# One Challenge is to have enough volume to reduce the Kg/H2 cost being dispense using different technologies

Delivered hydrogen prices are highly sensitive to hydrogen refuelling station utilisation.

For example, a ratio close to 10 cars per station (as is the case in Europe) implies that pumps operate less than 10% of the time. If the refuelling stations were as small as 50 kgH2 per day this translates to a high price of around USD 15–25/kgH2 if the costs of building and operating refuelling stations are repaid by fuel sales over the lifetime of a station.


Source: IEA The Future Of Hydrogen

# The Leonardo Di Caprio Foundation

## Target Price of Kilogram of Hydrogen is $2.00 or less Using Renewable Electricity

**Figure 11.** Costs of Production for Renewable Hydrogen Pathways (Does Not Include CSD)

| Pathway | Renewable Level | Technology | Input | Plant Capacity | Levelized Cost of Production ($/kg) |
|---|---|---|---|---|---|
| Solar PV + CA Grid to H2 - 1MW | 32% | PEM Electrolysis | Grid and Solar Electricity, Water | 398kg/day | $8.02 |
| 100% Solar PV Generation to H2 - 1MW | 100% | PEM Electrolysis | Grid Electricity, Water | 126kg/day | $15.43 |
| Biogas to H2 | 100% | SMR | Landfill, Wastewater or Dairy Biogas | 1500kg/day | $2.94 |
| Tri-Generation Biogas to H2 | 100% | Tri-Generation | Biogas | 1500kg/day | $5.99 |
| Natural Gas to Hydrogen | 0 | SMR | Natural Gas | 398kg/day | $2.17 |

***Source:*** *Levelized Cost of Production Calculated by EIN using data from "California Power-to-Gas and Power-to-Hydrogen Near-Term Business Case Evaluation" Eichman, Josh, Flores-Espino, Francisco, National Renewable Energy Laboratory, December 2016*

EIN energy independence now

Therefore, Heavy-Duty Vehicles should be Consider first in order to have large Volume And bring the K/H2 cost down.

## NIKOLA II and NIKOLA III Versions

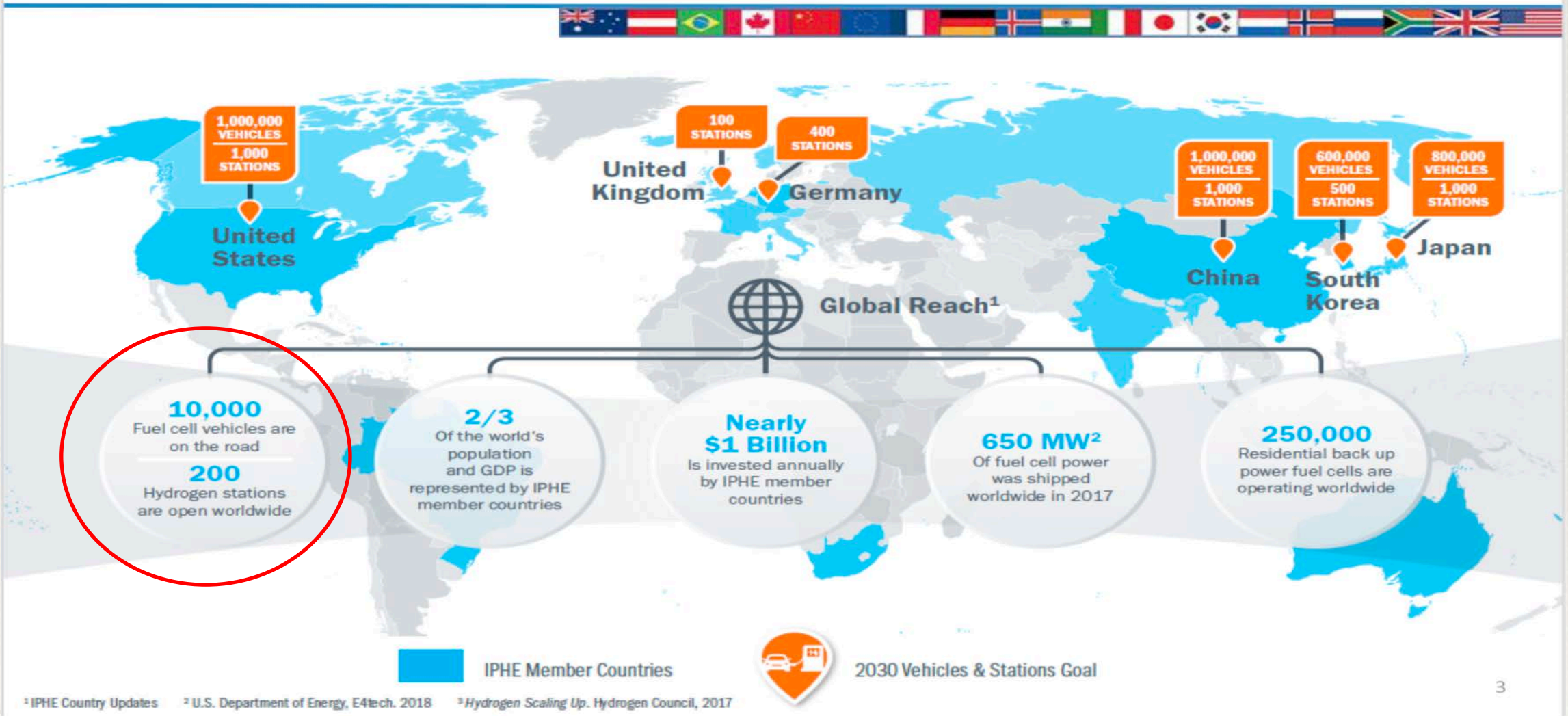

## Cummins Hydrogen Fuel Truck


Cummins showcases hydrogen fuel cell truck

## HDC-6 NEPTUNE CONCEPT


Hyundai's HDC-6 Neptune Concept Class 8 heavy-duty truck. (All photos: Hyundai)

# Global Activities and Commitments are Strong – see IPHE Fact Sheet




[1] IPHE Country Updates [2] U.S. Department of Energy, E4tech. 2018 [3] *Hydrogen Scaling Up*. Hydrogen Council, 2017

3

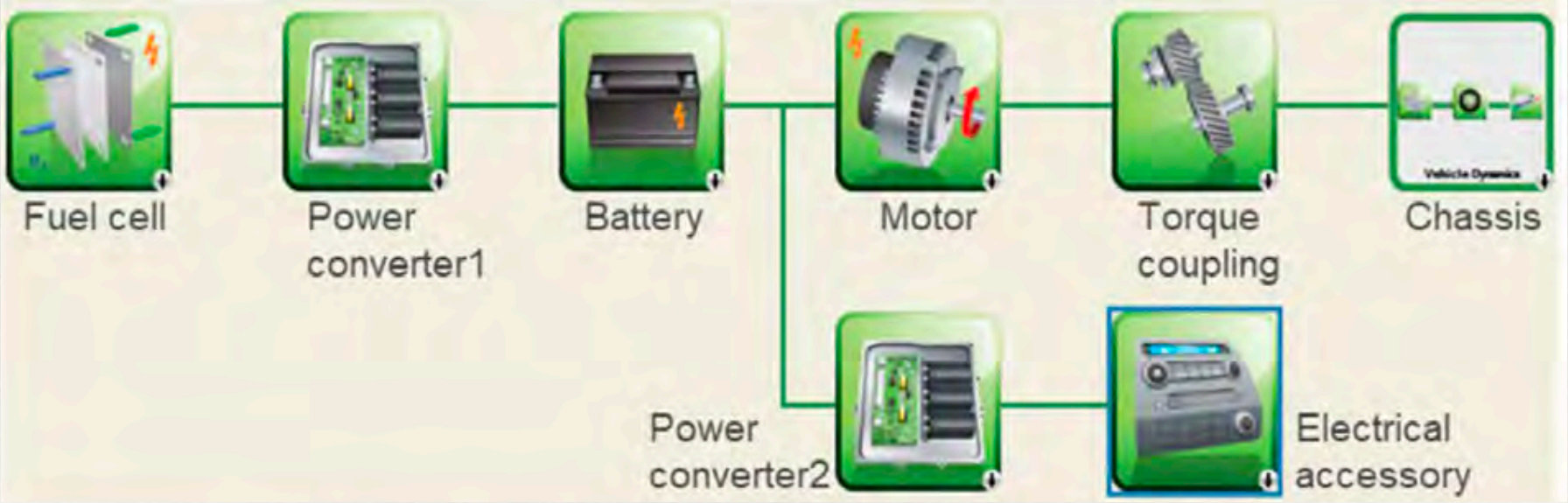
# “Hydrogen may start to become a serious factor in our driving lives sooner than we think,”

