
RESILIENT POWER

A Project of Clean Energy Group

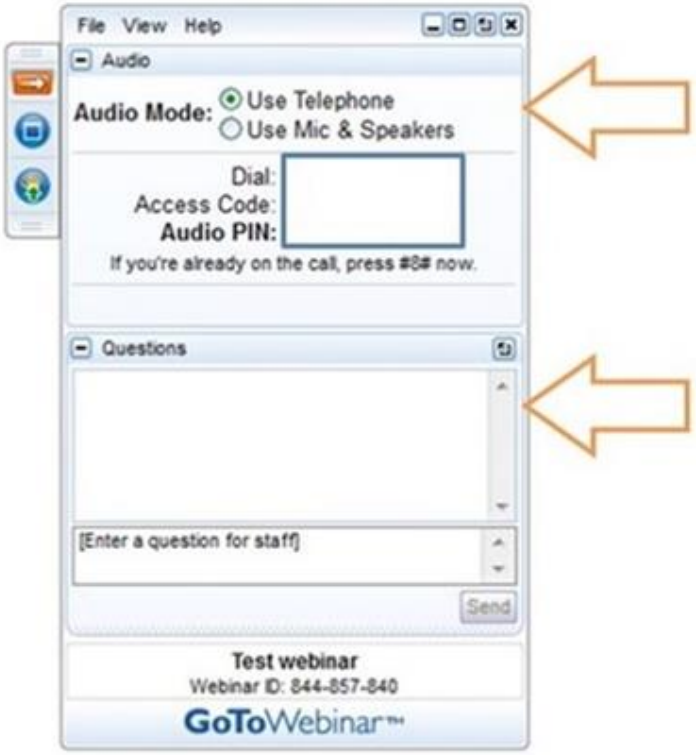
# Hydrogen Fuel Cell Development Plans for the Northeastern States

**Monday, May 4, 2015**

**Todd Olinsky-Paul**
**Project Director**
**Clean Energy Group**

CleanEnergyGroup
Innovation in Finance, Technology & Policy

# Housekeeping




All participants are in "Listen-Only" mode. Select "Use Mic & Speakers" to avoid toll charges and use your computer's VOIP capabilities. Or select "Use Telephone" and enter your PIN onto your phone key pad.

Submit your questions at any time by typing in the Question Box and hitting Send.

**This webinar is being recorded.**

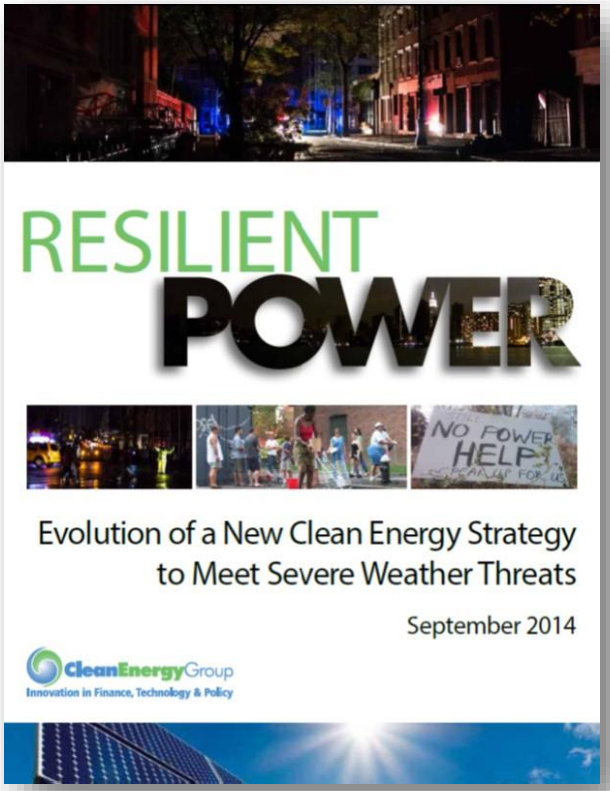
You will find a recording of this webinar, as well as previous Resilient Power Project webinars, online at:

www.cleanegroup.org/ceg-projects/resilient-power-project/webinars/

and at

vimeo.com/channels/resilientpower

# Who We Are




CleanEnergyGroup
Innovation in Finance, Technology & Policy

Meridian Institute
Connecting People to Solve Problems

CleanEnergy States Alliance

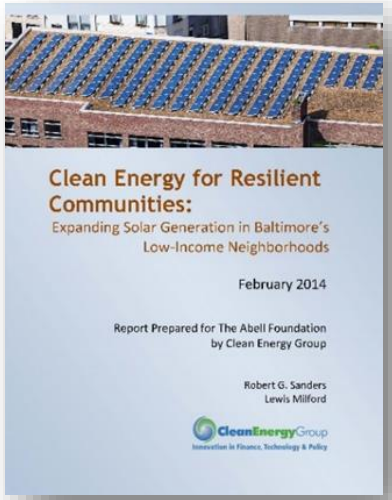
THE JPB FOUNDATION

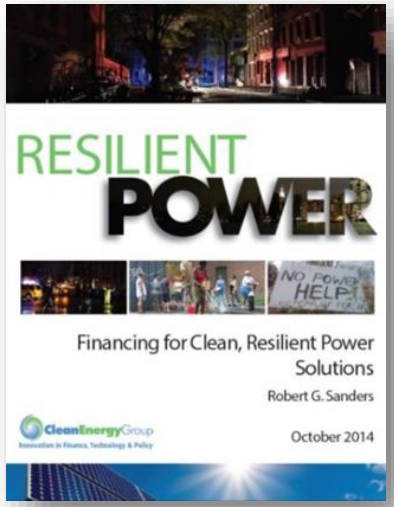
THE KRESGE FOUNDATION

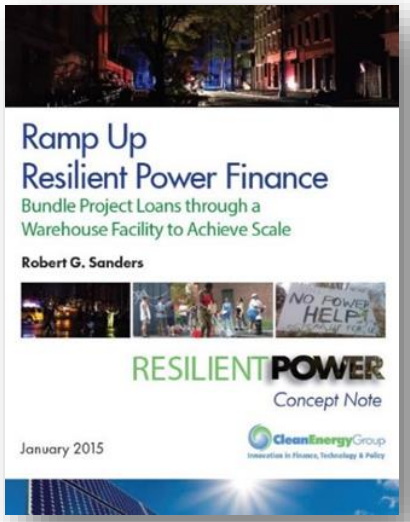
SURDNA FOUNDATION
Fostering sustainable communities in the United States

# Resilient Power Project

- Increase public/private investment in clean, resilient power systems
- Engage city officials to develop resilient power policies/programs
- Protect low-income and vulnerable communities
- Focus on affordable housing and critical public facilities
- Advocate for state and federal supportive policies and programs
- Technical assistance for pre-development costs to help agencies/project developers get deals done
- See [www.resilient-power.org](http://www.resilient-power.org) for reports, newsletters, webinar recordings



# Today's Guest Speakers

- **Joel Rinebold**, Director of Energy Initiative, Connecticut Center for Advanced Technology (CCAT)
- **Jennifer Gangi**, Director of Communications and Outreach, Fuel Cell and Hydrogen Energy Association (FCHEA)
- **Kent McCord**, Director of Marketing Strategy, Doosan Fuel Cell America
- **Kevin Kinnaw**, National Manager, Toyota

Connecticut Center for Advanced Technology, Inc.

