



Strategic Renewal Task Force Meeting #7

January 28, 2021

The future economic costs of climate change in the United States will be borne most significantly by already disadvantaged populations

Source: Ten facts about the economics of climate change and climate policy

A joint report from The Hamilton Project and the Stanford Institute for Economic Policy Research

[Ryan Nunn](#), [Jimmy O'Donnell](#), [Jay Shambaugh](#), [Lawrence H. Goulder](#), [Charles D. Kolstad](#), and [Xianling Long](#) Wednesday, October 23, 2019

<https://www.brookings.edu/research/ten-facts-about-the-economics-of-climate-change-and-climate-policy/>

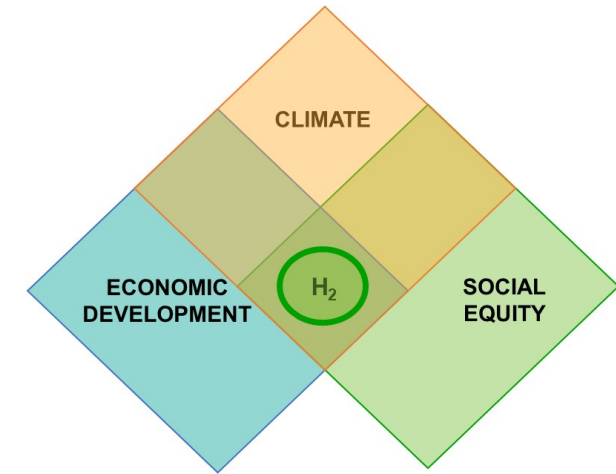
Hydrogen is the most common element in the universe

It can enable zero or near-zero emissions and replace more carbon intensive fossil fuels in multiple applications and industry sectors

As the deadline for emissions goals get closer, hydrogen can make immediate contributions to achieving targets – using known technologies

Estimates are in the tens of billions of dollars of potential for the hydrogen market in the future – which will require new skills and provides significant economic development opportunities

Hydrogen is attracting attention, investment, and policy focus because of its multiple use cases and advantages over competing energy sources



FOSSIL FUEL



Method accounts for nearly 95% of U.S. production

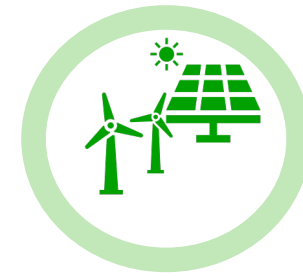
Includes natural gas reforming and coal gasification

BIOMASS/WASTE



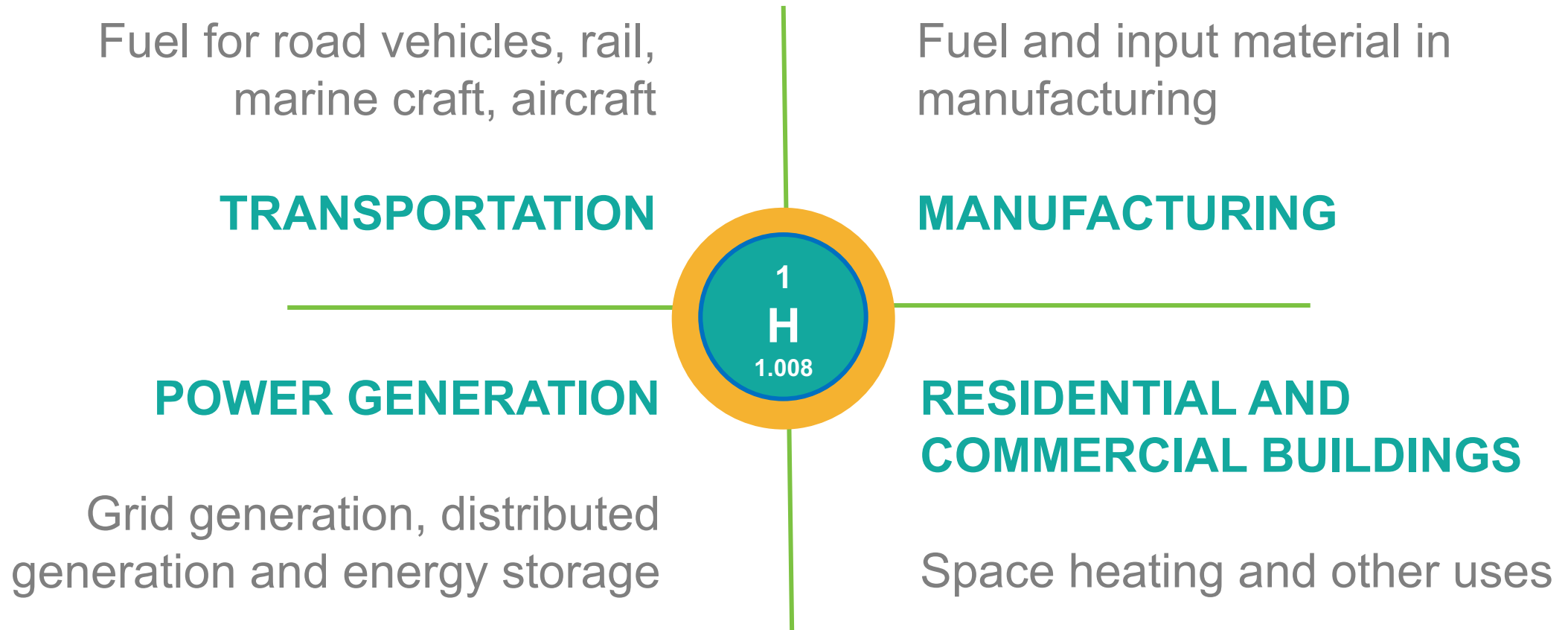
Inputs can be purpose-grown feedstock, or landfill, agricultural, or municipal solid waste