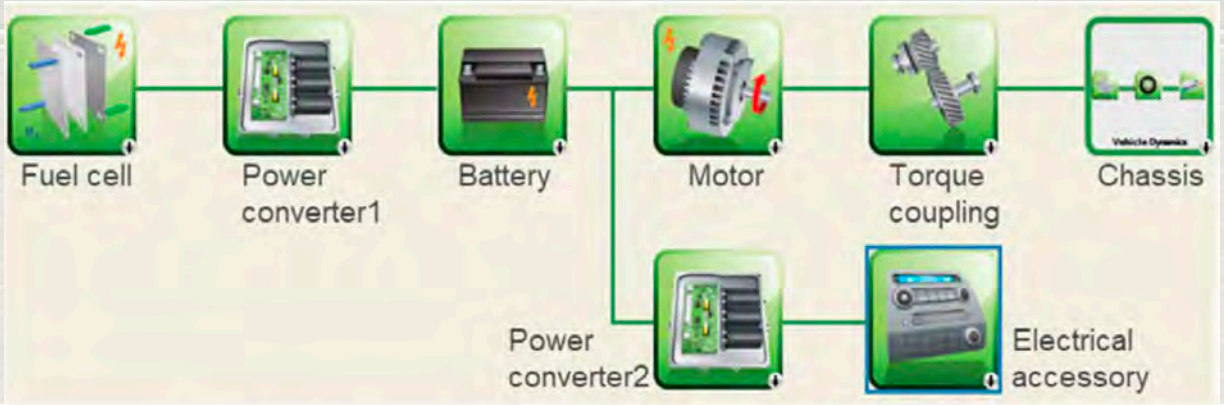

SOURCE: Hydrogen Council; IEA ETP Hydrogen and Fuel Cells CBS; National Energy Outlook 2016

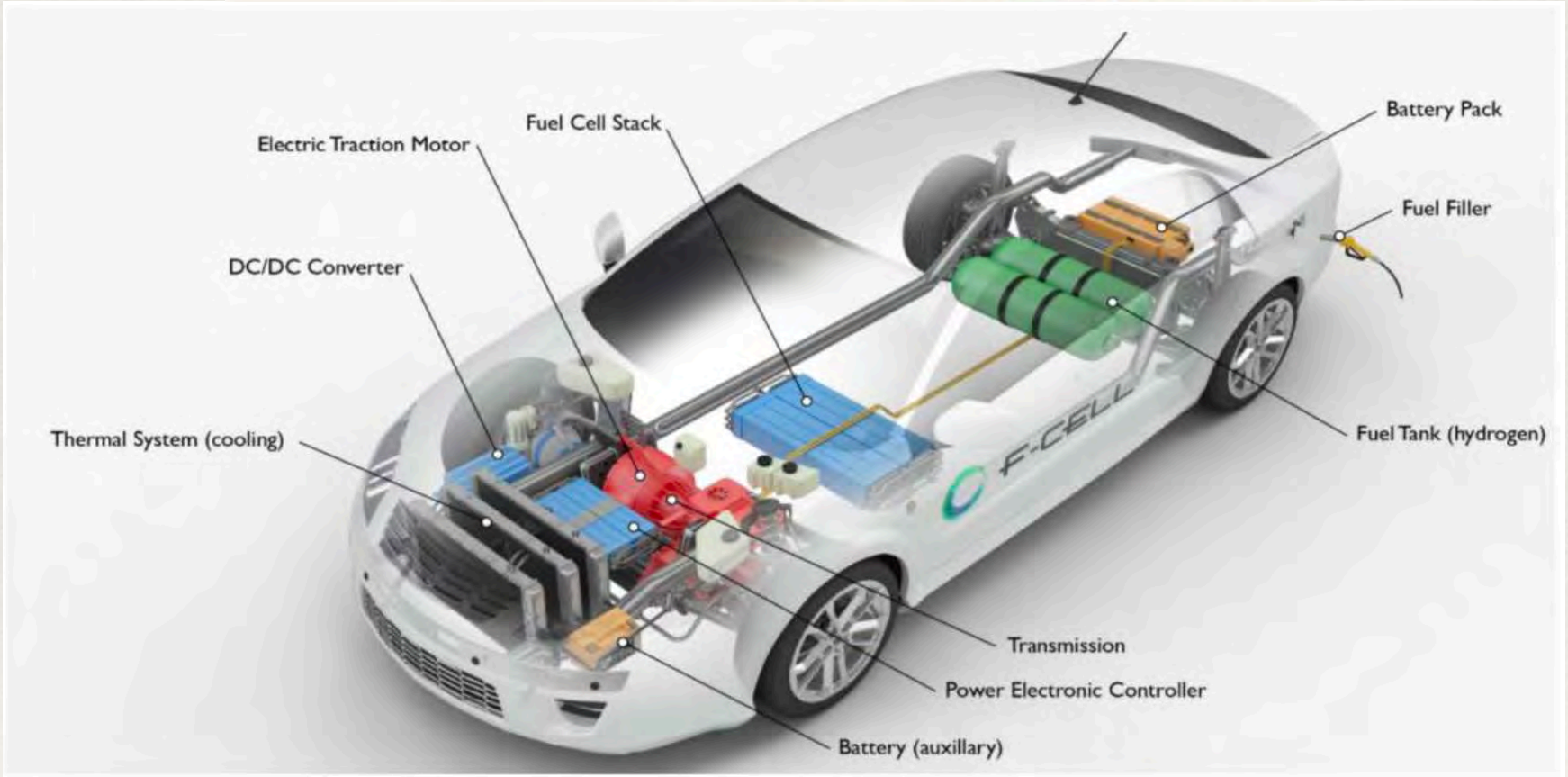
secretariat@hydrogencouncil.com
www.hydrogencouncil.com

# So, How Does Fuel Cell and Electrolizer works?

Configuration of fuel cell electric vehicle (FCEV) in Autonomie.




Fuel cell
Power converter1
Battery
Motor
Torque coupling
Chassis
Power converter2
Electrical accessory

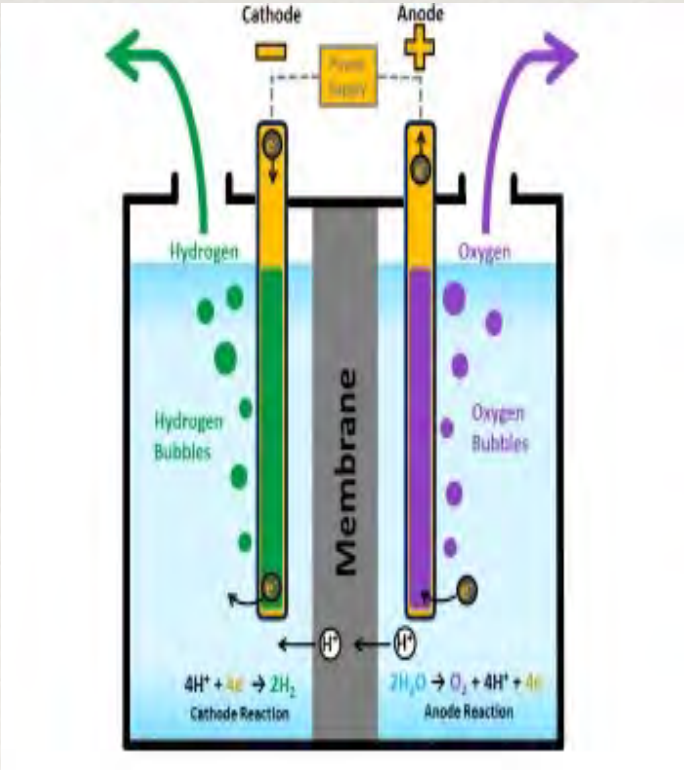

Electric Traction Motor
Fuel Cell Stack
Battery Pack
Fuel Filler
DC/DC Converter
Thermal System (cooling)
Fuel Tank (hydrogen)
Transmission
Power Electronic Controller
Battery (auxillary)

# Hydrogen Production By Electrolysis

Like fuel cells, electrolyzers consist of an anode and a cathode separated by an electrolyte.

This reaction takes place in a unit called an electrolyzer.

Electrolysis is the process of using electricity to split water into hydrogen and oxygen.