Fuel Cell & Hydrogen Energy Association

DOOSAN

TOYOTA

RESILIENT POWER

A Project of Clean Energy Group

# Hydrogen Fuel Cell Development Plans for the Northeastern States

May 4, 2015

**Joel M. Rinebold**
**Connecticut Center for Advanced Technology, Inc.**

# Roadmap Focus

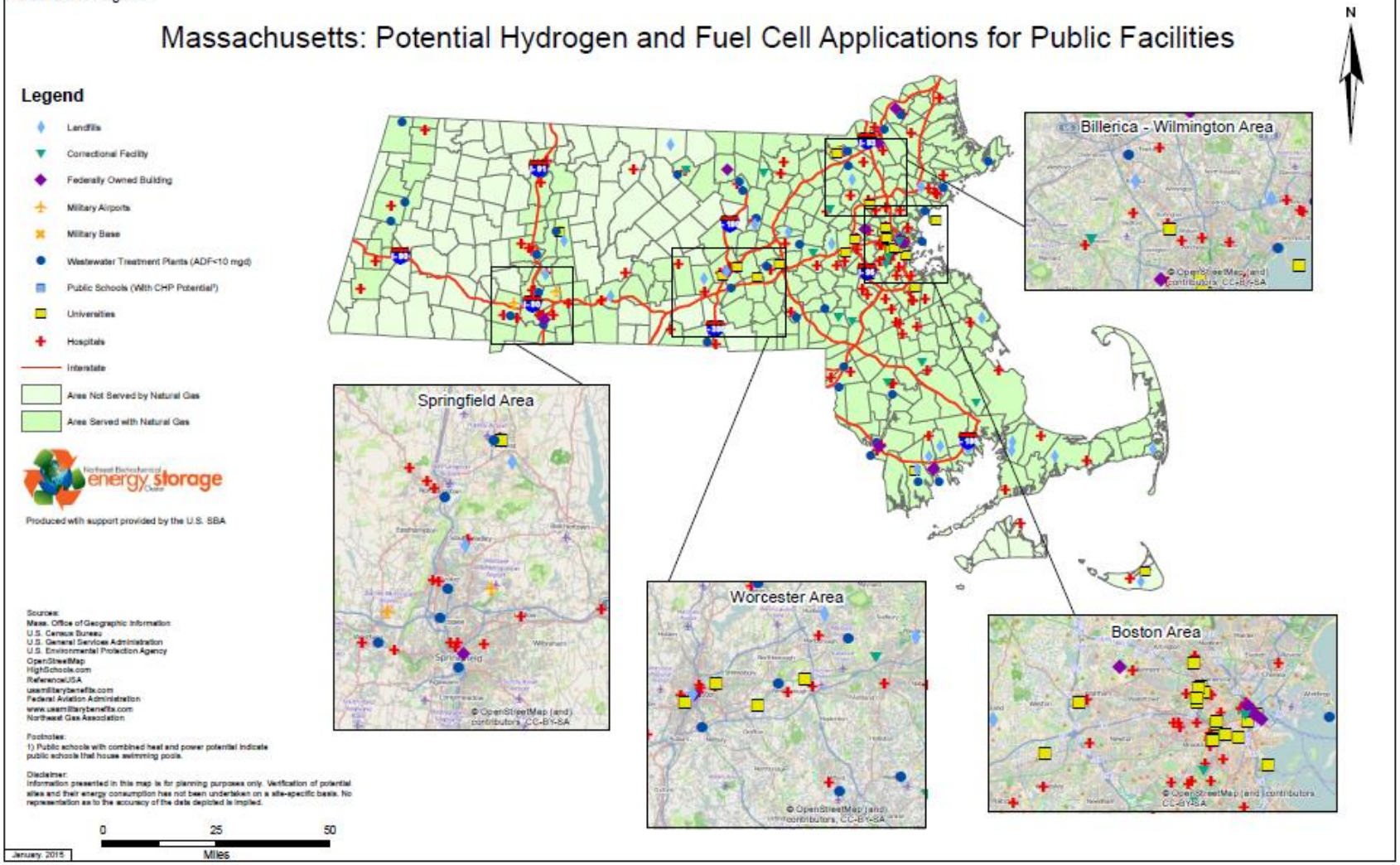
## 2015 Hydrogen and Fuel Cell Development Plans

- Economic IMPLAN model (jobs, revenue, companies)
- Technology, Applications, and Markets
- Stationary and Transportation Deployment Targets
- Policy and Drivers
  - Job Development
  - Energy Reliability
  - Storm Preparation
  - Environmental
  - Carbon Control

