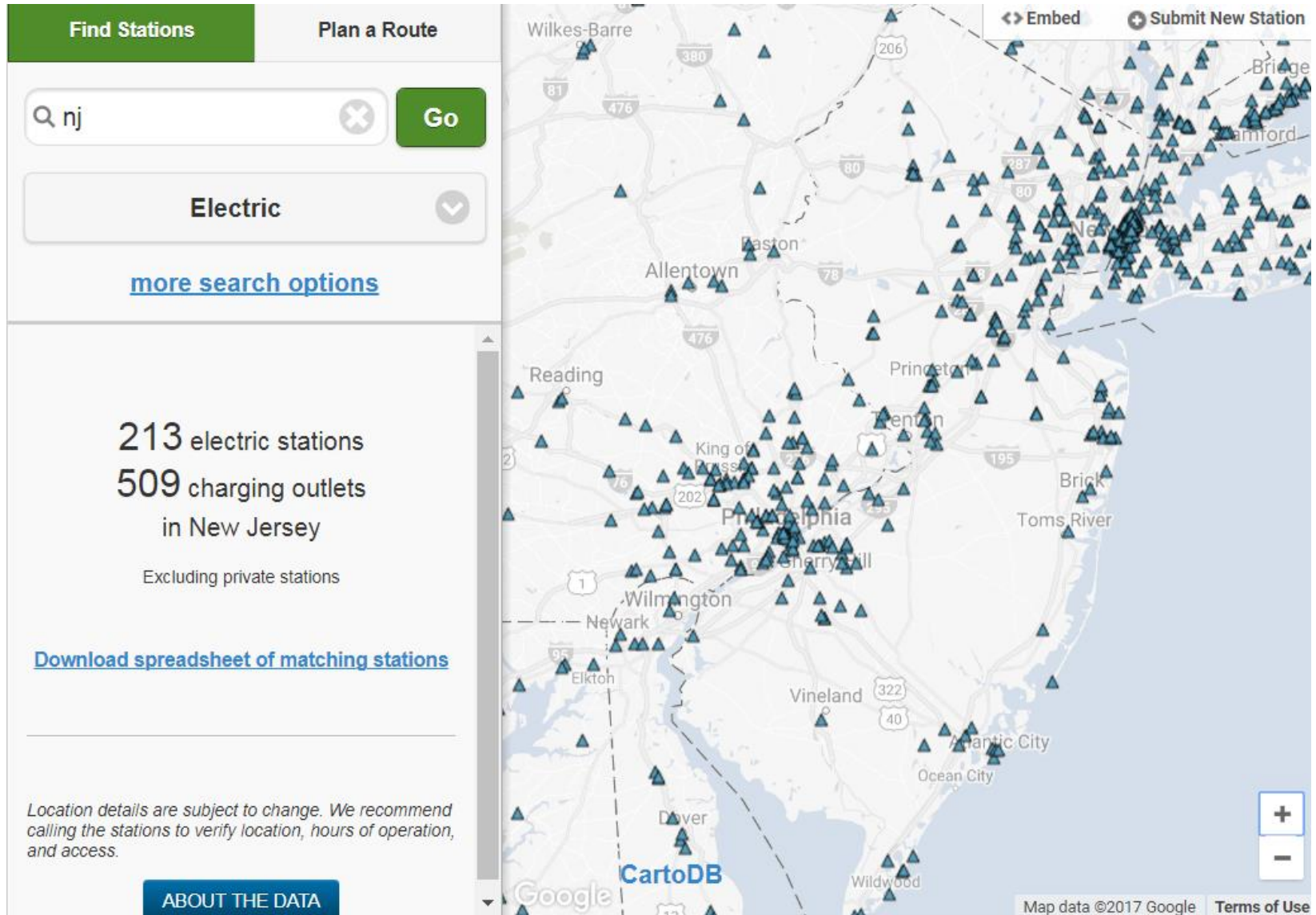
Electric Vehicle Registrations in New Jersey