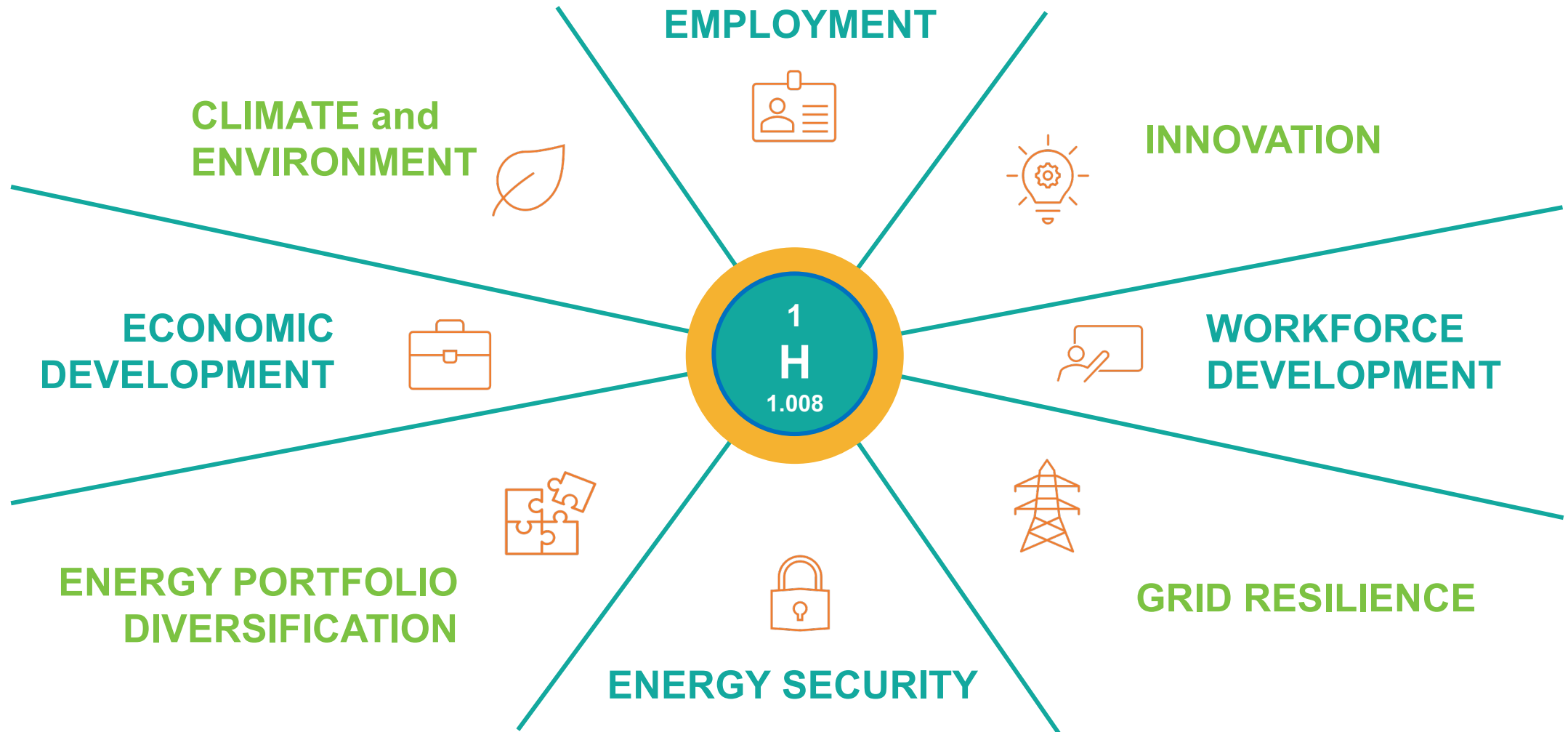
RENEWABLE POWER



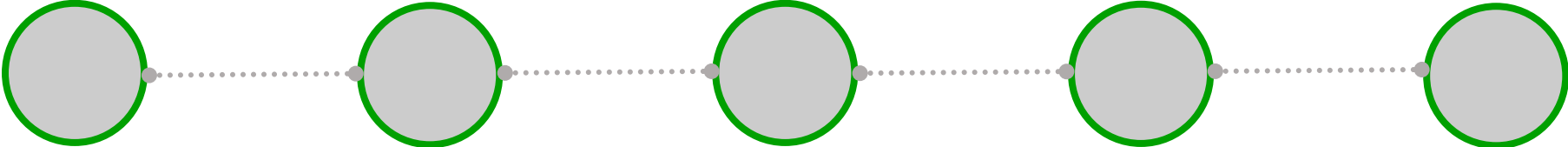
Electrolyzer technology used to split water

On-grid or coupled with distributed generation





Define and develop a hydrogen center in Greater Washington to:



Enable integration across government, industry & academia

Support advocacy for Federal, State, and local policy

