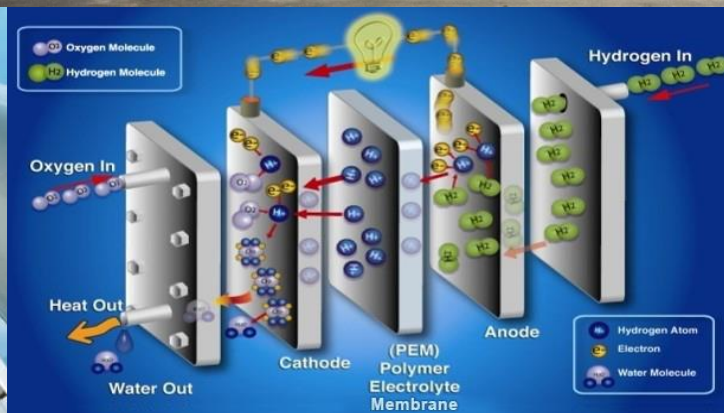


U.S. Country Update

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency & Renewable Energy



IPHE Steering Committee Meeting

Gwangju, South Korea

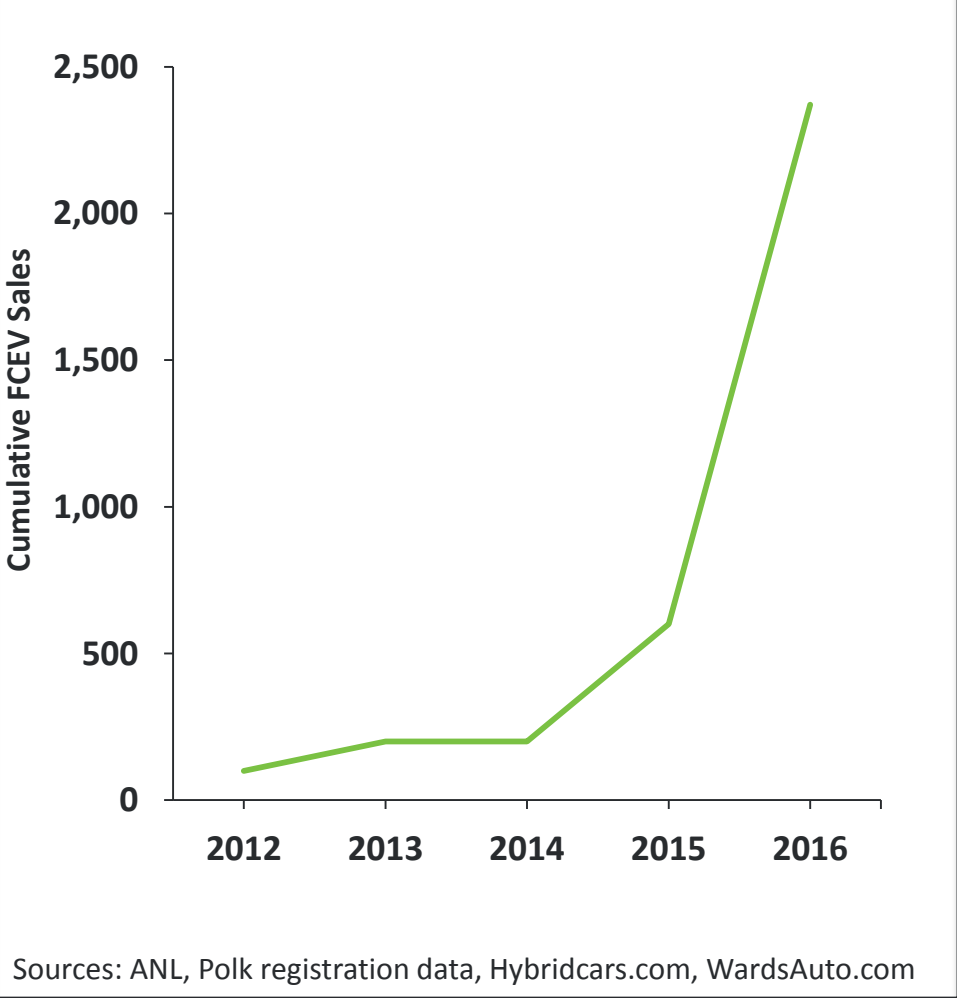
November 3, 2016

Mike Mills

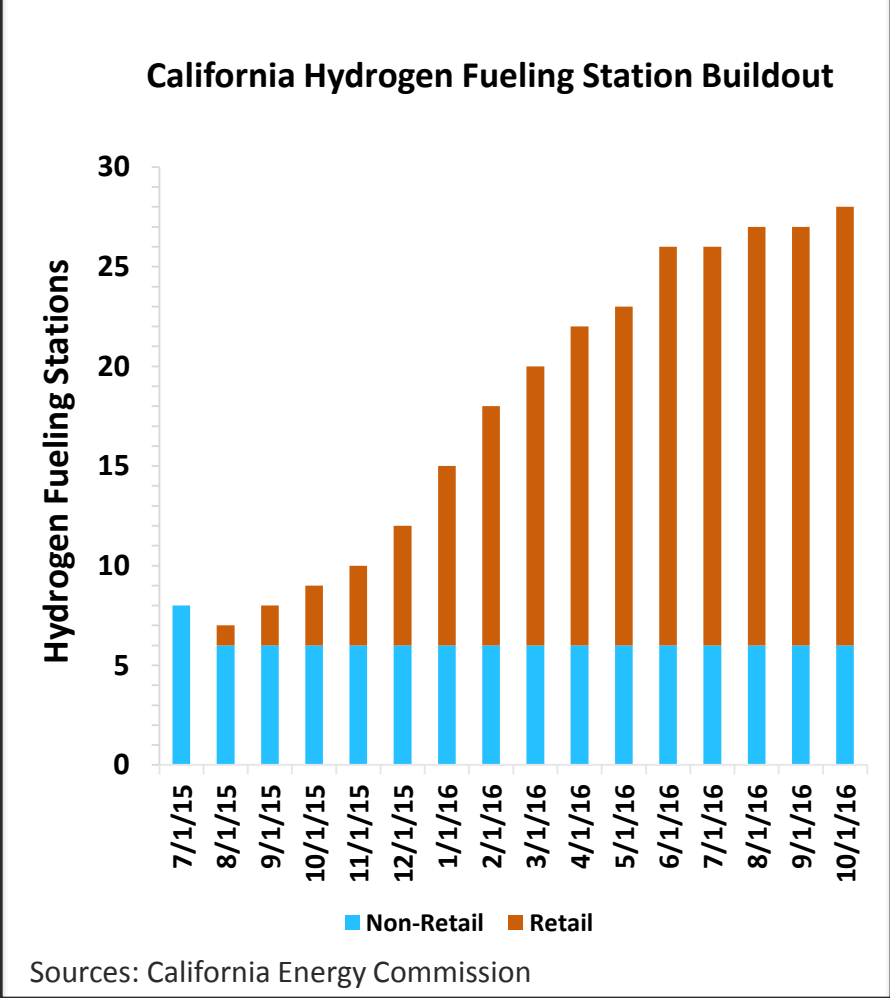
Senior Advisor
Sustainable Transportation Office
U.S. Department of Energy