~1% of new vehicle sales

EV CHARGING STATIONS IN NJ

SOURCE: AFDC, SEPTEMBER 2017



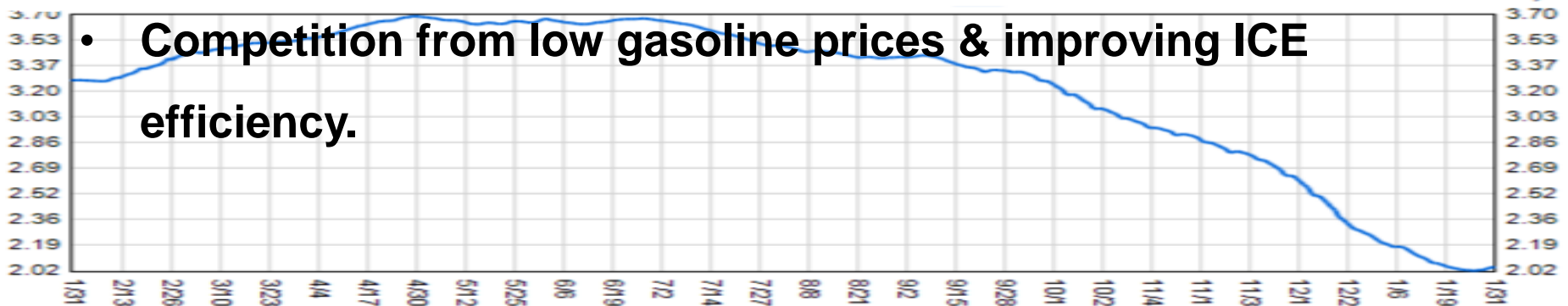
EV MARKET TRENDS

- Battery prices dropping – leading to near term capital cost parity. EV life cycle cost parity approaching.
- First long range “Mass Market” EVs arriving in NJ - Chevrolet Bolt (Spring 2017) and Tesla Model 3 (early 2018).

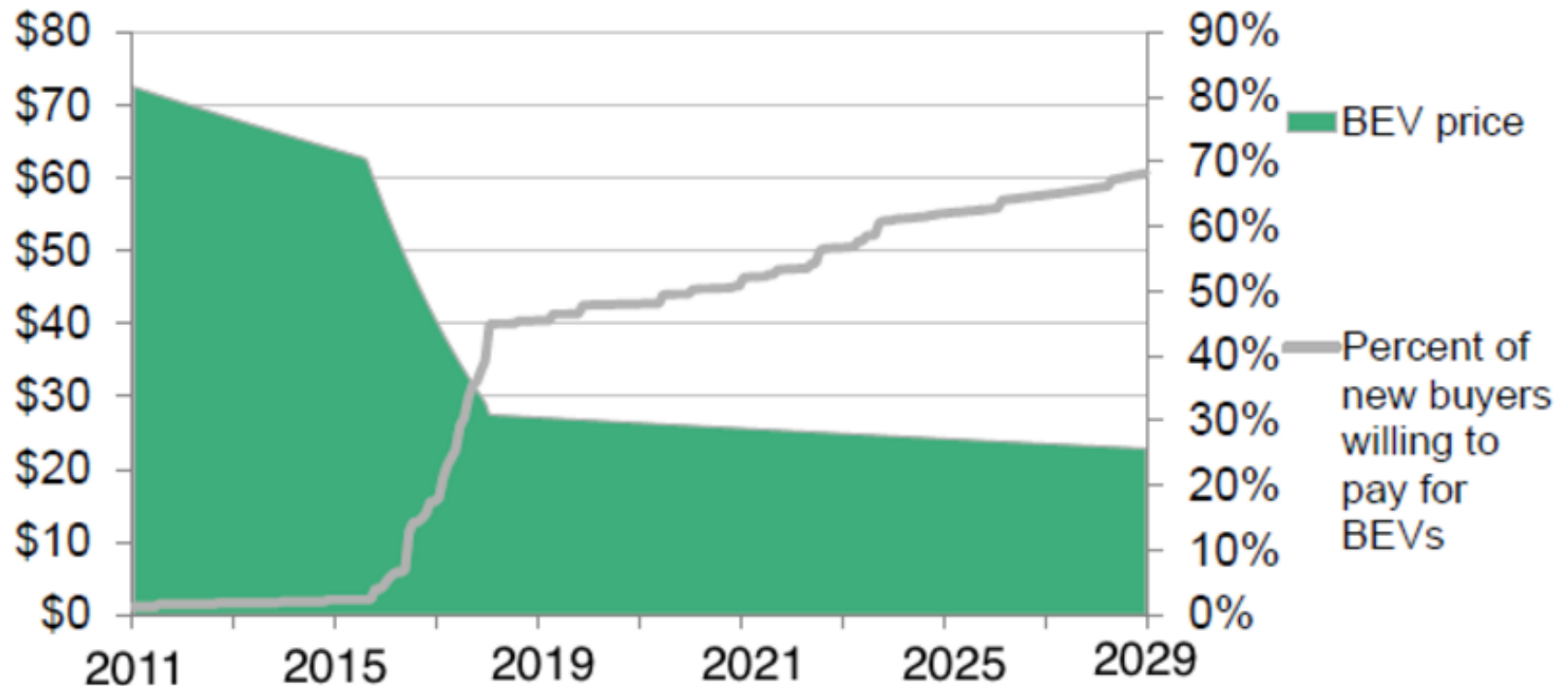


- OEMs and new participants continue to enter the market.