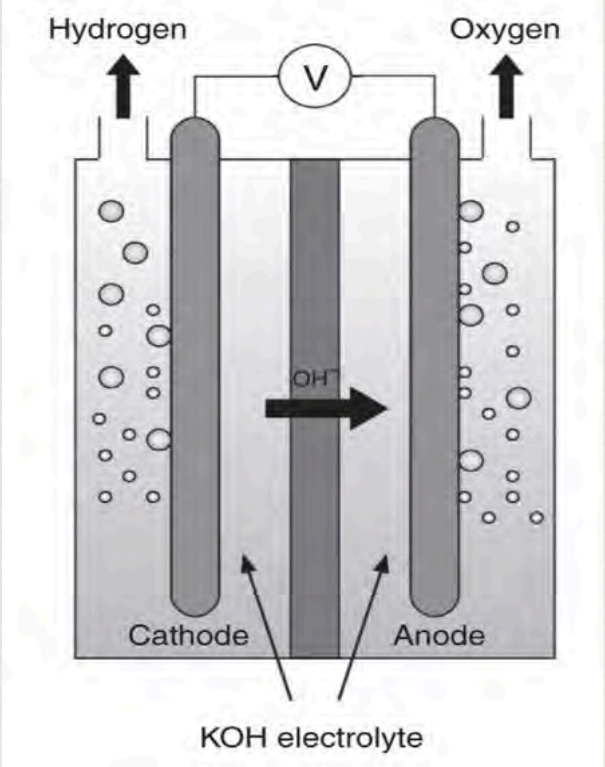



There are three types of Electrolyzers in use with different technologies.

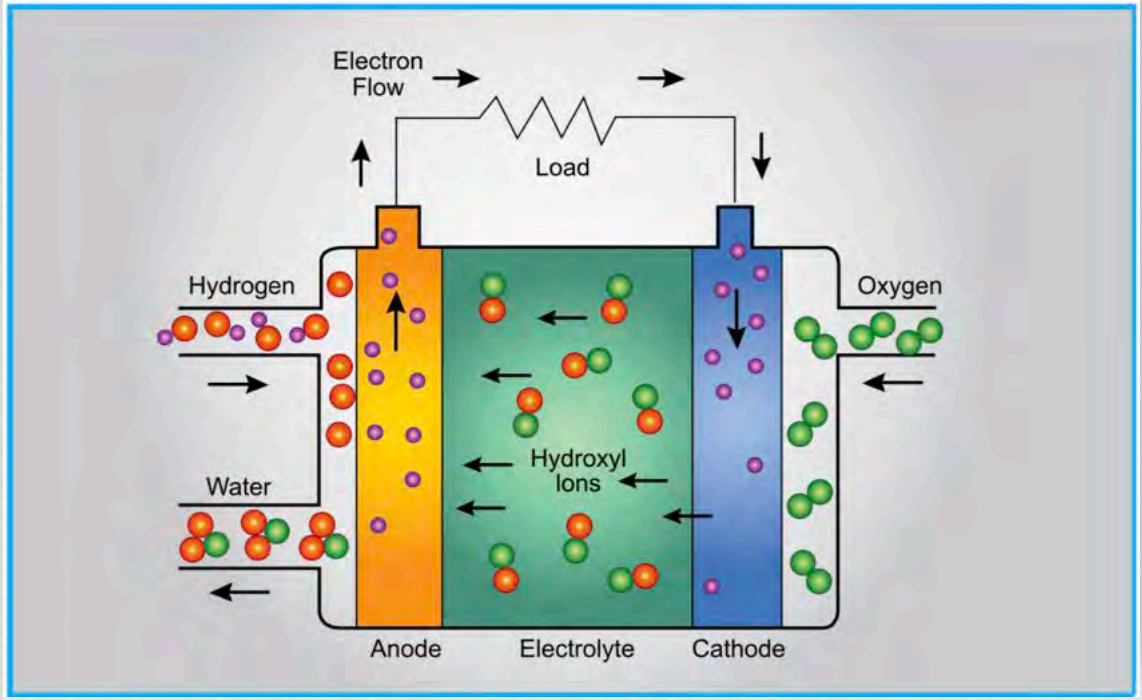
**Alkaline Electrolyzers**

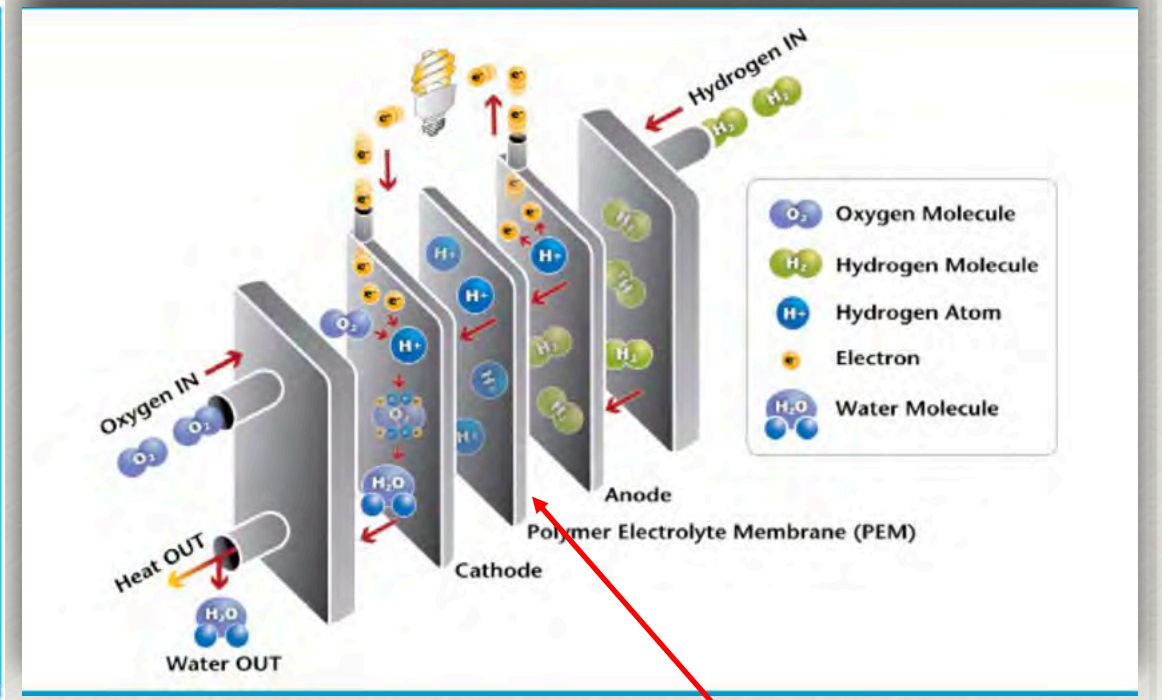
**Solid Oxide Electrolyzers**

**Polymer Electrolyte Membrane Electrolyzers**



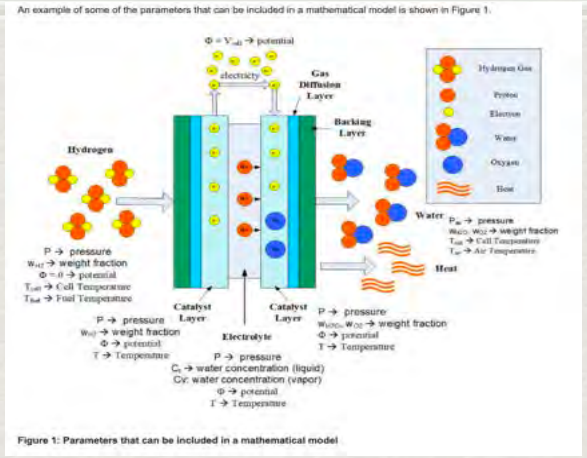
# The technology behind the Fuel Cell



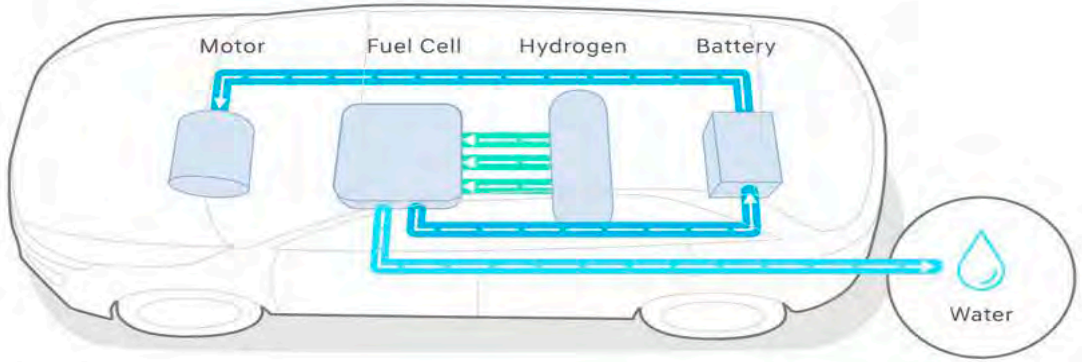

***The cost of electricity is the mayor factor influencing the cost of hydrogen. However, Renewable electricity, Solar, and Wind are becoming more affordable, reducing the cost of Hydrogen production . The goal of the industry is to bring it down to $2.00 per kilogram of Hydrogen.***

***Platinum is one of the elements currently used in the Fuel Cells, which increases the cost of the electrolizer. However, research is being done to use other materials to reduce the cost, like Ceramics.***




One SVU Vehicle currently Available in California


# The only exhaust is Water and Oxygen




## System

When you drive, the hydrogen travels from the tanks to the fuel-cell stack. There it goes through an electrochemical reaction with oxygen collected from the air intake. This creates electricity, which powers the motor, and water.