Fuel Cell Car Sales Growing Exponentially

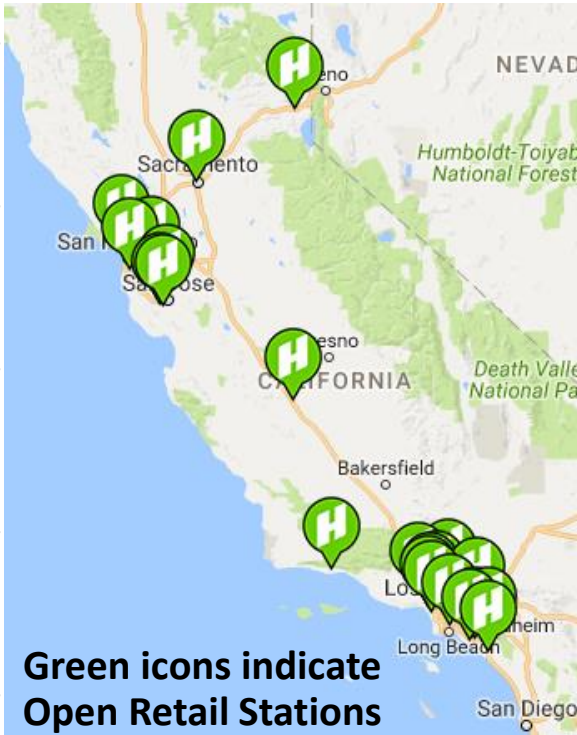
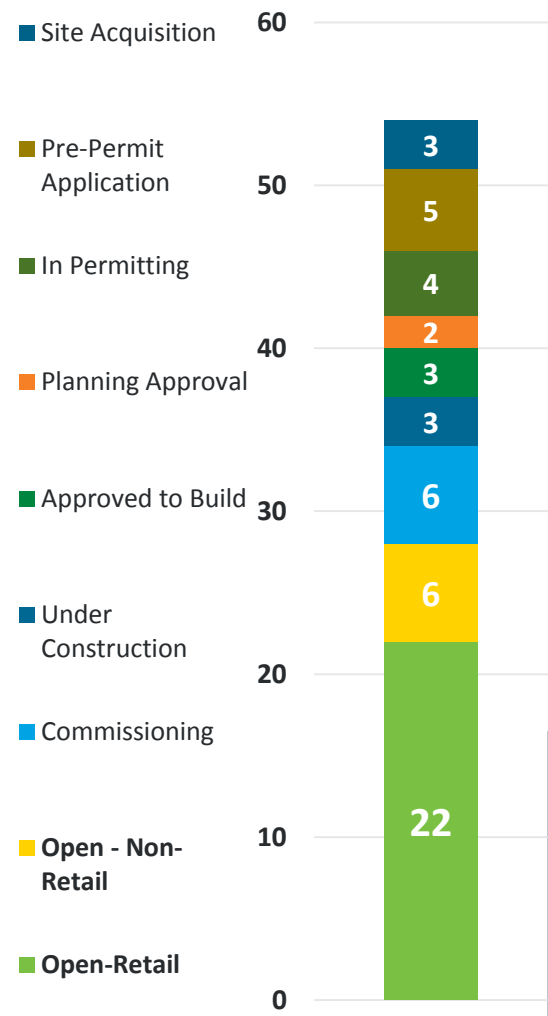