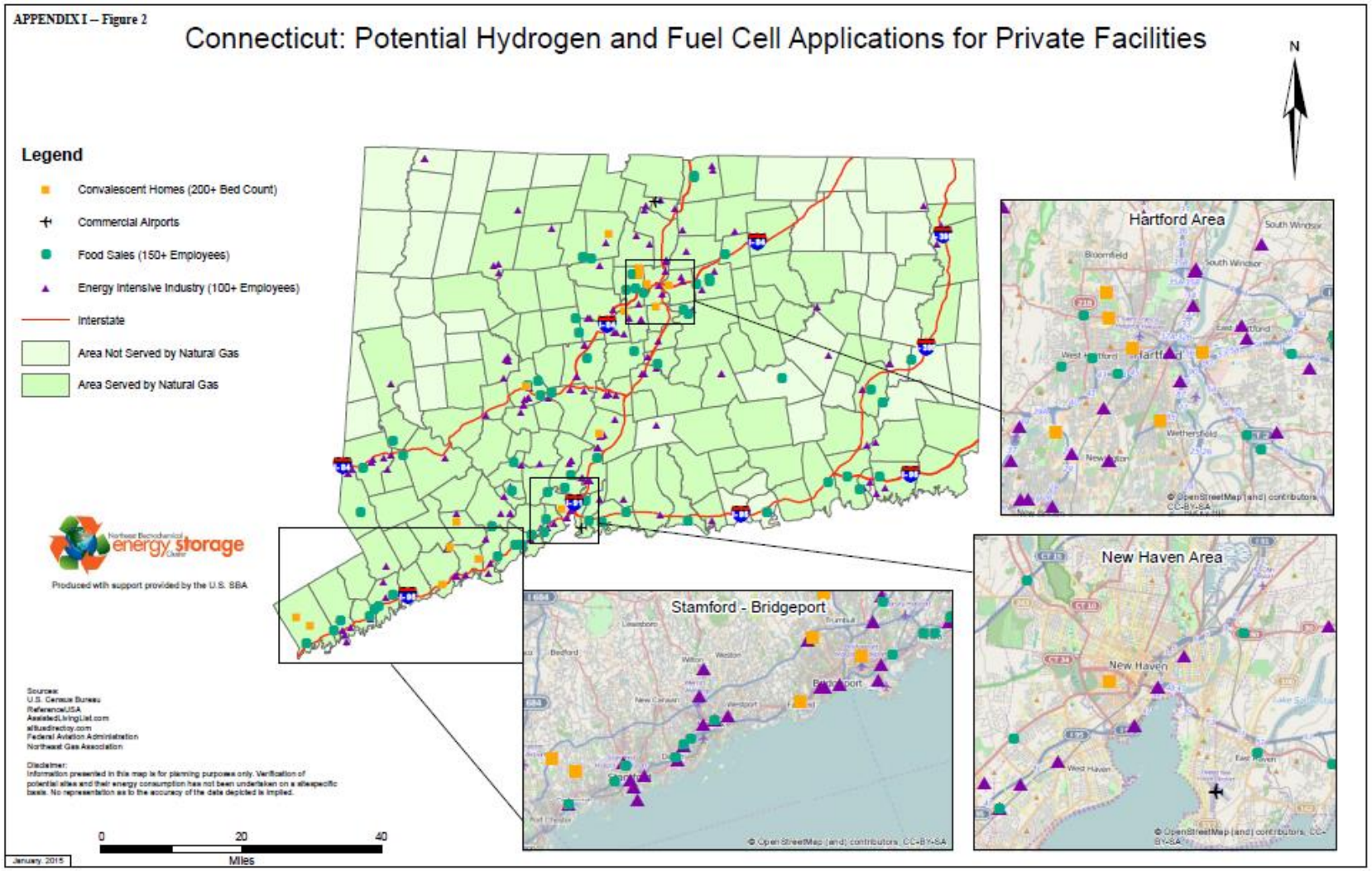
# Potential Public Targets

APPENDIX I – Figure 1

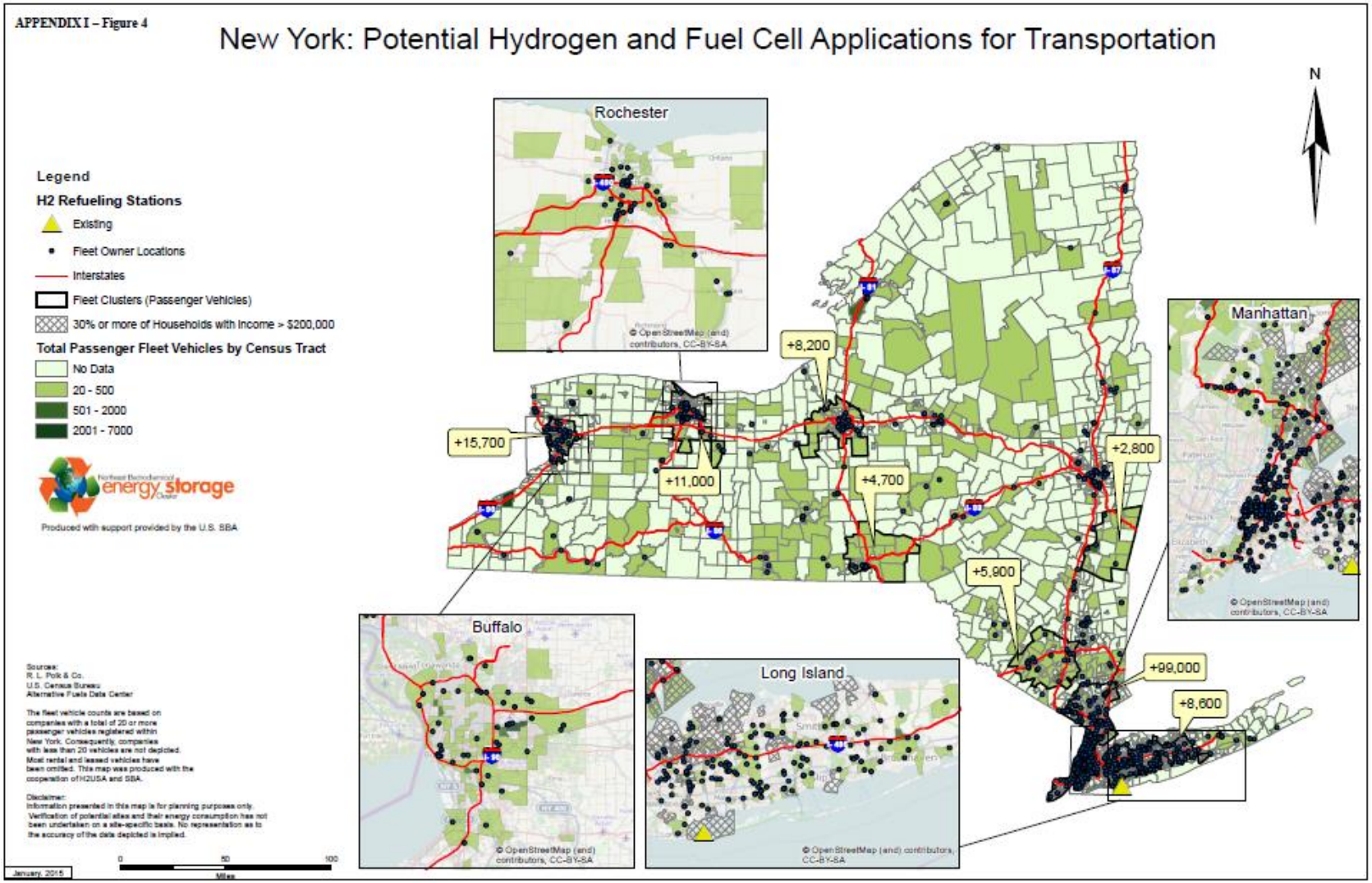
## Massachusetts: Potential Hydrogen and Fuel Cell Applications for Public Facilities



# Potential Private Targets



# Potential Trans. Targets



# Regional/Roadmap Goals

**Stationary (ME, NH, VT, MA, RI, CT, NY, NJ)**

- 1,313 to 1,753 MW fuel cell electric generation (2025)

**Transportation (VT, MA, RI, CT, NY, MD)**

- 14,272 FCEVs (Fleet Projection)

  [1.7 million by 2025 per CA projections]