# Four Clear Signs that Fuel Cells Will Power Commercial Vehicles

- Zero tailpipe emissions
- Low noise and vibration
- Fast and smooth acceleration
- A wide range of operating conditions with no compromise on vehicle load

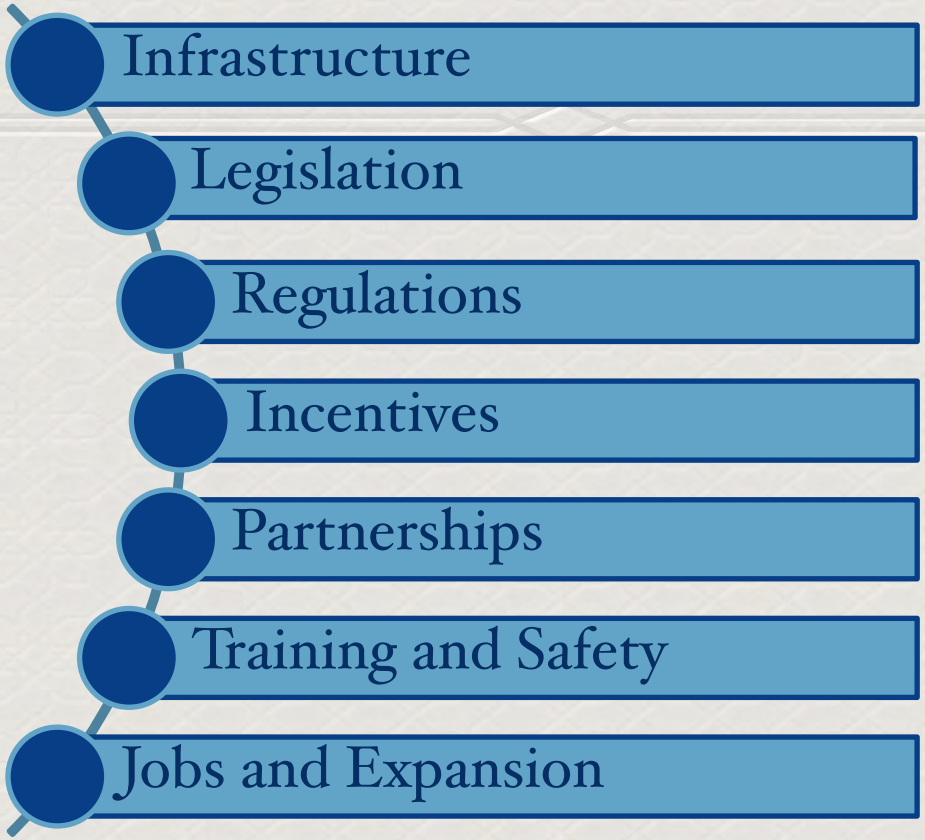
- ***THE TRANSPORTATION INDUSTRY EVENTUALLY WILL EVOLVE INTO RENEWABLE ENERGY. FOR HEAVY TRANSPORTATION VEHICLES THE SOLUTION IS HYDROGEN, LESS WEIGHT AND LONGER RANGE, AND NO MATTER THE GRADIENT OF THE TERRAIN.***

- ***MÉDIUM TO HEAVY VEHICLES IS THE KEY TO HAVE THE NECESSARY HYDROGEN VOLUME DEMAND***

# What The State and Private Industry must Do?

## Collaboration!

# Key Milestones To Accomplish




A Key factor is to work with the Federal, State, and Local governments to develop a cross-government business case for hydrogen, its benefits and challenges.

# Ports are being planned as a Pilot Program in Different Regions

***WORLD PORTS SUSTAINABILITY PROGRAM (WPSP) CHARTER HAS SUPPORT PROGRAMS TO TRANSITION PORTS FROM FOSIL FUELS TO ALTERNATIVE FUELS.***