Number of H₂ Stations Increasing Steadily



Regional Landscape- Infrastructure Activities

California

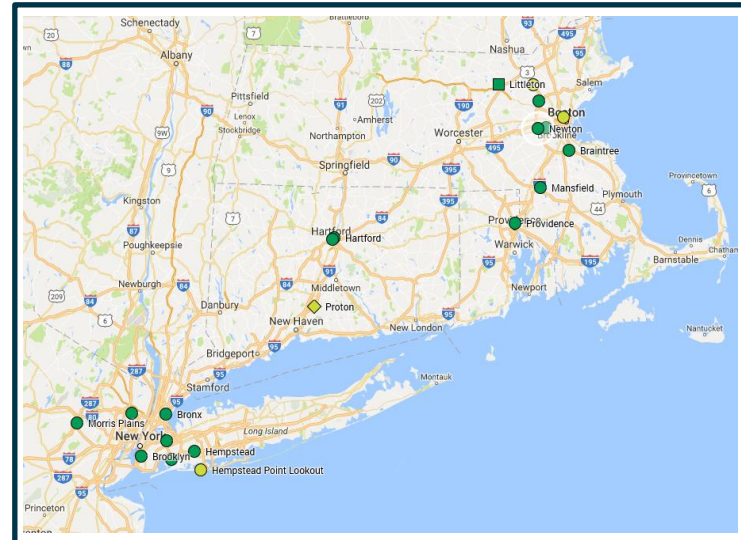


Green icons indicate Open Retail Stations

H₂ Stations

More than 20 retail
Approx. 50 underway
Funding for: 100

Northeast



◆ Open - Retail ● Open Non-Retail ● In Progress ■ Hub

~ 12 to 25 Planned
Retail H₂ Stations

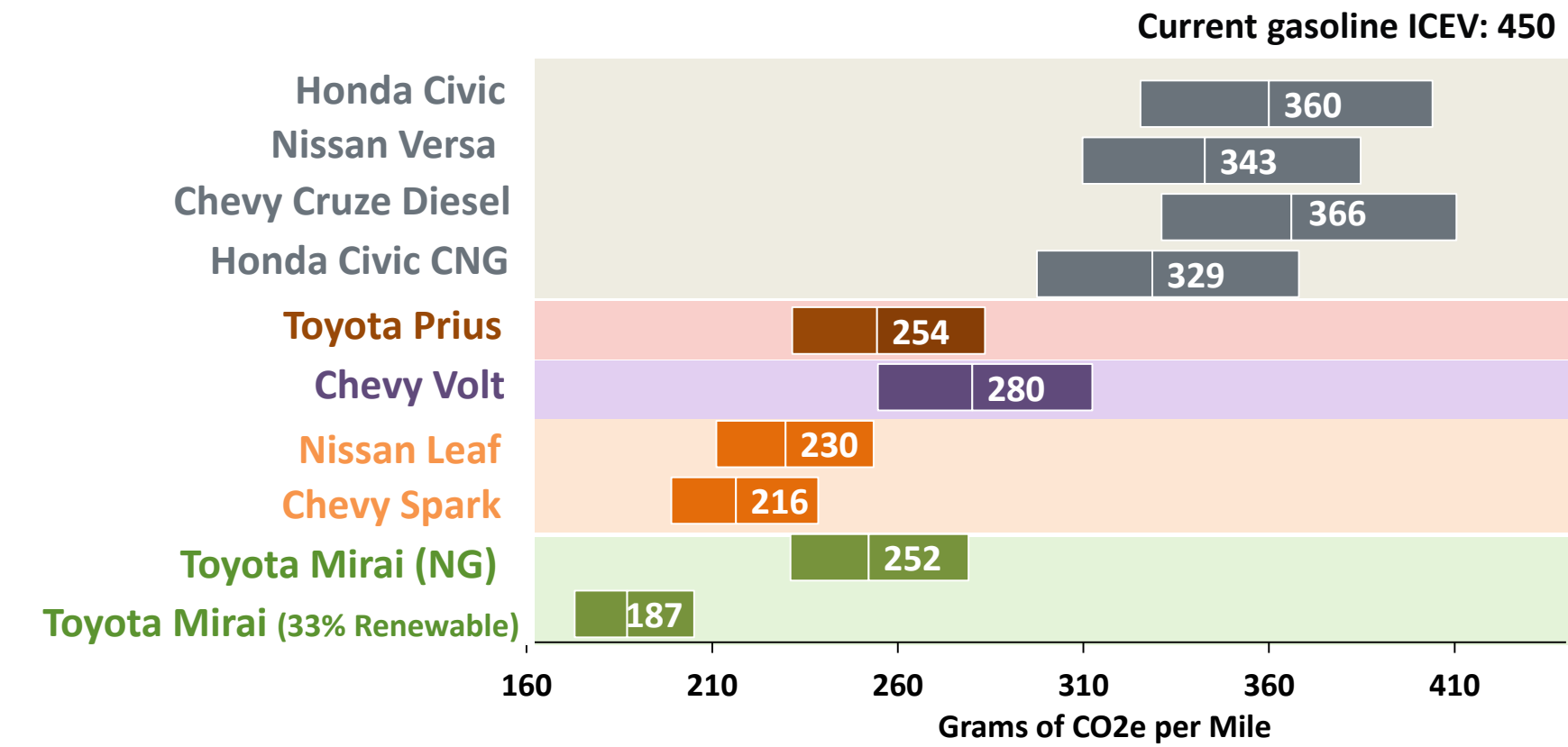
3.3 MILLION
ZERO-EMISSION VEHICLES
BY 2025



California
Connecticut
Massachusetts
Maryland
New York
Oregon
Rhode Island
Vermont

As of October 6, 2016 (Data from CaFCP June 2016 status report- http://cafc.org/sites/default/files/h2_station_list.pdf)

