



# FCEB Webinar Series: Steps to Secure Low or No Emissions Grants & Funding

April 11, 2024

# Webinar Contributors



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**Moderator & Introduction**

**Applying for Low-No  
Grants for FCEBs**

**Grant Funding Success:  
RTC Reno**

**FCEB Funding, Consulting  
& Information Resources**



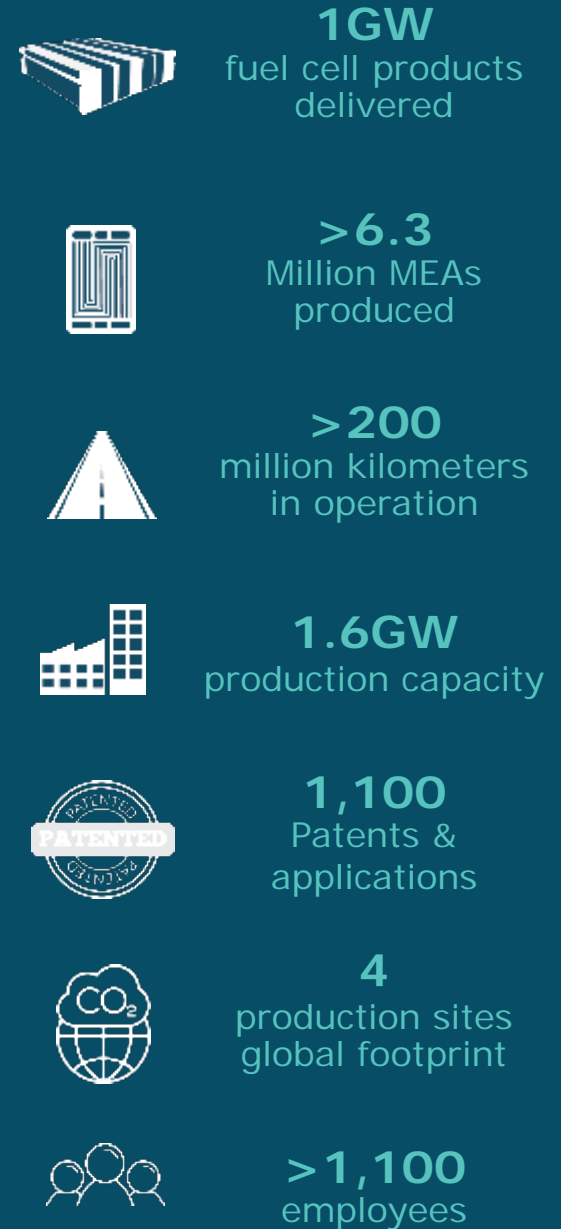
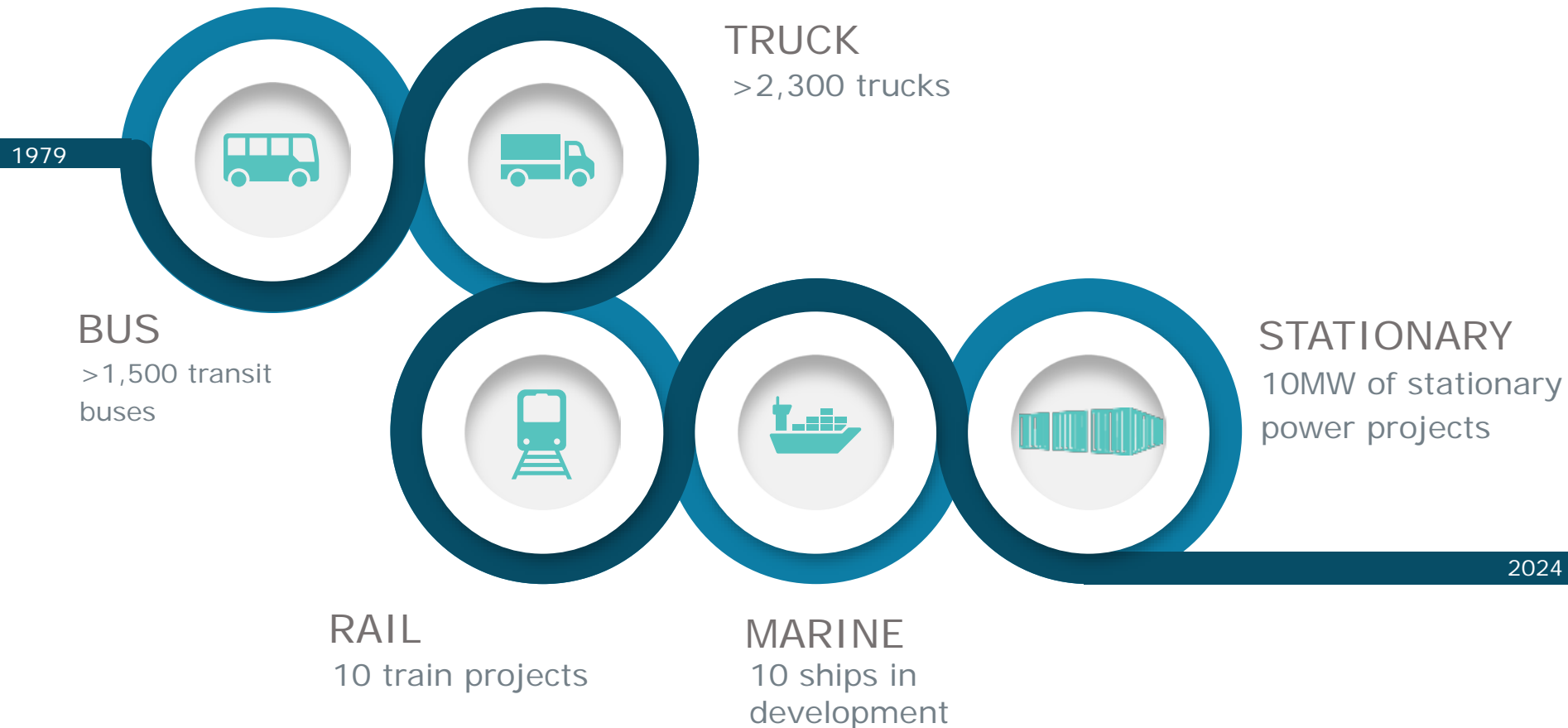
# Introduction