  – 12,994 Passenger Vehicles
    - 589 FCEVs for State fleets
  – 696 transit/paratransit buses(FCEB)
- 133 to 148 hydrogen refueling stations

# Policy (Stationary)

| State Energy Policy/Incentives for Stationary Fuel Cells | ME | NH | VT | MA | RI | CT | NY | NJ |
|---|---|---|---|---|---|---|---|---|
| Mandatory Renewable Portfolio Standard (RPS) | | | | | | | | |
| Net Metering | | | | | | | | |
| Public Benefits Fund | | | | | | | | |
| Performance-Based Power Purchase | | | | | | | | |
| Utility Ownership/Investment | | | | | | | | |
| State Grant Program | | | | | | | | |
| State Loan Programs | | | | | | | | |
| Microgrid Reliability Program | | | | | | | | |
| Property Tax Incentive (Commercial) | | | | | | | | |
| Sales Tax Incentive | | | | | | | | |
| Property-Assessed Clean Energy (PACE) Financing | | | | | | | | |
| One Stop Regulatory Approval | | | | | | | | |
| Identified State "Point" Person | | | | | | | | |

Eligible  Eligible if Renewable

# Policy (Transportation)

| State Energy Policy/Incentives for Hydrogen Transportation | ME | NH | VT | MA | RI | CT | NY | NJ |
|---|---|---|---|---|---|---|---|---|
| Zero Emission Vehicle (ZEV) Program (FCEV/$H_2$ Infrastructure) | | | ■ | ■ | ■ | ■ | ■ | |
| ZEV Purchase Target for State Government Fleets (TBD) | | | ■ | ■ | ■ | ■ | ■ | |
| Purchase Incentives/"Point-of-Purchase" Rebates | | | | ■ | | | | |
| Fuel Incentives | | | | | | | | |
| Public/Private Infrastructure Partnership | | | | | | | | |
| Fuel Efficiency Standard (Private/State Fleets) | | | | | | | | |
| Refueling Infrastructure Incentives | | | | ■ | | | | |
| REC Available for Renewable $H_2$ | | | | | | | | |
| Tax Incentives | | | | | | | | |
| HOV Lanes and Parking Incentives | | | | | | | | |
| One Stop Regulatory Approval | | | | | | | | |
| Identified State "Point" Person | | | | | | | | |

■ Eligible ■ Eligible if Renewable

**Joel Rinebold**
**Director of Energy Initiatives**
**Connecticut Center for Advanced Technology**
**jrinebold@ccat.us**
**(860) 291-8832**

Fuel Cell &
Hydrogen Energy
Association

# Fuel Cells in Northeast: A Market Overview

Jennifer Gangi
Director of Communications and Outreach, FCHEA
CESA Webinar
May 4, 2015

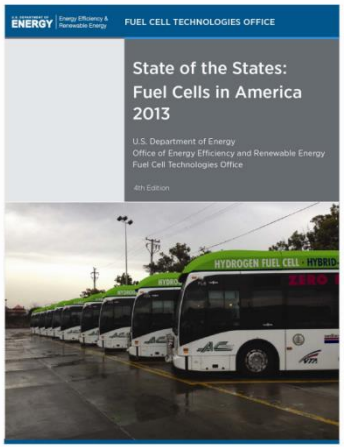
# About FCHEA

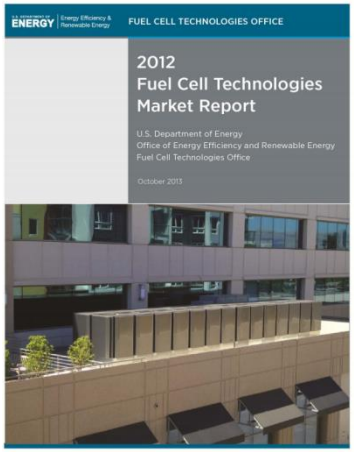
- The Fuel Cell and Hydrogen Energy Association (FCHEA) is the trade association for the fuel cell and hydrogen industry.
- Our mission is to advance the commercialization of, and promote the markets for, fuel cell and hydrogen energy technologies.
- FCHEA members represent the full global supply chain of the industry.

Fuel Cell & Hydrogen Energy Association

# FCHEA Members

# Reporting on Industry





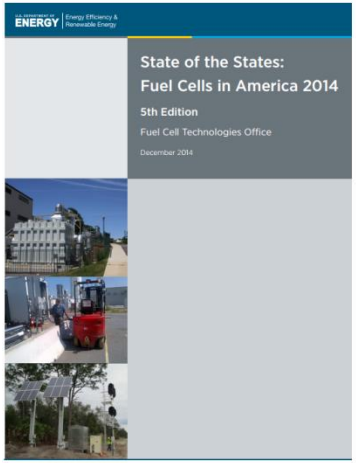
FUEL CELLS 2000
www.fuelcells.org

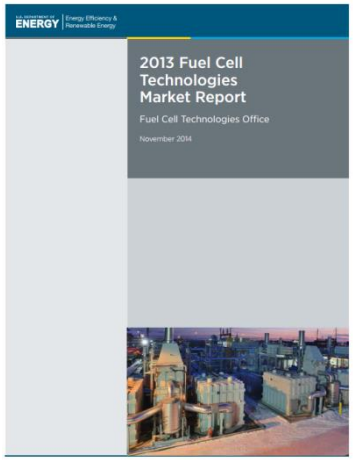

2014 STATE POLICY ACTIVITY WRAPUP

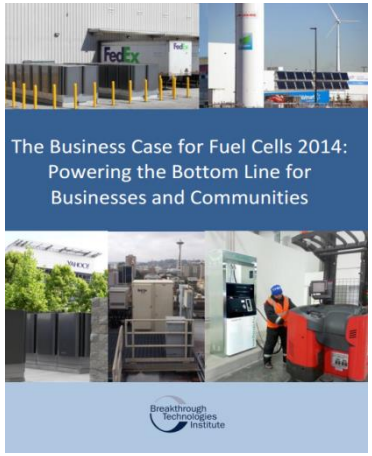
FUEL CELLS & HYDROGEN

January 2015

Fuel Cell & Hydrogen Energy Association




Enhancing the Role of Fuel Cells for Northeast Grid Resiliency

February 2015

Fuel Cell & Hydrogen Energy Association

# Fuel Cells Getting Noticed

- 200+ MW in U.S. (conservative); 50+ in Northeast (>16 MW planned)
- Resiliency/reliability hot topic in storm-prone states = funding for micro grid, DG, energy storage, diesel genset replacement
- Water savings, smaller footprint
- Natural gas, biogas
- Larger systems deployed; Grid stability for intermittent solar, wind
- Many customers = repeat ones with global reach, multiple facilities, influence over supply chain, room for growth