Low, Medium & High GHGs/Mile for 2015 Technology





\$1M Competition: On-site H₂ fueling

Finalist Team Announced!
More at hydrogenprize.org



Innovative packaging concepts
Electrolysis 350 and 700 bar



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Email your Feedback
info@teamsimplefuel.com



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Hydrogen & Fuel Cells Budget

Key Activity	FY 15	FY 16	FY17
	(\$ in thousands)		
	Approp.	Approp.	Request
Fuel Cell R&D	33,000	35,000	35,000
Hydrogen Fuel R&D ¹	35,200	41,050	44,500
Manufacturing R&D	3,000	3,000	3,000
Systems Analysis	3,000	3,000	3,000
Technology Validation	11,000	7,000	7,000
Safety, Codes and Standards	7,000	7,000	10,000
Market Transformation	3,000	3,000	3,000
Technology Acceleration	0	0	13,000 ²
NREL Site-wide Facilities Support	1,800	1,900	N/A
Total	97,000	100,950	105,500

Office	FY 2016*
EERE	\$101.0M
Basic Science	\$18.5M
Fossil Energy, SOFC	\$30.0M

FY 2016 DOE Total: ~\$150M

*Estimated for BES funding (based on FY15)

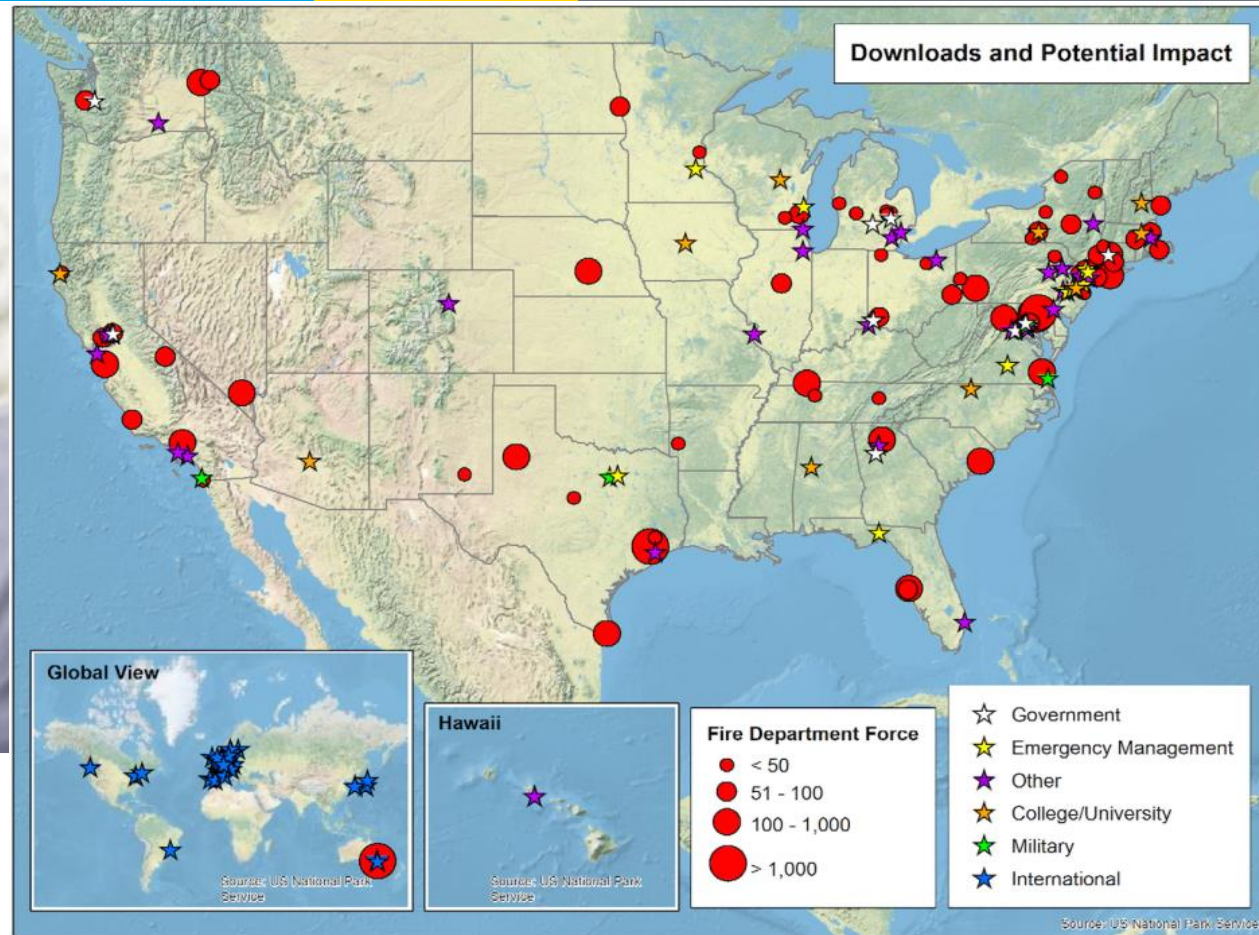
New in FY17 Request

¹Hydrogen Fuel R&D includes Hydrogen Production & Delivery R&D and Hydrogen Storage R&D