Ports

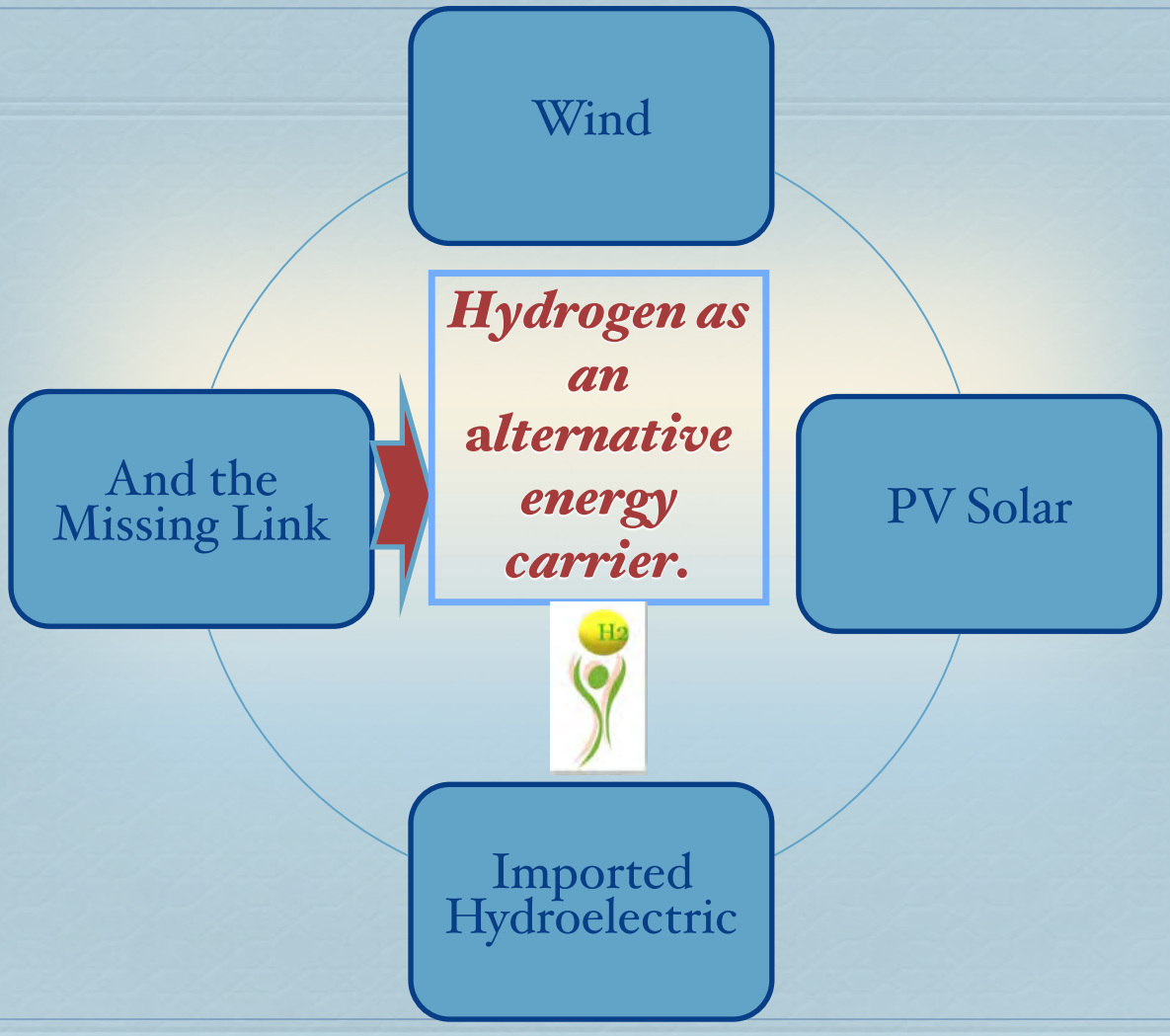
Supporting Equipment

Trucks

Commerce and Industry Focus




# Maryland And Renewable Energy

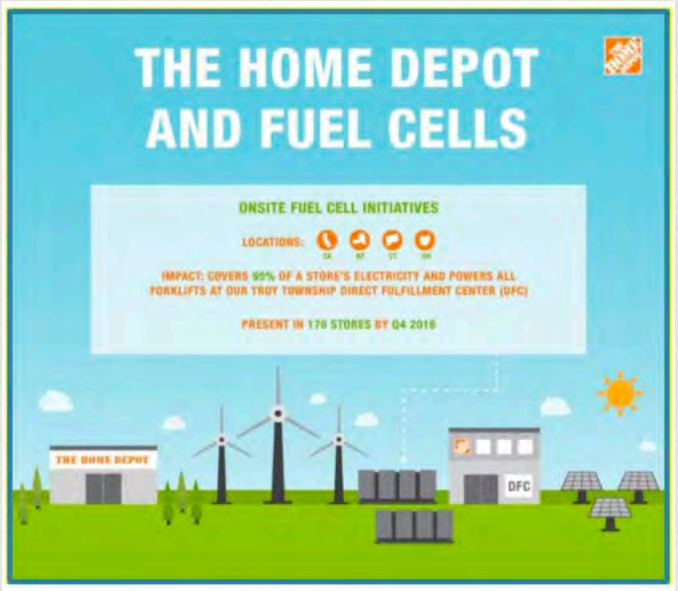


# *Companies taking the Fuel Cell Initiative in the USA*

## Coca-Cola


One of IKEA's Bloom Energy fuel cell systems at California store


Bloom Energy fuel cell server at a Walmart retail site



Hydrogen is the fuel of the future, and now is the time to start passing laws, legislations, guidelines, standards, incentives, and investing in the infrastructure.


What is needed is private investors to own the filling stations, and form alliances with vehicle manufacturers like Switzerland is doing.

H2 Filling stations are just like the current gasoline/diesel filling stations and can be parallel while fossil fuels are phasing out.

Are we for the challenge?

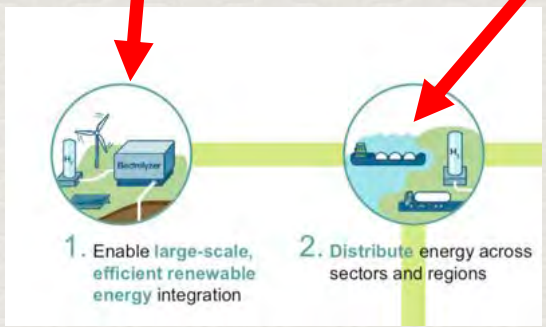
Hydrogen is upscaling up in Europe and California and Maryland could follow suit.

*Hydrogen- based fuels ships and heavy trucks can transport hydrogen from over long distances – from regions with abundant solar and wind resources, such as Australia Latin America, Or from sun abundant USA States to energy-hungry cities thousands of kilometers away.*

Electricity Produced From Solar and Wind.

Solar photovoltaic plant in Brazil

To Hydrogen Production By Electrolysis




Stored and Transported Using Hydrogen Fuel Cell Powered Vehicles

Supply Hydrogen to Hungry Cities Thousands of Kilometers away

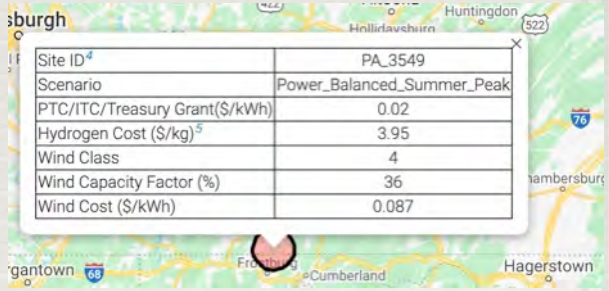
Would you like to have your name written in the history of Maryland by taking this Leap into the future of energy? Future generations will greatly appreciate your bravery!

Be part of the $2.5 trilliont Hydrogen economy by 2050.

Hydrogen Council Vision with 60 members as 2019.


Hydrogen is at the same phase as Solar Panels were 15 years ago. People had many doubts then.

With lower electricity we can achieve theH2 $3.00 p/kg. target!




Source: https://www.nrel.gov/hydrogen/production-cost-analysis.html

# GOVERNMENTS AND PRIVATE INDUSTRY MUST WORK TOGETHER TO ACCOMPLISH THE GOALS

1. Begin the Journey to 100% Renewable Hydrogen Now
2. Fund Scalable Projects for 100% Renewable Hydrogen Production
3. Improve Low Carbon Fuel Standard (LCFS) Incentives
4. Promote Tools to Lower the Cost of Electricity for Renewable Hydrogen Producers.
5. Address Hydrogen Distribution and Storage Challenges
6. Expand the US EPA's Renewable Fuel Standard (RFS) Program
7. Incentivize Consumers and Stakeholders
8. Broaden the Hydrogen Community Through Education & Outreach

# Foothill Transportation Study Continues.

July 24, 2020

To: Executive Board

Subject: **Cost Comparison and Fuel Technology Direction – Battery Electric Bus vs. Fuel Cell Bus**

---

**Recommendation**

Provide direction regarding the fuel technology to be used in Foothill Transit's next order of 20 buses.

**Analysis**

As a result of operating BEBs for the last ten years we've learned that BEBs present several challenges including, range limitations, long charging times, high electricity rates, complicated utility rate structures, and higher capital costs. To minimize or alleviate these challenges, FCEBs appear to be an alternative zero-emissions technology solution. FCEBs, however, have some challenges as well, with higher bus price and fuel cost.

As the market for zero-emissions buses matures, some of the challenges faced today can be minimized or mitigated with economies of scale and technological improvements.

Foothill Transit has an existing Transit and Intercity Rail Capital Program (TIRCP) grant to deploy 20 zero-emissions buses on Foothill Transit's Line 486, a 42-mile roundtrip route from the Pomona Transit Center to El Monte Station.

To understand the cost difference of operating a BEB versus a FCEB on Line 486, specifically, we need to consider the following elements:

- Block miles - The miles driven by a particular bus on a specific line
- Bus quantity - The required number of buses to operate on a line
- Fueling infrastructure cost
  Cost of fuel
  Scheduled maintenance cost
  Mid-life replacement cost

These cost elements are further described below.

Based on our experience of operating a 440 kWh BEB, we can confidently attain at most 150 miles of range on a single charge. So, under BEB on the chart below, any block beyond 134.88 miles will require two buses to complete that block. On the other hand, FCEB have a range of 320 miles, similar to CNG buses, and can complete any block on Line 486. As you can

see in the chart below the operation of Line 486 will require 34 BEBs versus 23 FCEBs or a 1.5 to 1 ratio of buses between the two technologies.

| Line 486 | El Monte Station to Pomona Transit Center | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Bus Quantity | |
| Block | Start | End | Distance (Miles) | Duration | BEB | Fuel Cell |
| 23 | 16:26 | 20:10 | 47.89 | 3h44 | 1 | 1 |
| 15 | 6:26 | 9:58 | 47.89 | 3h32 | 1 | 1 |
| 7 | 5:00 | 10:44 | 88.02 | 5h44 | 1 | 1 |
| 11 | 5:50 | 11:42 | 88.86 | 5h52 | 1 | 1 |
| 6 | 4:50 | 11:44 | 91.39 | 6h54 | 1 | 1 |
| 21 | 13:33 | 23:29 | 131.71 | 9h56 | 1 | 1 |
| 19 | 12:33 | 22:30 | 131.71 | 9h57 | 1 | 1 |
| 22 | 13:50 | 23:27 | 132.35 | 9h37 | 1 | 1 |
| 20 | 13:02 | 23:59 | 134.88 | 10h57 | 1 | 1 |
| 18 | 8:02 | 19:04 | 134.88 | 11h02 | 1 | 1 |
| 17 | 7:26 | 18:13 | 134.88 | 10h47 | 1 | 1 |
| 14 | 6:14 | 17:12 | 134.88 | 10h58 | 1 | 1 |
| 16 | 6:27 | 19:57 | 175.20 | 13h30 | 2 | 1 |
| 9 | 5:20 | 18:11 | 175.84 | 12h51 | 2 | 1 |
| 10 | 5:35 | 18:59 | 175.84 | 13h24 | 2 | 1 |
| 8 | 5:05 | 19:30 | 178.37 | 14h25 | 2 | 1 |
| 1 | 4:15 | 19:38 | 216.17 | 15h23 | 2 | 1 |
| 3 | 4:30 | 20:07 | 216.17 | 15h37 | 2 | 1 |
| 5 | 4:45 | 21:32 | 218.70 | 16h47 | 2 | 1 |
| 12 | 5:51 | 23:00 | 218.70 | 17h09 | 2 | 1 |
| 13 | 6:02 | 22:59 | 219.34 | 16h57 | 2 | 1 |
| 2 | 4:20 | 20:36 | 219.34 | 16h16 | 2 | 1 |
| 4 | 4:35 | 23:54 | 262.63 | 19h19 | 2 | 1 |
| Fleet Requirement | | | | | 34 | 23 |
| Ratio | | | | | 1.5 | 1 |