# Stationary Power

- NY and CT still U.S. leaders
  - NYSERDA – CST Fuel Cell Program funded 3+ MW – 5 Verizon office buildings (Brooklyn, Staten Island, Queens) and one at RIT
  - CT micro grid funding – 1.4 MW at U of Bridgeport, multi-MWs projects planned around state
- NJ – Energy Resilience Bank, Large Energy Users Program, CHP-FC
- Bloom Energy expanding into Northeast
  - NY – Morgan Stanley, Stop & Shop, City Hall
  - CT – Danbury Fair Mall, AT&T, Macy's, Comcast, other planned sites (Walmart/Sam's Clubs, Home Depots, IBM) approved by the CT Siting Council or for CT's RPS
- Telecommunications – ~4,000 installed at U.S. sites

# Fuel Cells Provide Resiliency to the Grid



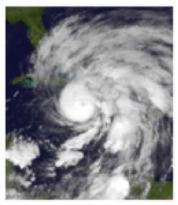
**800** Fuel Cells for back up power **deployed**

at cell phone towers providing electricity

during 1,000 Power disruptions in 23 states

AZ CA CO CT FL GA IL IN KY LA MA MI MS NV NJ NY NC OR SC TX UT WA WY

During **Hurricane Sandy**



the largest Atlantic hurricane on record

**5 sites** operated providing power **for over 100 hours**

as validated by NREL

***Source:*** *"Hydrogen Fuel Cell Performance as Telecommunications Backup Power in the United States" NREL/TP-5400-60730*

***During Hurricane Sandy, the largest Atlantic hurricane on record, 5 sites operated providing power for over 100 hours as validated by NREL. 1,034 out of 1,047 successful starts.***

# Material Handling

- More than 7,500 deployed or on order
- >860 in Northeast
- Companies include:
  - Walmart – Johnstown, NY (263)
  - Sysco – Plympton, MA (198),
    Central Islip, NY (60)
  - Newark Farmer's Market – NJ
    (206 total – 96, then 110)


- Hydrogen fueling provided by Northeast companies – Plug Power (NY), Nuvera (MA), Linde (NJ)

# Vehicles/Fueling

- Air Liquide working with Toyota on hydrogen fueling in Northeast – 12 stations at first, extending network as demand grows
- NESCAUM, Massachusetts Hydrogen Coalition, NE FC/H2 companies joined $H_2$USA
- MOR-EV program in MA offers up to $2,500 to residents who buy or lease clean electric vehicles – in 2015, additional $2 million allocated
- Nuvera Fuel Cells had two Toyota FCEVs at its HQ in MA (until last week); Proton OnSite (CT) tested 10


# Other Markets

Fuel cells increasingly used to power remote or off-grid locations.

- Energy exploration – traditional (oil and gas) and renewable (solar and wind) equipment
  - Sites in NH, MA, PA, TX, CO, WV, AR, AK
- Railroads – >200 locations – switches, signals, railway crossings, monitoring, security and communications equipment

Showing great potential in other markets.

- Power-to-Gas/Energy Storage – big in Germany, first U.S. project in CA
- DOE demonstrations – GSE at airports, ports, TRUs

# Fuel Cell Seminar & Energy Exposition

*Fuel Cells: The Power to Drive Change TODAY*

**November 16 - 19, 2015 | Los Angeles, California**

FUEL CELL SEMINAR & ENERGY EXPOSITION

Fuel Cell & Hydrogen Energy Association

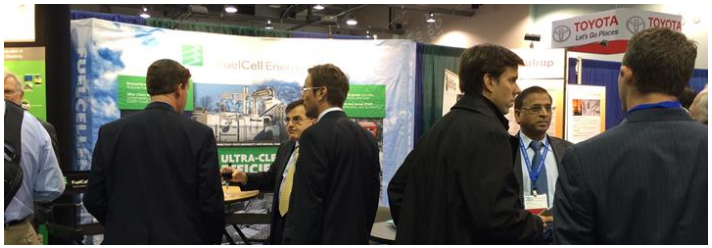
Westin Bonaventure Hotel

www.fuelcellseminar.com

Call for Abstracts Open

Exhibitor/Sponsorship Opportunities Available

Registration begins this Summer




# Thank You!

Fuel Cell and Hydrogen Energy Association
1211 Connecticut Avenue, Suite 650
Washington, DC 20036
202-261-1331
www.fchea.org

jgangi@fchea.org
202-261-1339

Fuel Cell & Hydrogen Energy Association

Doosan

# Doosan Fuel Cell Overview

# PureCell® Fuel Cell System


**PureCell® Model 400**

Ultra-clean, continuous-duty combined heat and power fueled by abundant, inexpensive natural gas

## Clean

- 90% system efficiency
- Ultra-low $CO_2$ and air emissions
- Zero water consumption

## Reliable

- Continuous-duty, onsite power
- High availability and capacity factor
- Grid-independent, backup capability

## Cost-Effective

- 10 year stack life, low life cycle costs
- Competitive with electric utility rates
- Financial solutions (PPAs, Leases)

# Doosan Fuel Cell America

Acquired ClearEdge Power assets July 2014

Headquarters and production facilities in South Windsor, CT

Focused on stationary fuel cell market in U.S. and Korea


**50**
**years of fuel cell experience**

**>400**
**units sold**

**12 million**
**hours of fleet field operation**

**98%**
**fleet availability**

**10**
**year cell stack life**

**20**
**year service plans**

# Doosan Group

## *Global*

- 10th largest Korean group company
- $22 billion revenue
- 42,000 employees

## *U.S.*

- $3 billion revenue
- 3000 employees
- Major brand:  Bobcat

### Doosan Infracore

Construction Equipment

Machine Tools

Engines

### Doosan Engine

Marine Engine

Engine Parts

### Doosan E&C

Chemical Equip.

Construction

### Doosan Heavy Industries

Equipment

Boiler

Turbine

Nuclear Component

Power EPC

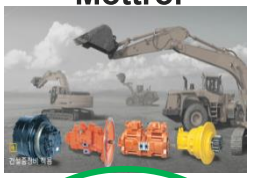
Water EPC

Casting/Forging

### Doosan Corporation

Electro-Material

Mottrol



Industrial Vehicle

Fuel Cell

# Diverse Customers in Key Markets

## Data Centers / Telecom

verizon

COX COMMUNICATIONS

First National Bank
One with You.®

## Universities

UCONN
UNIVERSITY OF CONNECTICUT

R·I·T

WESTERN CONNECTICUT STATE UNIVERSITY

NORCO COLLEGE

## Hospitals

Adventist Health

VA LOMA LINDA HEALTHCARE SYSTEM
A Division of VA Desert Pacific Healthcare Network