²Combines Manufacturing R&D, Technology Validation, Market Transformation.

Sustained, stable funding requests and appropriations

H₂Tools: One-stop for H₂ safety knowledge

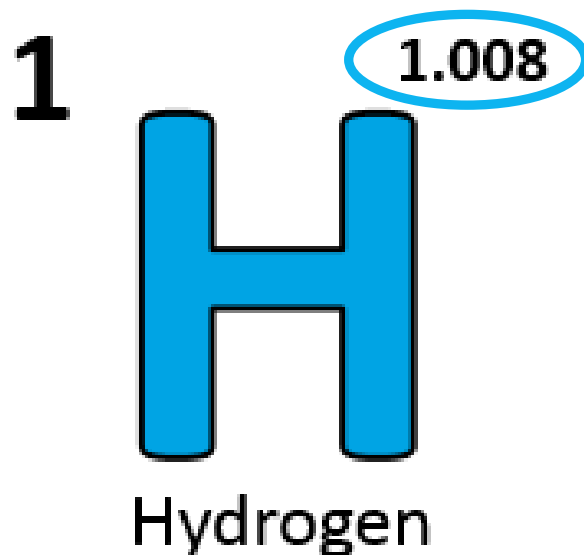


h2tools.org

- Includes resources on **safety** best practices, **first responder training**, and **H₂ codes & standards**

- Tracked downloads from **Europe and Japan**
- Resource **translated in Japanese**
- 50% of visits are international!**

Enabling dissemination of safety information around the world



**Celebrate
National
Hydrogen &
Fuel Cell Day
on 10/8 (Held
on its very own
atomic- weight-
day)**

A Week of Hydrogen and Fuel Cells Celebration

ENERGY.GOV

Office of Energy Efficiency & Renewable Energy

Fuel Cell Technologies Office

3 Questions with a 'Founding Father' of
Hydrogen and Fuel Cells: Byron McCormick

Energy.Gov Blogs



**Hydrogen Fuel Cell Car
Ride & Drives**



Direct Outreach



Facebook Live



Informational Events



Twitter



Announcements

Revolution...Now 2016

Accelerating Clean Energy Deployment

<http://energy.gov/revolution-now>

HOLD ON TO YOUR HATS - LAND-BASED WIND

Wind accounted for **41%**
of all new generation capacity installed in the US in 2015