The number of buses needed for operations using BEB versus FCEB determines the capital cost for bus purchases under each approach. As shown below, a fleet of BEBs will cost $30.2 million while FCEBS will cost $25.3 million - a difference of $4.9 million.

| Line 486 | El Monte Station to Pomona Transit Center | | | |
|---|---|---|---|---|
| | | | Bus Cost | |
| | Fleet Requirement | | $890,000 | $1,100,000 |
| Block | BEB | Fuel Cell | BEB | Fuel Cell |
| 23 | 1 | 1 | $890,000 | $1,100,000 |
| 15 | 1 | 1 | $890,000 | $1,100,000 |
| 7 | 1 | 1 | $890,000 | $1,100,000 |
| 11 | 1 | 1 | $890,000 | $1,100,000 |
| 6 | 1 | 1 | $890,000 | $1,100,000 |
| 21 | 1 | 1 | $890,000 | $1,100,000 |
| 19 | 1 | 1 | $890,000 | $1,100,000 |
| 22 | 1 | 1 | $890,000 | $1,100,000 |
| 20 | 1 | 1 | $890,000 | $1,100,000 |
| 18 | 1 | 1 | $890,000 | $1,100,000 |
| 17 | 1 | 1 | $890,000 | $1,100,000 |
| 14 | 1 | 1 | $890,000 | $1,100,000 |
| 16 | 2 | 1 | $1,780,000 | $1,100,000 |
| 9 | 2 | 1 | $1,780,000 | $1,100,000 |
| 10 | 2 | 1 | $1,780,000 | $1,100,000 |
| 8 | 2 | 1 | $1,780,000 | $1,100,000 |
| 1 | 2 | 1 | $1,780,000 | $1,100,000 |
| 3 | 2 | 1 | $1,780,000 | $1,100,000 |
| 5 | 2 | 1 | $1,780,000 | $1,100,000 |
| 12 | 2 | 1 | $1,780,000 | $1,100,000 |
| 13 | 2 | 1 | $1,780,000 | $1,100,000 |
| 2 | 2 | 1 | $1,780,000 | $1,100,000 |
| 4 | 2 | 1 | $1,780,000 | $1,100,000 |
| | 34 | 23 | $30,260,000 | $25,300,000 |
| Bus Ratio | 1.5 | | Cost Variance | $4,960,000 |

Fueling or charging infrastructure is needed to power the buses. It will cost approximately $4 million to construct a hydrogen fueling station for delivered hydrogen. While only 20 FCEBs are needed for the project under consideration, the hydrogen fueling infrastructure will accommodate up to 30 buses. For BEBs, it will require $10.95 million for infrastructure and charger systems based on the Burns and McDonnell report.

| Fueling Infrastructure | | Cost/bus |
|---|---|---|
| Fuel Cell – Up to 30 buses | $4,000,000 | $133,333 |
| BEB - Chargers for 34 buses | $10,948,000 | $322,000 |

FCEB fuel cost is approximately $7 per kilogram of hydrogen per recent quotes from a hydrogen supplier. Since 1 kilogram of hydrogen provides seven miles of range, the cost of fuel is $1 per mile. The BEB cost per mile is based on Southern California Edison bills for the in-route charging station at Pomona Transit Center. The average cost is $0.35 per kW and the bus efficiency is 2.16 kW per mile or $0.76 per mile. A total of 3,576 daily miles are driven on Line 486, or 1,305,112 miles annually.

| Fuel Cost/Mile/Bus | | Annual |
|---|---|---|
| Fuel Cell | $1.00 | $1,305,111.63 |
| BEB/kW | $0.76 | $986,664.39 |

Cost for preventive maintenance or scheduled maintenance for FCEBs has declined over the last few years. Orange County Transit Authority (OCTA) in Southern California is currently demonstrating 10 fuel cell buses. According to Leslie Eudy of the National Renewable Energy Laboratory (NREL), OCTA's maintenance cost per mile at $0.12 is slightly inflated because the agency is spending extra time on maintenance as part of their FCEB demonstration project. Decline in maintenance cost of FCEBs is foreseeable in the near future.

| Scheduled Maintenance per Mile | | Annual Cost |
|---|---|---|
| Fuel Cell | $0.12 | $156,613.40 |
| BEB | $0.04 | $52,204.47 |

Another consideration for this cost comparison is the cost for mid-life replacement. Mid-life replacement involves replacing major components that have worn out, or are no longer operable after mid-life defined as 300,000 miles of operation or six years of use. On internal combustion engine powered buses, this involves replacing the engine and rebuilding the transmission. For BEBs, the battery packs are replaced while on FCEBs the fuel cell stacks are replaced.

| Mid-life Replacement Cost/Bus | |
|---|---|
| Fuel Cell | $30,000 |
| BEB | $200,000 |

The chart below shows the comparative costs between BEBs and FCEBs over 12 years of life.

The chart demonstrates that the cost of operating BEBs on Line 486 is higher than FCEBs over a 12-year period by $12.9 million. The cost differential stems from the higher capital cost of BEB buses due to having to operate more buses to accommodate its limited range capacity. The costs of fueling infrastructure for FCEBs and mid-life maintenance are also lower compared to BEBs.

| 12-Year Lifecycle Cost Comparison | | |
|---|---|---|
| | **34 BEBs** | **20 FCEBs** |
| Capital Cost – Buses | $30,260,000 | $25,300,000 |
| Capital Cost - Fueling Infrastructure | $10,948,000 | $4,000,000 |
| 12 Year Fuel Cost | $11,839,973 | $15,661,340 |
| 12 Year PMI Cost | $626,453.58 | $1,879,361 |
| Mid-life Maintenance Cost | $6,800,000 | $690,000 |
| | $60,474,426 | $47,530,700 |
| Cost Savings with FCEB | $12,943,726 | |

Line 486 is operated by Keolis from Foothill Transit's Pomona Operations and Maintenance facility, and they operate 16 of Foothill Transit's fleet of Proterra battery electric buses. Keolis has experience operating fuel cell buses in France and The Netherlands for the last two years. On December 17, 2019, Keolis began operating eight 60-foot articulated fuel cell buses on a Bus Rapid Transit (BRT) platform in the city of Pau, located in southwestern France. This international fuel-cell experience by our contractor will be extremely valuable should the decision be made by the Board to pursue a hydrogen fuel-cell program at Foothill Transit.

Please note that the costs identified above are our best estimates based on information that is currently available. We fully expect that our actual results will vary as we gain more experience with either of these technologies. As has always been the case with our entire zero emission bus program, we will be at the forefront of advancing this technology.