DELIVER PROJECTS

Gather & develop business best practices

Identify & address implications for underserved communities

MISSION

Jump start the hydrogen market in the DMV and accelerate market adoption

MANDATE

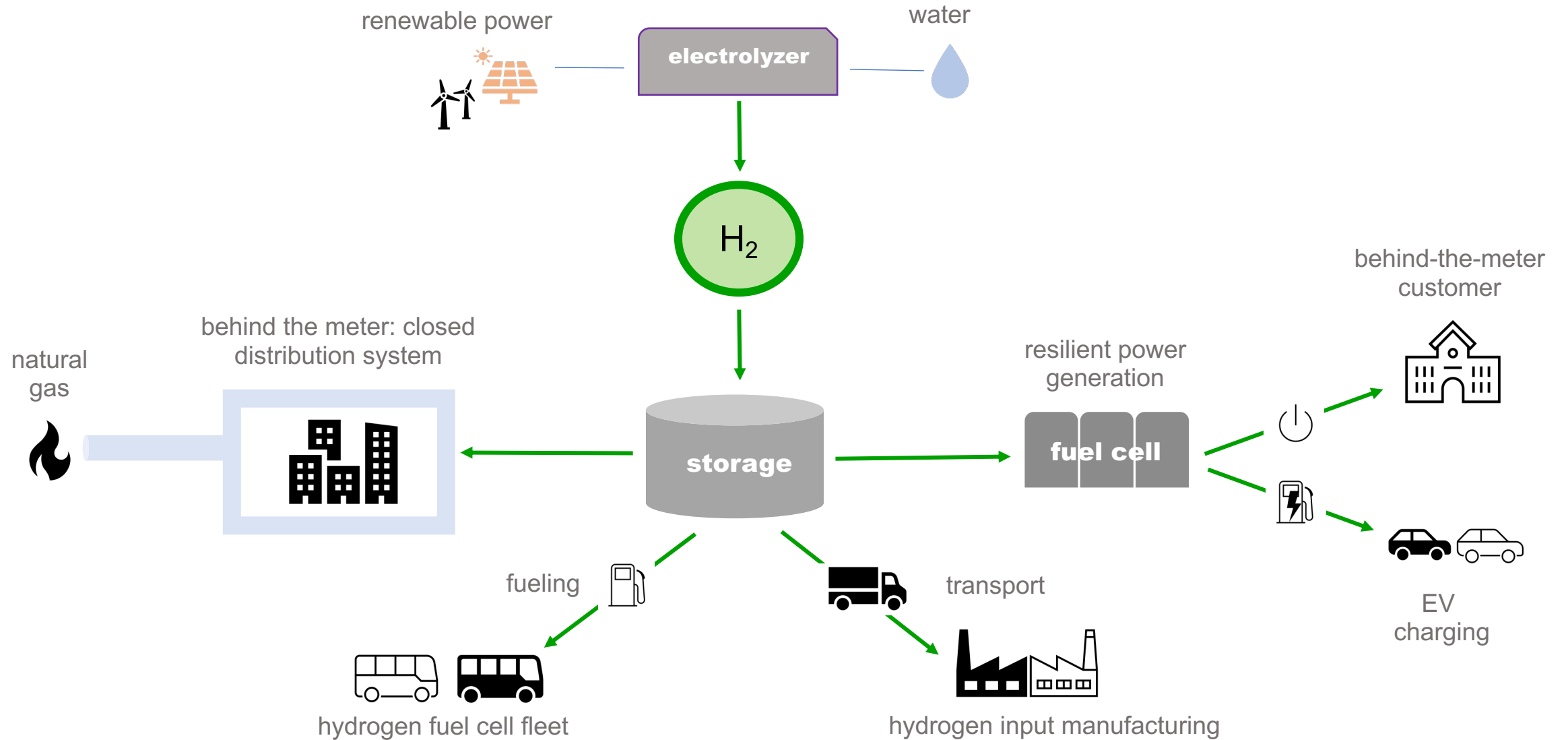
Deploy projects that have triple returns - financial, social, and environmental