SAINT FRANCIS
Hospital and Medical Center

## Industrial/ Production

Coca-Cola

PRATT & WHITNEY
DEPENDABLE ENGINES

Sealed Air
Re-imagine™

CBS

AEROJET ROCKETDYNE

# Diverse Customers in Key Markets

## Utilities

SDGE
A Sempra Energy utility

KOSEP

GS

SK

## Retail

WHOLE FOODS MARKET

Price Chopper

Stop&Shop

Albertsons

## Commercial / Mixed Use

WORLD TRADE CENTER

Bentall Kennedy

Beacon Capital Partners

Becker + Becker

LOTTE

## Government

AQMD

DCF CONNECTICUT

HARTFORD HAS IT

CT TRANSIT

New Haven School Change
NEW HAVEN PUBLIC SCHOOLS

City of New Haven

# Hospitals

## PureCell® System in Hospital Applications

- 24/7 demand for electricity and heat
- Heat recovery for space heating and domestic hot water


**St. Francis Hospital – Hartford, CT**

- Two 400 kW installations at two different campuses
- Continuous power generation with grid-independent critical power capability
- Heat recovery for space heating and domestic hot water

**VA Loma Linda Hospital – Loma Linda, CA**

- 800 kW continuous power generation
- Overall efficiency > 70% with heat recovery for space heating and domestic hot water

**St. Helena Hospital –St. Helena, CA**

- 400 kW continuous-duty combined heat and power
- Challenging OSHPD CA building code approval

# Value of NEESC Development Plans

**Developing target customer list in Hospitals and Universities in Northeast states**

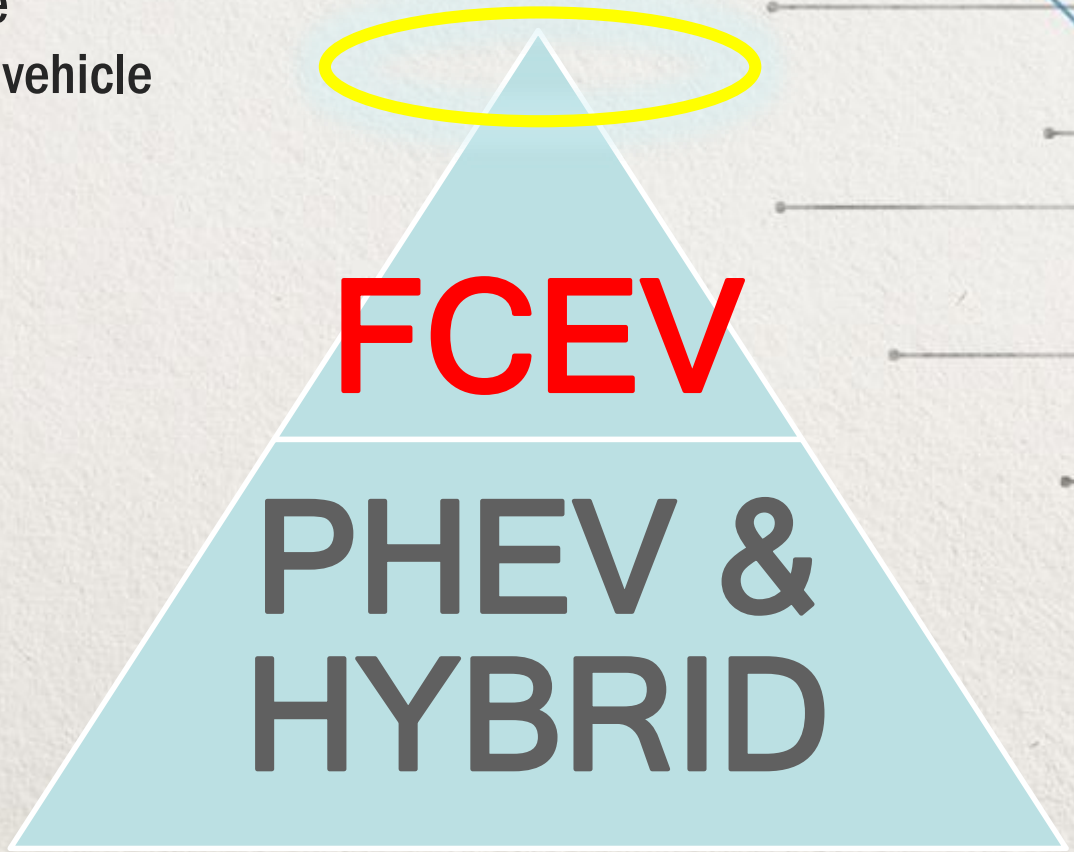
| Name | Town | Beds | NYSERDA CHP guideline (kW) | NYSERDA guideline # Model 400 | Est. floor space | Est. Annual Electricity Use (kWh | Est. Ave. electric demand (kW | # of Model 400s (@440kW) | Est, Natural Gas usage (MMBtu) | Ave. Nat. Gas demand (MMBtu/hr) | # of Model 400s (1.7 MMBtu/h) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yale-New Haven Hospital | New Haven | 1030 | 2060 | 4.7 | 2,137,250 | 55,995,950 | 6,392 | 14.5 | 261,599 | 29.9 | 17.6 |
| Hartford Hospital | Hartford | 819 | 1638 | 3.7 | 1,699,425 | 44,524,935 | 5,083 | 11.6 | 208,010 | 23.7 | 14.0 |
| Saint Francis Hosp and Med Ctr | Hartford | 617 | 1234 | 2.8 | 1,280,275 | 33,543,205 | 3,829 | 8.7 | 156,706 | 17.9 | 10.5 |
| Hospital of Saint Raphael (YNNH) | New Haven | 511 | 1022 | 2.3 | 1,060,325 | 27,780,515 | 3,171 | 7.2 | 129,784 | 14.8 | 8.7 |
| St Vincent's Medical Center | Bridgeport | 473 | 946 | 2.2 | 981,475 | 25,714,645 | 2,935 | 6.7 | 120,133 | 13.7 | 8.1 |
| Bridgeport Hospital | Bridgeport | 425 | 850 | 1.9 | 881,875 | 23,105,125 | 2,638 | 6.0 | 107,942 | 12.3 | 7.2 |
| Connecticut Valley Hospital | Middletown | 418 | 836 | 1.9 | 867,350 | 22,724,570 | 2,594 | 5.9 | 106,164 | 12.1 | 7.1 |
| Hospital of Central Connecticut | New Britain | 414 | 828 | 1.9 | 859,050 | 22,507,110 | 2,569 | 5.8 | 105,148 | 12.0 | 7.1 |
| Masonic Healthcare Center | Wallingford | 382 | 764 | 1.7 | 792,650 | 20,767,430 | 2,371 | 5.4 | 97,020 | 11.1 | 6.5 |
| Danbury Hospital | Danbury | 371 | 742 | 1.7 | 1,314,361 | 34,436,258 | 3,931 | 8.9 | 160,878 | 18.4 | 10.8 |