There are still many decisions that will be needed to deploy an additional 20 zero emission buses, including award of contracts for procurement of transit coaches and fueling infrastructure. Each of these items will be brought to the Executive Board for action. It will be valuable to have the Executive Board's general direction regarding fuel technology for this next group of buses. The options available to you include:

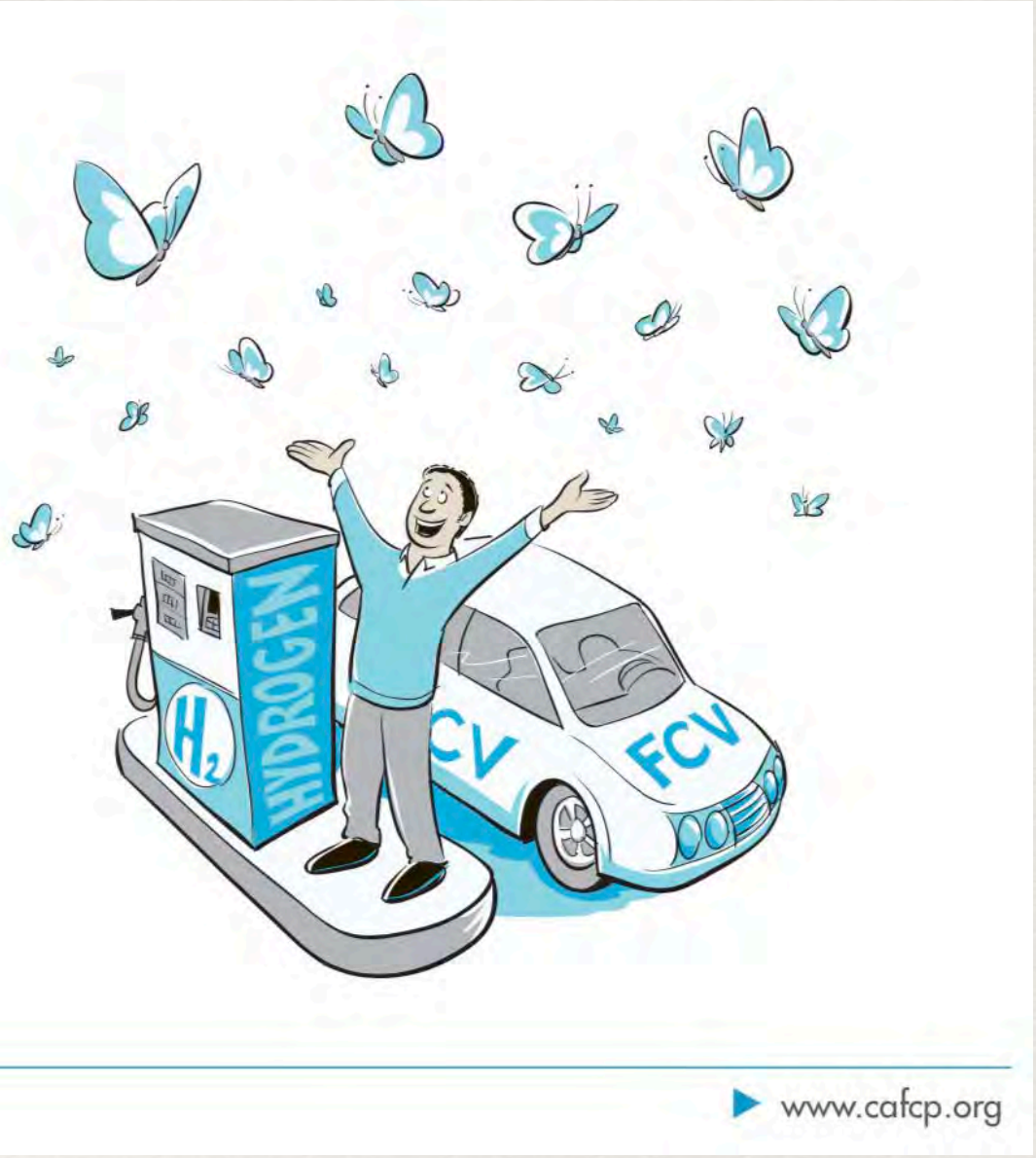
- ☒ Implementing a 20-bus fuel cell powered fleet
- ☐ Implementing a 20-bus grid powered electric bus fleet
- Returning the grant funding and delaying the deployment of any additional zero emission buses at this time.

We look forward to receiving your direction on how to proceed.

Sincerely,

Roland M. Cordero
Director of Maintenance
and Vehicle Technology

Doran J. Barnes
Executive Director


HYDROGEN
$H_2$
FCV
www.cafcp.org

# Thank you for your time

For a better world!

Romulo E Huezo
rhuezo@gmx.com
+1(669)294-1181

# Thank you For Your Support To Make This Presentation Possible!

https://cafcp.org/

https://cafcp.org/resources


https://www.energy.gov/eere/fuelcells/hydrogen-and-fuel-cell-technologies-office

Hydrogen Council for Their Information.
https://hydrogencouncil.com/en/

https://www.irena.org/climatechange

https://www.iea.org/

GREENPORT
BALANCING ENVIRONMENTAL CHALLENGES WITH ECONOMIC DEMANDS

https://www.greenport.com/

International Energy Agency (IEA)

ClimateReality.Org
https://www.climaterealityproject.org/

AIRBUS
https://www.airbus.com/newsroom/press-releases/en/2020/09/airbus-reveals-new-zeroemission-concept-aircraft.html

Bloomberg NEF
https://about.bnef.com/new-energy-outlook/

| | |
|---|---|
| **From:** | Scott Plumer |
| **To:** | MCP-Chair; Wright, Gwen; Afzal, Khalid; Sartori, Jason; McCarthy, Caroline; thrive@montgomeryplanning.org |
| **Subject:** | Two Thrive Must-Have Items |
| **Date:** | Tuesday, November 10, 2020 9:13:39 PM |
| **Attachments:** | envelope 2017 to 2026.png<br>thrive add 101.pdf |



Dear Stewards of the Future,

The attached document has two must-have items for Thrive. People I have spoken with who live outside of the current sewer envelope, groups representing them, environmental groups, and transit advocacy groups all agree.

Also attached is a map of the current sewer envelope for your quick reference.

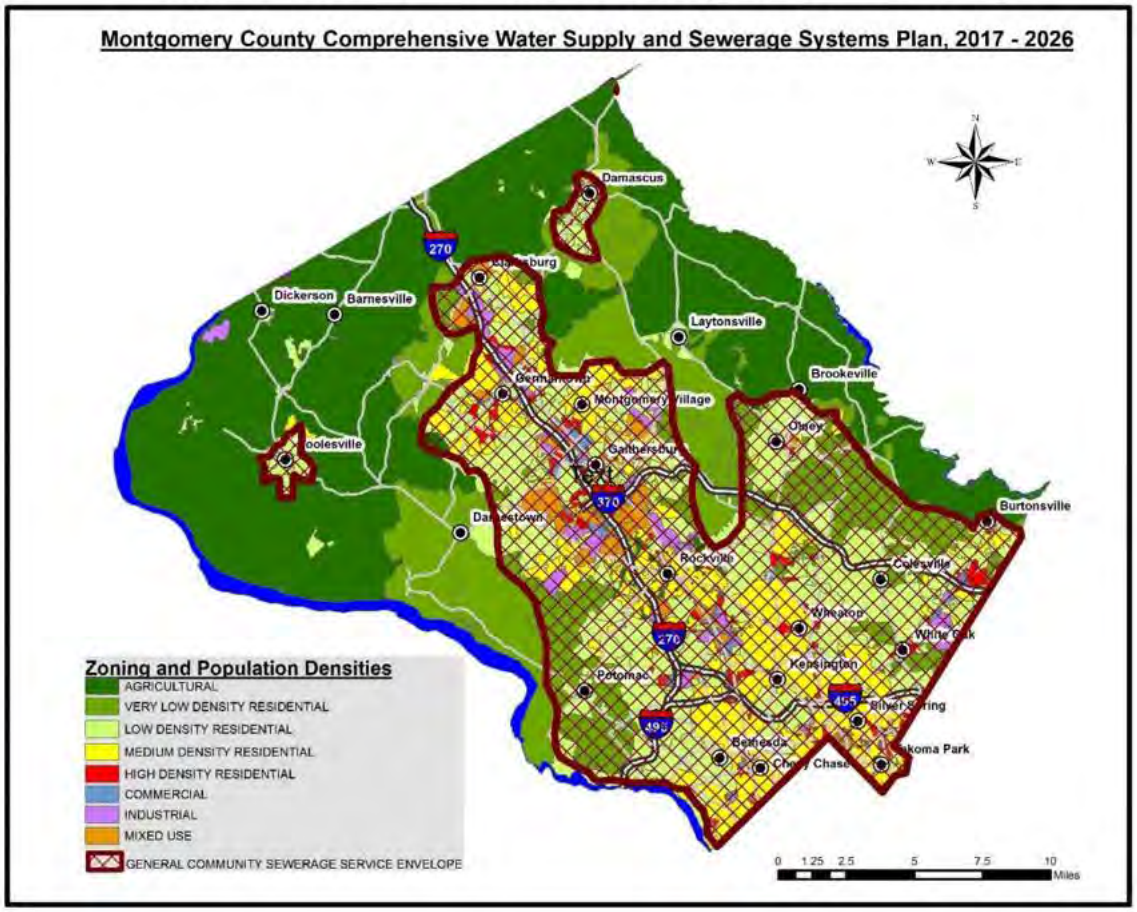
I'd like some immediate feedback on how big of an "ask" these items are, how I can monitor the progress of their consideration, and assist in their inclusion in the new General Plan.