Share innovations, processes, and lessons learned

OPERATING MODEL

Non-profit market maker

Demonstration Project



Problem Statement: The costs of climate change (human, economic, and environmental) in the region require the development and adoption of clean energy alternatives. Hydrogen has the potential to be a significant solution but requires coordination and acceleration.

Background & Opportunity

- **Energy users need a clean alternative** that can be transported, stored and utilized for transportation, industrial production, space heating and power generation
- **Hydrogen molecules meet those requirements**, can be produced in reduced or zero carbon processes, and enables zero or near-zero emissions
- **Hydrogen based investments and focus** by government, utility and commercial entities are increasing
- **Europe and Asia** are further down the development cycle for a hydrogen economy – which provides potential financial capital, knowledge capital, equipment, and partners
- **An enhanced policy framework at a Federal and State level is required** to support and advance the hydrogen economy
- **Massive investments are required** to accelerate the transition to hydrogen availability and use
- **Further cost reductions are required** in the production and storage segments of the value chain to make hydrogen cost competitive
- **Coordination and cooperation are required** to break the “chicken and egg” supply versus demand stalemate that challenges adoption
- **Cross-sector leadership is required to drive** policy, technology and implementation advances

Expert Guidance

US Department of Energy

US Department of Transportation

Metropolitan Washington Council of Governments

Consortium of Universities of the Washington Metropolitan Area

American University

Fuel Cell & Hydrogen Energy Association

World Resources Institute

The Hydrogen Council

Exelon

Bloom Energy

Recommendation: Establish a Hydrogen Center in the region and deliver an innovative and compelling hydrogen demonstration project.

Summary

- Convene a working group to finalize the mandate and set objective(s) for a Hydrogen Center that includes representatives from different segments of the:
 - Hydrogen value chain (Production, Storage and Transportation, OEM equipment, End use developers and customers)
 - Regional hydrogen economy (Commercial, Government, Academia, Community)
- Develop an execution plan and stand up Center
- Convene a working group to develop a plan for a demonstration project that incorporates key “use cases” for hydrogen, including:
 - Industrial/manufacturing processing
 - Fleet/transportation
 - Commercial/Multi-family residential
 - Grid/Behind the meter power generation
- Identify partners and participants for demonstration project
- Develop an execution plan and implement demonstration project

Benefits & Value

- **Provide** a neutral, unaffiliated framework to accelerate the transition to the hydrogen-based economy and
- **Deliver** real, operational projects that demonstrate the efficacy and benefits of hydrogen-based initiatives

In order to:

- **Enable the diverse constituents of Connected DMV’s region to achieve climate goals and associated benefits, and**
- **Establish the DMV as an innovator and early-adopter/leader in the hydrogen-based economy to spur economic development and employment opportunities in the region**

Champions

Task Force Lead
Bob Buchanan

**Strategic Advisory
Council Lead**
(pending)

Solution Group Leads
Energy and Resources

Mobility & Logistics

Government,
Regulations, Policy &
Regulatory

Resilience &
Sustainability

Equity Lead
Mimi Yeh

Accountability
Connected DMV

Working Group
(pending)

Recommendation: Establish a Hydrogen Center in the region and deliver an innovative and compelling hydrogen demonstration project.