| Waterbury Hospital | Waterbury | 367 | 734 | 1.7 | 761,525 | 19,951,955 | 2,278 | 5.2 | 93,211 | 10.6 | 6.3 |
| Saint Mary's Hospital | Waterbury | 347 | 694 | 1.6 | 720,025 | 18,864,655 | 2,153 | 4.9 | 88,131 | 10.1 | 5.9 |
| Hebrew Home & Hospital | West Hartford | 334 | 668 | 1.5 | 693,050 | 18,157,910 | 2,073 | 4.7 | 84,829 | 9.7 | 5.7 |
| Norwalk Hospital | Norwalk | 328 | 656 | 1.5 | 680,600 | 17,831,720 | 2,036 | 4.6 | 83,305 | 9.5 | 5.6 |
| Stamford Hospital | Stamford | 305 | 610 | 1.4 | 632,875 | 16,581,325 | 1,893 | 4.3 | 77,464 | 8.8 | 5.2 |
| Lawrence & Memorial Hospital | New London | 280 | 560 | 1.3 | 581,000 | 15,222,200 | 1,738 | 3.9 | 71,114 | 8.1 | 4.8 |
| Manchester Memorial Hospital | Manchester | 249 | 498 | 1.1 | 516,675 | 13,536,885 | 1,545 | 3.5 | 63,241 | 7.2 | 4.2 |
| William W Backus Hospital | Norwich | 233 | 466 | 1.1 | 483,475 | 12,667,045 | 1,446 | 3.3 | 59,177 | 6.8 | 4.0 |
| Hospital for Special Care | New Britain | 228 | 456 | 1.0 | 473,100 | 12,395,220 | 1,415 | 3.2 | 57,907 | 6.6 | 3.9 |
| Univ of CT Health Center | Farmington | 224 | 448 | 1.0 | 464,800 | 12,177,760 | 1,390 | 3.2 | 56,892 | 6.5 | 3.8 |
| VA Connecticut Healthcare Syst | West Haven | 216 | 432 | 1.0 | 448,200 | 11,742,840 | 1,341 | 3.0 | 54,860 | 6.3 | 3.7 |
| Veterans Home and Hospital | Rocky Hill | 215 | 430 | 1.0 | 446,125 | 11,688,475 | 1,334 | 3.0 | 54,606 | 6.2 | 3.7 |
| Greenwich Hospital | Greenwich | 206 | 412 | 0.9 | 427,450 | 11,199,190 | 1,278 | 2.9 | 52,320 | 6.0 | 3.5 |
| Connecticut Children's Med Ctr | Hartford | 187 | 374 | 0.9 | 388,025 | 10,166,255 | 1,161 | 2.6 | 47,494 | 5.4 | 3.2 |
| Griffin Hospital | Derby | 160 | 320 | 0.7 | 332,000 | 8,698,400 | 993 | 2.3 | 40,637 | 4.6 | 2.7 |
| MidState Medical Center | Meriden | 156 | 312 | 0.7 | 323,700 | 8,480,940 | 968 | 2.2 | 39,621 | 4.5 | 2.7 |
| Bristol Hospital | Bristol | 154 | 308 | 0.7 | 319,550 | 8,372,210 | 956 | 2.2 | 39,113 | 4.5 | 2.6 |
| ~~Windham Community Mem Hospital~~ | Willimantic | 144 | 288 | 0.7 | 298,800 | 7,828,560 | 894 | 2.0 | 36,573 | 4.2 | 2.5 |
| Middlesex Hospital | Middletown | 136 | 272 | 0.6 | 282,200 | 7,393,640 | 844 | 1.9 | 34,541 | 3.9 | 2.3 |
| ~~Cedarcrest Hospital~~ | Newington | 131 | 262 | 0.6 | 271,825 | 7,121,815 | 813 | 1.8 | 33,271 | 3.8 | 2.2 |
| The Charlotte Hungerford Hosp | Torrington | 109 | 218 | 0.5 | 226,175 | 5,925,785 | 676 | 1.5 | 27,684 | 3.2 | 1.9 |
| Gaylord Hospital | Wallingford | 107 | 214 | 0.5 | 222,025 | 5,817,055 | 664 | 1.5 | 27,176 | 3.1 | 1.8 |
| Milford Hospital | Milford | 106 | 212 | 0.5 | 219,950 | 5,762,690 | 658 | 1.5 | 26,922 | 3.1 | 1.8 |
| Day Kimball Hospital | Putnam | 104 | 208 | 0.5 | 215,800 | 5,653,960 | 645 | 1.5 | 26,414 | 3.0 | 1.8 |
| ~~Riverview Hospital for Child~~ | Middletown | 102 | 204 | 0.5 | 211,650 | 5,545,230 | 633 | 1.4 | 25,906 | 3.0 | 1.7 |
| Rockville General Hospital | Rockville | 102 | 204 | 0.5 | 211,650 | 5,545,230 | 633 | 1.4 | 25,906 | 3.0 | 1.7 |
| **Total Potential Units** | | | | **41** | | | | **154** | | | |