CRUISE CONTROL - EVS

Over **490,000** EVs have
been sold through August of 2016

IT JUST KEEPS GETTING BIGGER - UTILITY-SCALE SOLAR PV

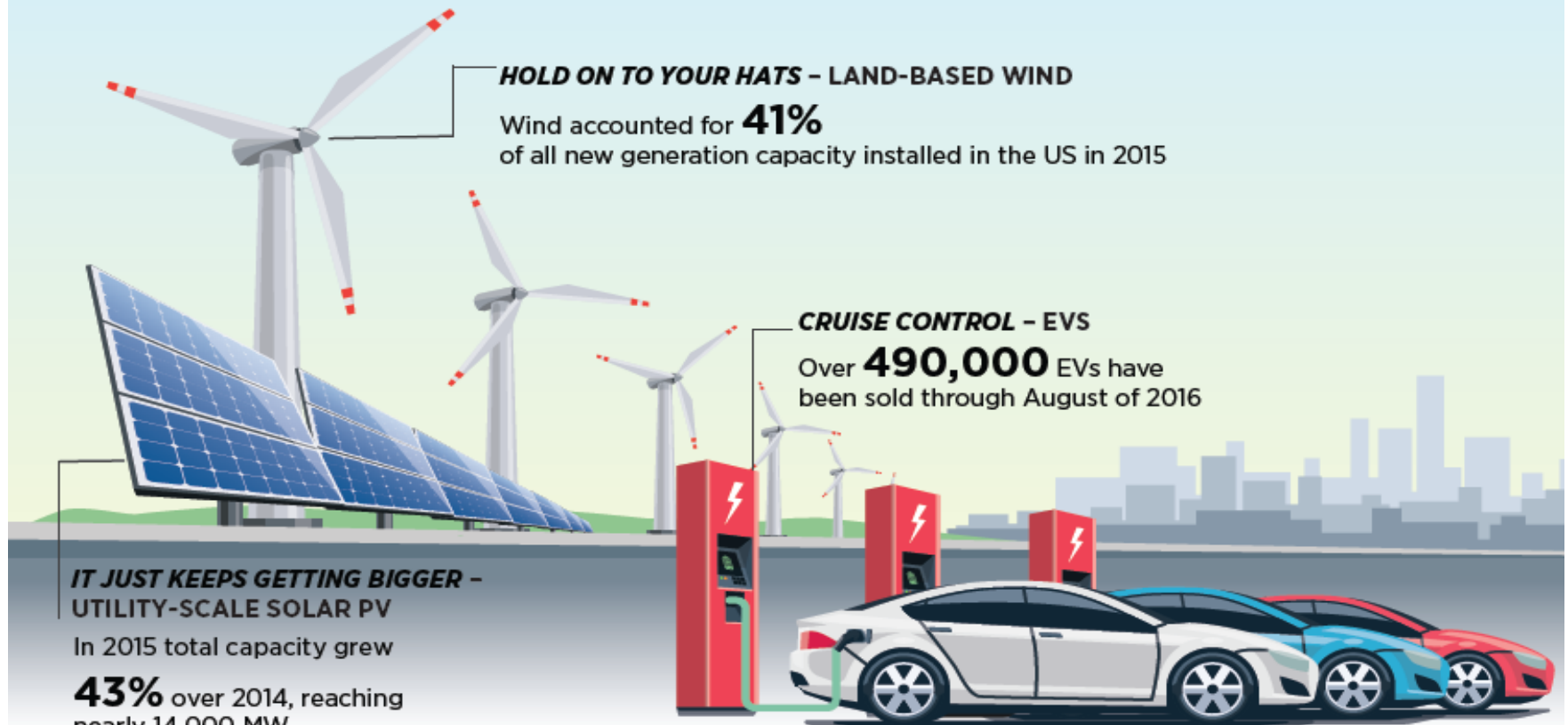
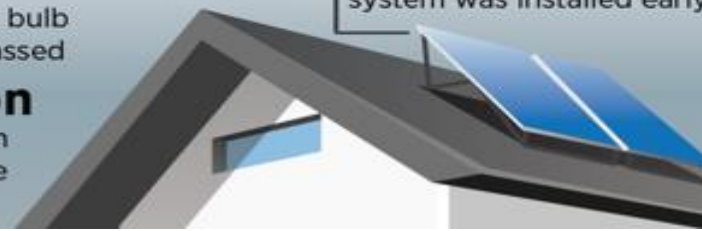
In 2015 total capacity grew
43% over 2014, reaching
nearly 14,000 MW