Please promptly advise.

Respectfully,

Scott Plumer

# and General Community Sewerage Service Envelope



Thrive needs protections at least as strong as the 1993 General Plan amendments regarding the environment and sprawl.

6/11/20 Draft Vision, Goals, Policies and Actions:
Policy 6.1.3: Support the concepts of compact form of development and complete communities to avoid sprawl. Limit expansion of new roads and of the sewer and water system to direct new development to areas served by existing infrastructure.

10/5/20 Public Hearing Draft:
Policy 6.1.4: Direct new development and redevelopment to areas with existing or master-planned infrastructure to support the concepts of compact form of development and Complete Communities, and to avoid sprawl.

PROPOSED ITEM ON SEWER ENVELOPE:
**Proposed Addition** to 6.1.4 and in the introductory pages of the general plan:
Expansion of the current sewer envelope should be extremely restricted. Mitigate current and prevent future highway and arterial level non-transit traffic in areas outside the current sewer envelope.

PROPOSED ITEM ON COMMUNITIES OUTSIDE THE SEWER ENVELOPE:
**Proposed Addition** to the introductory pages of the general plan:
Communities outside of the sewer envelope represent a viable, desirable, vital, wholly appropriate, important type of development, place making, and way of life. Rural living is resilient, healthy, equitable living in a sustainable, harmonious coexistence with the natural environment and heritage sites. Stewardship of all ecosystem components, especially regionally critical systemic components such as native plants, watersheds, groundwater and soils is the prime guiding factor in planning human activities in Rural Communities. Curation of heritage sites and their surrounds is an exceptional feature of Rural Communities. Open spaces, low levels of impervious surfaces, and low occupancy densities span the entirety of Rural Communities. Rural Communities strive for sufficiency in production and consumption of water, food, energy, and waste disposal, first and foremost with local resources.

**From:** Michael Dutka
**To:** MCP-Chair
**Subject:** YIMBY MoCo comments on the Thrive 2050 draft general plan
**Date:** Friday, November 13, 2020 8:09:04 AM



The draft version of the thrive 2050 plan makes a number of important points that we support. We wholeheartedly agree that the rate of housing production should be doubled, that Montgomery county should become more urban and that the level of racial/economic segregation should be reduced. However, there are a few important points that need to be highlighted more prominently.

- The plan should highlight the original intent of single family zoning, currently the supreme court case Euclide vs. Ambler is not even mentioned once. Euclidean zoning was created to promote racial/economic segregation. If one of the chief goals of the new general plan is to reduce racial/economic segregation then the plan needs to launch an all out attack on the entire concept of Euclidean zoning and make a strong argument as to why we need to do something different now.
- The plan projects that we will need to accommodate 200,000 people in the future, we need to be careful that this projection does not become a cap. Rather than attempting to predict exactly how many people will move here we need to accommodate a huge cultural shift towards a preference for walkable urban living. Specific projections on future population numbers should be removed.
- A chief goal of the plan should be to make sure the median price of a home should decline. Montgomery county is already unaffordable, this needs to change. This can be accomplished by adding a greater variety of smaller housing types.
- The concept of overall density caps for master plans should be done away with within the general plan. Markets already regulate density, a cap set by available infrastructure gives legislators an avenue to prevent population growth. If infrastructure becomes overburdened then the solution is to improve the infrastructure rather than limit the ability of new residents to move to an area.

-YIMBY MoCo

**From:** Alex Keller
**To:** MCP-Chair
**Subject:** Thrive Montgomery 2050 public comment
**Date:** Sunday, November 15, 2020 11:44:02 AM



Dear Planning Commission,

I write to voice my support for the Thrive Montgomery 2050 plan.

Equitable housing and food access, environmental protection, and an inclusive, vibrant economy are critical to a resilient future for our communities.

In particular, I support the prioritization of walkable and bikeable spaces, decreased reliance on car transportation, public transit accessibility of affordable housing, and an overarching ethic of environmentally responsible development.

Sincerely,
Alex Keller

7701 Woodmont Ave
Apt 908
Bethesda, MD 20814

**From:** Amy Medd
**To:** MCP-Chair
**Subject:** Thrive Montgomery 2050 Public Hearing Draft
**Date:** Sunday, November 15, 2020 3:44:34 PM



Dear Chairman Anderson and Planning Board members.

In reviewing the Thrive Montgomery 2050 Public Hearing Draft, it is interesting to see the guidance for rural communities and to reflect on what it means for Ashton‘s rural village center. The plan espouses the compact form of development. The SSARPC certainly doesn't want sprawl in Ashton, but we would like the Planning Board and the County Council to heed what is written on page 33 of the public hearing draft: “Whether in urban, suburban or rural settings, the density and scale of compact development can vary to reflect the desired community character.“

We believe that the design guidelines and maximum height and density proposed in the Ashton Village Center Sector Plan could reflect such a character. However, what the land owner and developer of the southeast quadrant requests will not look or feel rural.

On page 53, the draft plan states: “Complete communities… Will have distinguishing characteristics unique to each community and be based on factors such as the size of the community, proximity to transit, parks and public facilities, variation in physical features such as topography and environmental resources, and the unique history in building form of each neighborhood.“

Ashton does not have much in the way of transit with only about four hours a day of bus service to Silver Spring. The lack of adequate public transportation results in the continued need for cars. Just identifying the need for additional bus lines does not make them happen.

Ashton has a distinct and unique history, as well as physical features of small- and medium-sized farms at its edges. These factors should result in lower density than in most Montgomery County crossroads. Clear design guidelines that will result in buildings that reflect the areas historic and rural context are paramount.

Policy 1.1.4 states that the County should “create diversity in housing types by allowing residential buildings of various densities and types suitable for their urban, suburban, and rural context for people at every phase of life.”

The changes to the draft Plan the developer is proposing for the southeast corner of the intersection of Maryland Route 108 and Maryland Route 650/New Hampshire Avenue might be suitable for suburbia or even an urban center, but it will destroy any vestige of rural and historic character and Ashton. What happens on the southeast corner will define the entry-way into Ashton’s village center into the future, so it is critical that it reflect design characteristics appropriate for a rural village

Finally, goal 8.1 says: “use design to shape Montgomery County as a collection of world class

towns, cities and rural villages with neighborhoods that celebrate their history, geography, and culture." And action 8.1.1.a says to "create a countywide urban design vision and guidelines for growth using a rural-to-urban transect."

Our question to you and your staff is where is the rural end of the transect? The kind of suburban development that has been happening in Sandy Spring at Thomas Village and Porter Road in Ashton do not fit a rural definition of design. Is the whole county going to become one monolithic townhouse development after another?

Thank you and the SSARPC looks forward to your discussion during the November 19 work session.

Sincerely,
Amy Medd
President, Sandy Spring Ashton Rural Preservation Consortium

**From:** Sharon Canavan
**To:** MCP-Chair
**Subject:** Re: written comments on Thrive Montgomery 2050
**Date:** Monday, November 16, 2020 11:43:46 AM
**Attachments:** Thrive Montgomery Nov 2020 Testimony.docx

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Catherine:

here are the written comments. Thanks for letting me know!

On Mon, Nov 16, 2020 at 11:18 AM MCP-Chair <mcp-chair@mncppc-mc.org> wrote:

> Good morning,
>
> The written comments were not attached to your initial e-mail. Please feel free to resubmit so they can be included in the record.
>
> Thank you,
>
> **Catherine Coello, *Administrative Assistant***
>
> The Maryland-National Park and Planning Commission
>
> Montgomery County Chair's Office
>
> 2425 Reedie Drive, Wheaton, MD 20902
>
> Main: 301-495-4605 | Direct: 301-495-4608
>
> www.MontgomeryPlanningBoard.org
>
> ---
>
> **From:** Sharon Canavan <sharon.m.canavan@gmail.com>
> **Sent:** Saturday, November 14, 2020 3:23 PM
> **To:** MCP-Chair <mcp-chair@mncppc-mc.org>
> **Subject:** written comments on Thrive Montgomery 2050
>
> 
>
> These written comments are being submitted on behalf of the Northwood Four Corners Civic Association (NFCCA). Please include this submission as part of the November 19, 2020 Montgomery County Planning Board hearing record regarding the Thrive Montgomery 2050 (TM 2050) planning process.