# Toyota's Portfolio of Advanced Technology Vehicles

Kevin Kinnaw
Toyota Motor Sales, USA

# LEAD BY EXAMPLE : 8-STATE ZEV MOU

Set the future in motion and help the NE States lead ZEV adoption, with the FCEV as the environmental halo vehicle



MIRAI

Fuel Cell Vehicle

# LEAVE YOUR MARK BY LEAVING NO MARK AT ALL.

Show your support at toyota.com/mirai

# NORTHEAST STATES LAUNCH NYC TO HARTFORD TO BOSTON


TOYOTA

# MIRAI : FUEL CELL ADVANTAGES

Fuel Cells are:

1. **Zero Emission Vehicles**
2. **Energy Efficient**
3. **Transportation solution to address Climate Change**

# MIRAI FEATURES – ALL STANDARD

## COMFORT

- Softex Seats
- Heated Front/Rear Seats
- Driver/Passenger 8-way Power Seats w/ Memory
- Heated Synthetic Leather Steering Wheel

## CONVENIENCE

- Smart Key
- Rain-sensing Wipers
- Wiper De-Icer

FCV Concept Interior

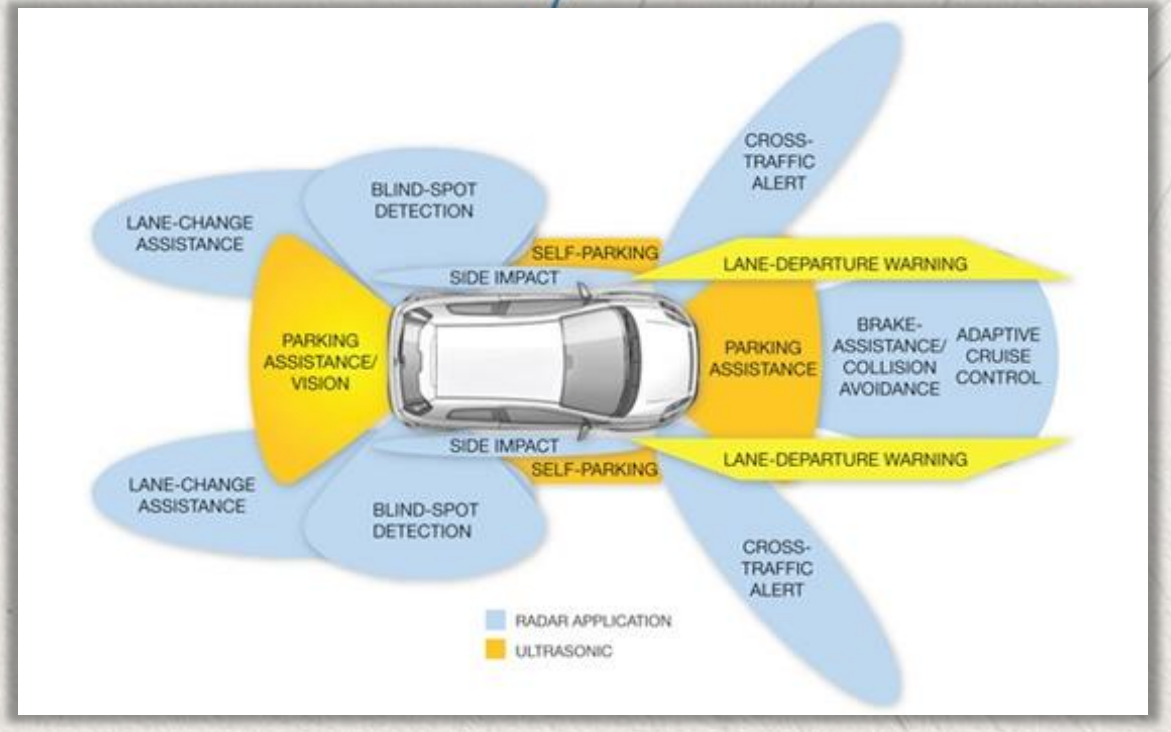
## TECHNOLOGY

- 7” AVN screen and three 4.2” TFT Screens
- JBL Audio & 11 speakers
- HD Satellite Radio
- Entune App Suite
- Wireless Charger
- Hydrogen Station Finder & Status

# MIRAI FEATURES – ALL STANDARD

## SAFETY

- 7 Airbags
- Adaptive High Beams
- Back-up Monitor
- Blind Spot Monitor
- Lane Keep Assist
- Pre-Crash System
- Vehicle Stability Control
- Clearance & Back Sonar



# PLANNED OWNERSHIP EXPERIENCE

- **360° Total Ownership Experience Program**
  - 3-Year Maintenance (ToyotaCare Plus) TBD
  - Enhanced Roadside Assistance
  - 24/7 Live Customer Support
  - Pre-Paid Fuel Available

$499/Mo.

- **Power Take-Off Option**
  - Power supply in an emergency/power outage

# 8 YEAR/100K MILE WARRANTY

10 key components covered by the **8yr/100K mile Warranty**:

- **Battery Pack**
- **Battery ECU**
- **FC Air Compressor**
- **FC Boost Converter**
- **FC ECU**
- **FC H2 Tanks**
- **FC PCU (Power Control Unit)**
- **FC Stack**
- **HF ECU (H2 Fueling ECU)**
- **Power Management ECU (HV ECU)**

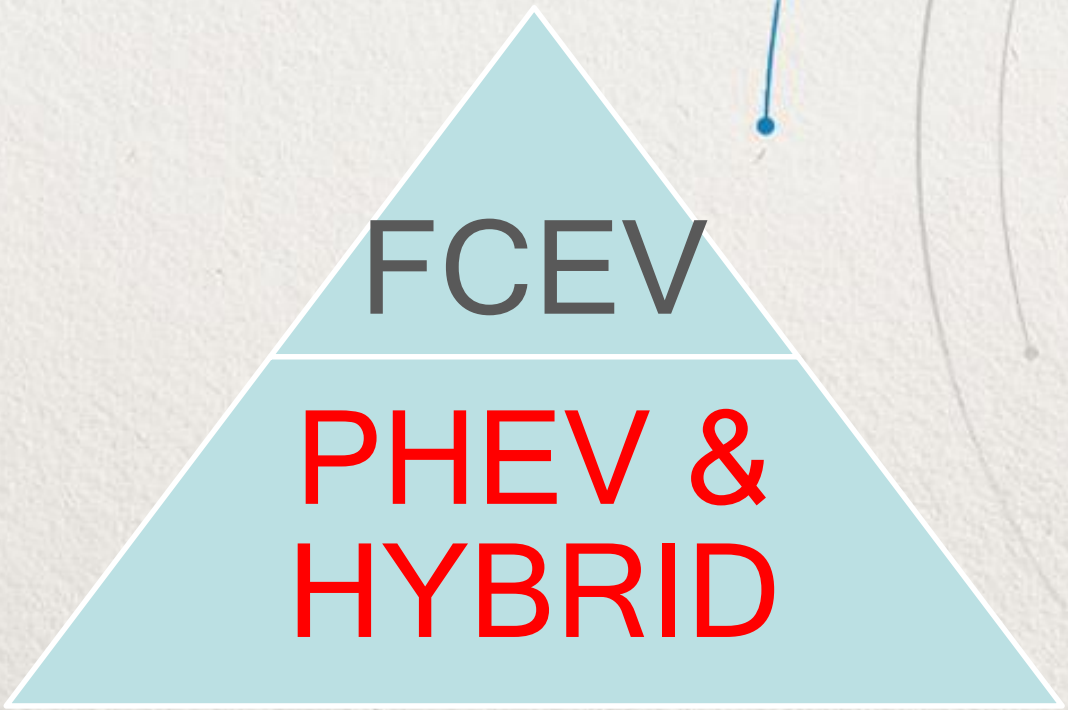
In addition, the following components are covered by a **5yr/60K mile Powertrain Warrant**

- **Transaxle & mounts**
- **Axle shaft, hub, bearings, seals & gaskets**

**All other components are covered by a 3yr/36K mile Basic Warranty**.

# VISION: CUSTOMER CONVENIENCE

Prius laid the foundation for the future of no compromise mobility....



# THE TOYOTA HYBRID FAMILY

# THE TOYOTA HYBRID FAMILY

Highlander FWD & AWD

Camry

Avalon

RAV4 Hybrid AWD
available late 2015

RESILIENT POWER

A Project of Clean Energy Group

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# Contact Info

Todd Olinsky-Paul
Project Director
Clean Energy Group
Email: todd@cleanegroup.org
Phone: (802) 223-2554


www.cleanegroup.org
www.cesa.org
www.resilient-power.org