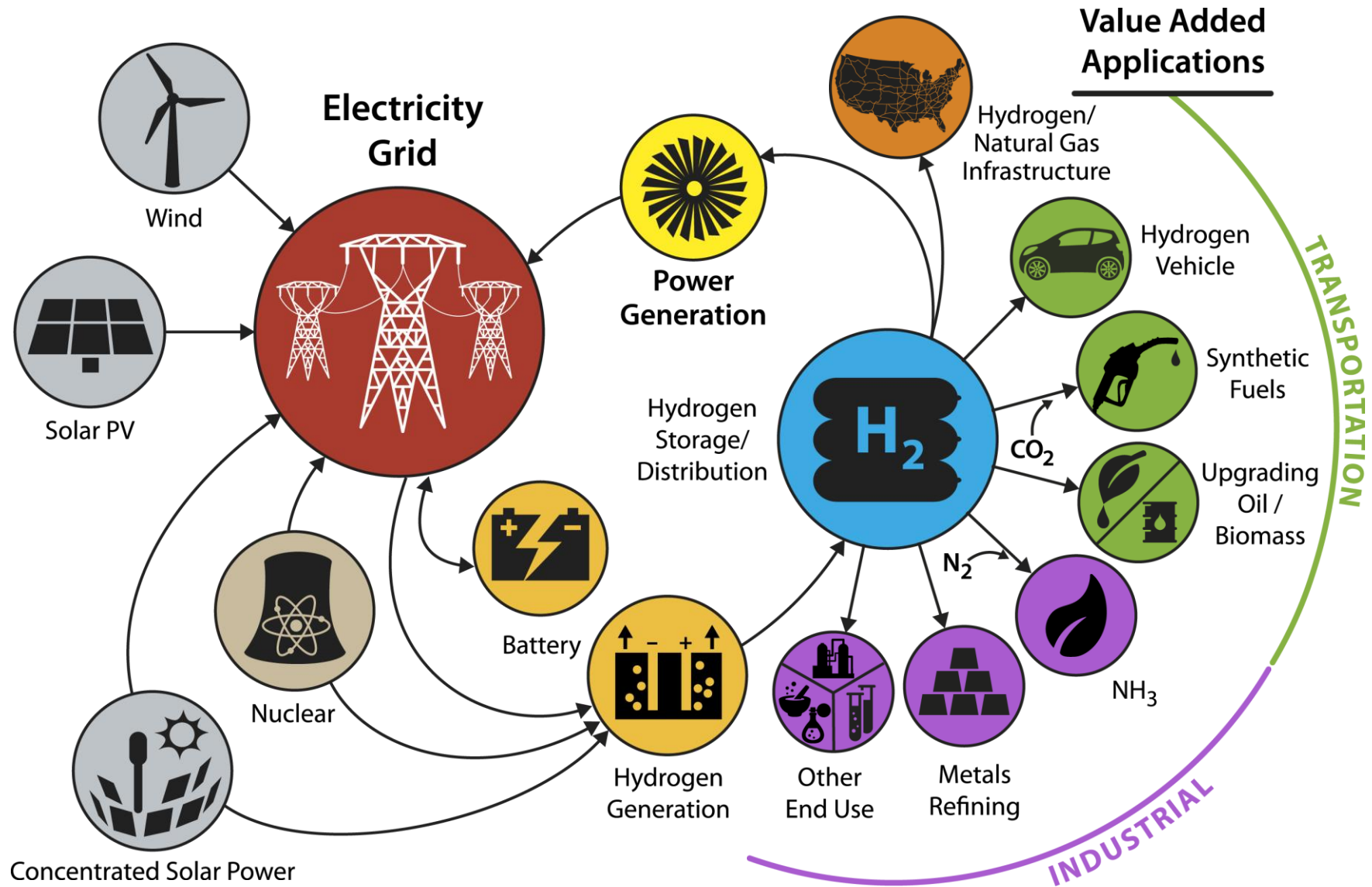
SHINING BRIGHT ON A-TYPES - LEDS

Total A-Type LED bulb
installations surpassed
200 million
in 2015, more than
doubling since the
previous year

MILLION DOLLAR LISTING - DISTRIBUTED SOLAR PV

The **millionth** distributed photovoltaic
system was installed early in 2016





*Illustrative example, not comprehensive

Thank You

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