- Competition from low gasoline prices & improving ICE efficiency.



EV SALES AT A CROSSROADS



Total addressable market for vehicles with a 200-mile range. Salim Morsy; BNEF

MOBILITY MEGATRENDS

AUTONOMOUS, CONNECTED, ELECTRIFIED, AND SHARED “ACES” (MCKINSEY)

A Autonomous

- EV vehicle architecture has a central control unit to facilitate autonomy
- Autonomous charging could add convenience



C Connected

- A connected EV ecosystem could increase the convenience of charging
- Connected car grid solutions could enable cost-effective load balancing



Automotive industry megatrends

S Shared

- Greater annual driving distances can offer a decisive TCO edge for EVs
- Some consumers may prefer access to multiple vehicle types over ownership (including EVs)



E Electrified

- Tightening emissions efficiency rules make EVs necessary to meet standards
- Lower battery costs improve EV economics



BPU's Involvement will need to meet the market

BPU ACTIVITIES

- **Established a State AFV Workgroup**
- **Public Educational Presentations**
- **Supporting DEP/BPU Workplace Charging Grants**
- **Monitoring Volkswagen "Dieselgate" Settlement**
- **Supporting NJ Treasury's pending Aggregate EV Purchasing**

BPU ACTIVITIES

UTILITY ENGAGEMENT ON DOE GRANT APPLICATIONS



State of New Jersey
Department of the Treasury



A PHI Company



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FirstEnergy



TCNJ THE COLLEGE OF
NEW JERSEY



Orange & Rockland

BPU ACTIVITIES

RAISING AFV AWARENESS FOR FIRST RESPONDERS



Incident Management Task Force Meeting

Agenda

1. Welcome and Introductions

Alternative Fuel Vehicle Demo

CNG Trash Truck - *Gary Deitrich, Maintenance Manager, Republic Services*

2012 Ford C Max Energi Plug-in Hybrid & 2010 Ford Fusion Hybrid - *Mike Hornsby, Chief Technology Officer, NJBPU & Lieutenant, Princeton Junction Vol. Fire Company*

|Getting From Here to There: Regulatory Considerations for Transportation Electrification

- **Preparing for an EV Market—Electrification Goals and Benefits**
- **Charging Infrastructure**
- **Rate Design**
- **Vehicle-Grid Integration**
- **Defining the Role of Monopoly Service Providers**
- **Licensing Third-Party Charging Services**
- **Market Transformation and the Role of the Utility**