Funding Path

- \$1M sponsorship to fund strategy and planning phase for the Hydrogen Center
- \$250K sponsorship to fund design of demonstration project

Timing

- Convene project team (Steering Committee + Working Group) and conduct kickoff Q1 2021
- Finalize recommendations for the Hydrogen Center
(legal structure, mandate, framework, goals, metrics) Q2 2021
- Demonstration project design Q3 2021

Primary Risks

- Failure to identify participants for certain use cases could impact scope of the project
- Costs could challenge impact project design or deployment

Task Force Goals

Equity	High
Resilience	High
People	Medium
Infrastructure	High
Economy	High

Primary Focus Area





Task Force Recommends Regional Hydrogen Center; Discusses Delivery of Strategic Initiatives

The COVID-19 Strategic Renewal Task Force continues developing vision for social equity and economic growth in the DMV, underpinned by emerging technology

WASHINGTON, DC, January 29, 2020 – Connected DMV’s COVID-19 Strategic Renewal Task Force held its seventh meeting on Thursday, adopting a recommendation to proactively address climate change through the establishment of a regional Hydrogen Center that affirms Greater Washington as a leader in the hydrogen economy. Task Force members agreed that collaboration across borders and disciplines to tackle climate change, using hydrogen energy, is a national and regional imperative, and by utilizing the significant assets of the DMV region, an achievable goal.

The Task Force also weighed updates from regional leaders on health, security, and tourism across Greater Washington to inform their continued collaborative efforts and the ongoing delivery of region-wide initiatives.

The meeting was facilitated by Task Force member, Kelly M. Schulz, Secretary of the Maryland Department of Commerce.

“I was very pleased to facilitate today’s meeting on behalf of the state of Maryland and appreciate the time and dedication each of the task force members has put into moving forward key initiatives that will make our region stronger and more competitive,” said Secretary Schulz. “Having a unified voice through Connected DMV helps us to collectively address the challenges and opportunities that impact our region, and I am proud that Maryland is a very active participant.”

Dr. KR Sridhar, founder, chairman, and CEO of Bloom Energy, addressed the Task Force to cast a vision for the nation’s zero-carbon future. Dr. Sunita Satyapal, Director of the U.S. Department of Energy’s Hydrogen and Fuel Cell Technologies

Office, also addressed the Task Force to discuss hydrogen as an enabler for clean and renewable energy sources.

Greater Washington Hydrogen Center

The 51-member Task Force—comprised of regional leaders from the public and private sectors, academia, and community—approved a recommendation for a six-month effort to define the strategy for a Hydrogen Center in Greater Washington and the plan to implement a hydrogen economy demonstration project in the DMV. Establishing a Hydrogen Center is expected to enable our region to aggressively address climate change, including its disproportionate effects on disadvantaged populations, and to lead the development of a hydrogen economy that will produce job opportunities for people of all education levels.

The Center will bring together a cohesive hydrogen ecosystem to maximize our region's capabilities, resources, and assets. The Center will serve as a national hub for accelerating the hydrogen economy by developing and offering expertise in regulatory requirements and incentives, aggregating funding sources, developing a skilled workforce, and enabling hydrogen projects, all with a strong imbedded emphasis on economic development and social equity. The Center will also create and lead a hydrogen-based demonstration project to show the efficacy and benefits of integrating hydrogen into the DMV's regional energy future. This project will succeed through the collaboration of a broad range of market leading businesses, progressive policy-makers, and forward-thinking educational institutions in Greater Washington.

"Addressing climate change in a meaningful way is a challenge for all of our citizens. Among President Biden's first actions as President was the restoration of the United States' position in the fight against climate change, underscoring the importance of immediate action," shared Task Force member Bob Buchanan, President, the 2030 Group. "Under the leadership of Connected DMV, our region will be the beneficiary of a unique hydrogen initiative which can show how practical, achievable and effective climate change can be addressed. The National Capital Region can and should take a leadership position in the deployment of this key initiative in our fight against climate change."

"We can now produce extremely efficient energy using hydrogen," said Dr. KR Sridhar, founder, chairman, and CEO, Bloom Energy. "This is not only good for the planet and for the health of our residents, but also imperative for companies and industries that are seeking to adapt and survive in our ever-changing world. However, in order to be successful, we must ensure that no one is left behind and all can realize and participate in the benefits of an integrated hydrogen economy."

Over the next six months, the Task Force will continue to release actionable recommendations and drive the delivery of strategic initiatives that will complement and help connect the efforts of regional governments, enabling a robust and durable marketplace for innovators, small and large businesses, and other organizations in our nation's capital region.

###

improvements to social, digital, and physical infrastructure. Connected DMV focuses on initiatives that span local jurisdictions and require public-private-academia-community collaboration to best achieve the dual objectives of enduring economic health and social equity. <https://www.connecteddmv.org/>

Contact: Lindy Bickish
VP, Communications & Marketing
lindybickish@connecteddmv.org
540-761-8016



Connected DMV, A Regional Collaboration, District of Columbia, Maryland, Virginia

[Unsubscribe](#)