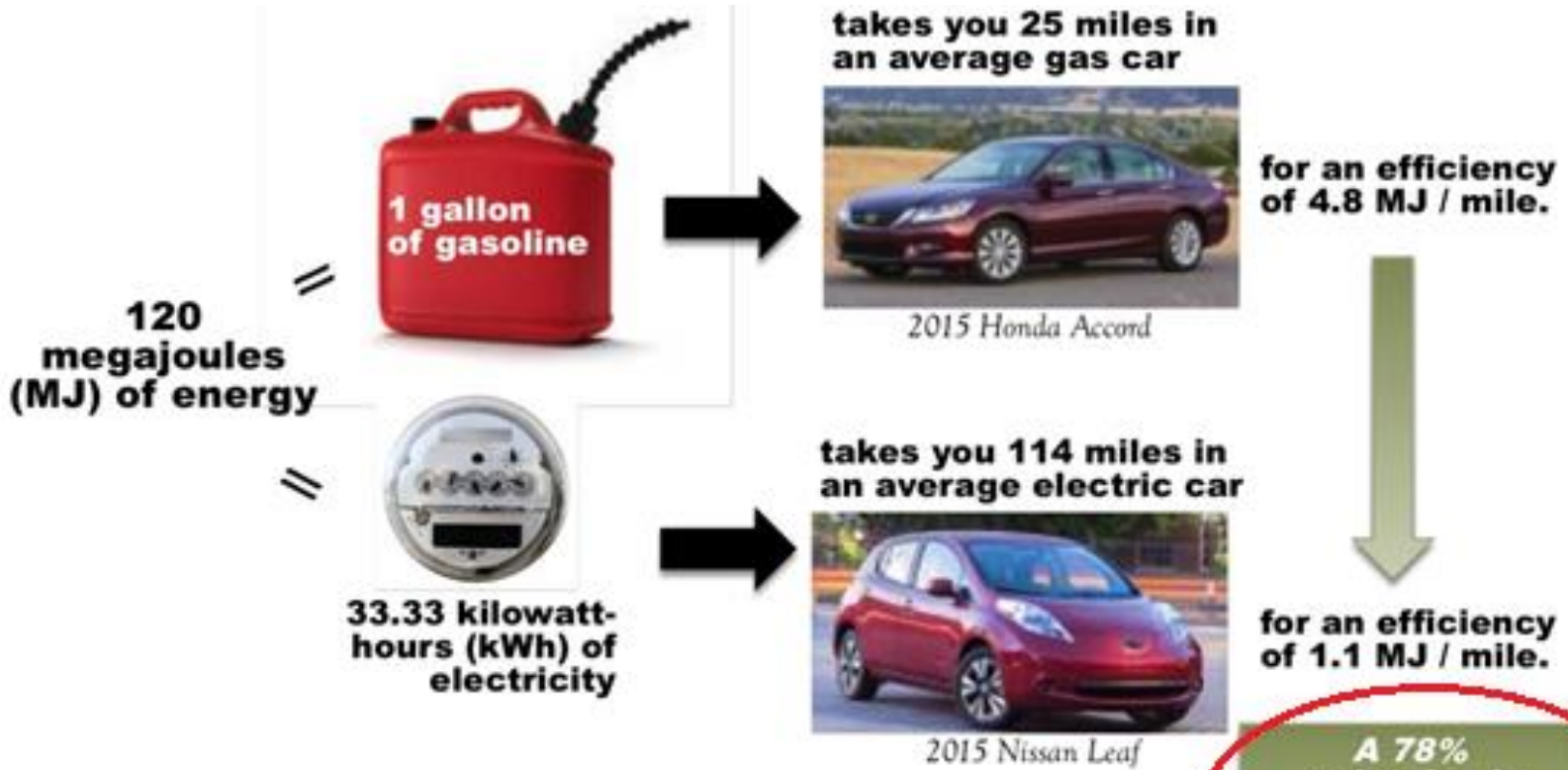


The EV market is changing -utility-regulatory policy has to catch up

- \$Tesla Market Cap > \$Ford (and GM) Market Cap
- Battery prices plummeting
- Vehicles are becoming autonomous & shared

States are helping to drive the EV market: rebates, mandates, policies, tariffs, plans, setting goals, coordinating gov't efforts, involving stakeholders

Utility commissions—in their oversight and guidance relationship with electric utilities—are in a position to direct the pace and scale of transportation electrification



**120
megajoules
(MJ) of energy**

**1 gallon
of gasoline**

**takes you 25 miles in
an average gas car**



2015 Honda Accord

**for an efficiency
of 4.8 MJ / mile.**

**takes you 114 miles in
an average electric car**



2015 Nissan Leaf

**for an efficiency
of 1.1 MJ / mile.**

**A 78%
reduction in
end-use energy
consumption.**



New Jersey Board of

Public Utilities

NEWS RELEASE

For Immediate Release:
August 23, 2017

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(609) 777-3305

**NJBPU Continues with Christie Administration Energy Master Plan's
Policies Supporting Advancement of Alternative Fuel Vehicles**

-BPU initiates stakeholder process to examine potential impact widespread adoption of electric vehicles might have upon the state's electric distribution system-

TASK 1 QUESTIONS

(COMMENT PERIOD CLOSSES 5:00 PM 10/16/17)

EVSTAKEHOLDER.GROUP@BPU.NJ.GOV

- Do EVs fall under the definition of demand side management and energy efficiency as set forth at N.J.S.A. 48:3-51 and/or N.J.S.A. 48:3-98.1.d.?
- Should owners and operators of EVSE that provide electric vehicle charging service be regulated as electric utilities? Are operators of EVSE reselling electricity or providing a charging service?

TASK 2 QUESTIONS

(COMMENT PERIOD CLOSES 5:00 PM 11/30/17)

EVSTAKEHOLDER.GROUP@BPU.NJ.GOV

- What goals for EV Infrastructure should be established?
- What role should the Board, other government agencies; electric utilities, non-governmental organizations and the private market have in addressing EV/infrastructure adoption?

KEY DATES

- **10/16/17: Stakeholder Meeting: 10:00 AM – 12:00 PM @BPU**
- **10/16/17: Task 1 Questions comment period closes 5:00 PM**
- **11/15/17: Stakeholder Meeting: 10:00 AM – 12:00 PM @BPU**
- **11/30/17: Task 2 Questions comment period closes 5:00 PM**
- **2/23/18: Draft Report Due to Board**
- **Public Comment**

- **Stakeholder meeting location: NJBPU – Multi Purpose Room, 44 South Clinton Avenue, Trenton (near Trenton Train Station)**
- **Representative future topics to include utility role in EV infrastructure, rates and grid integration**