**Kim Leach**

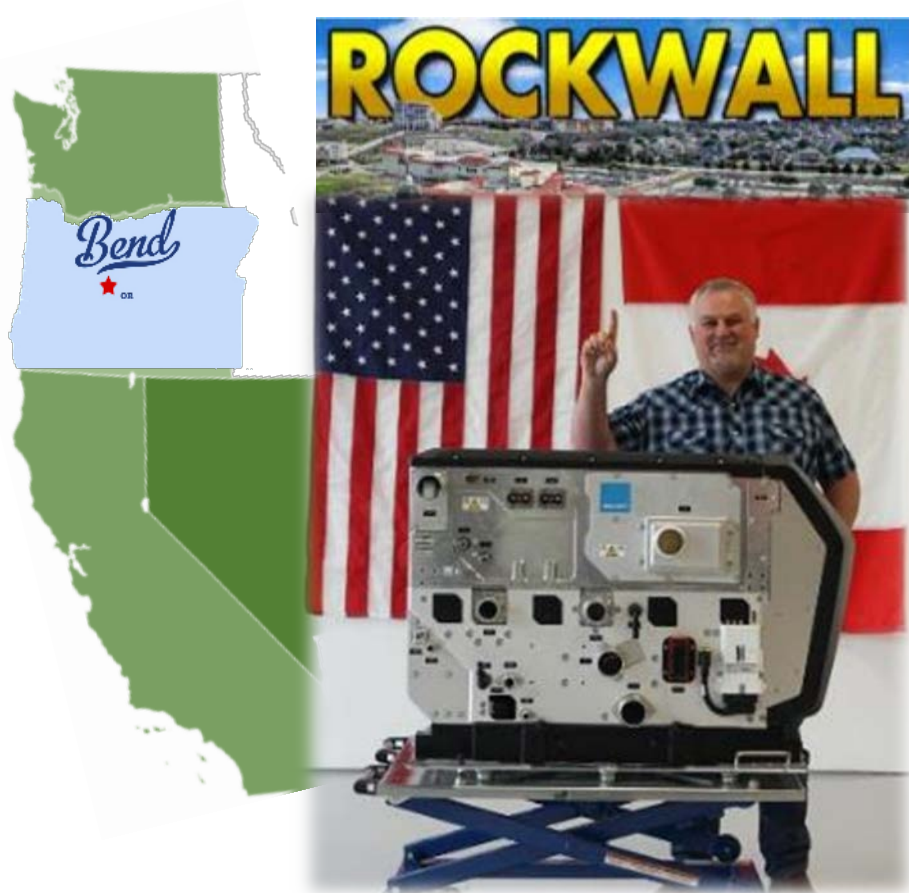
Market Development Manager, Ballard

# Ballard by the numbers





## Ballard newsflash



Ballard secures USD \$40m DOE funding to help build Gigafactory for fuel cell development in Rockwall, Texas

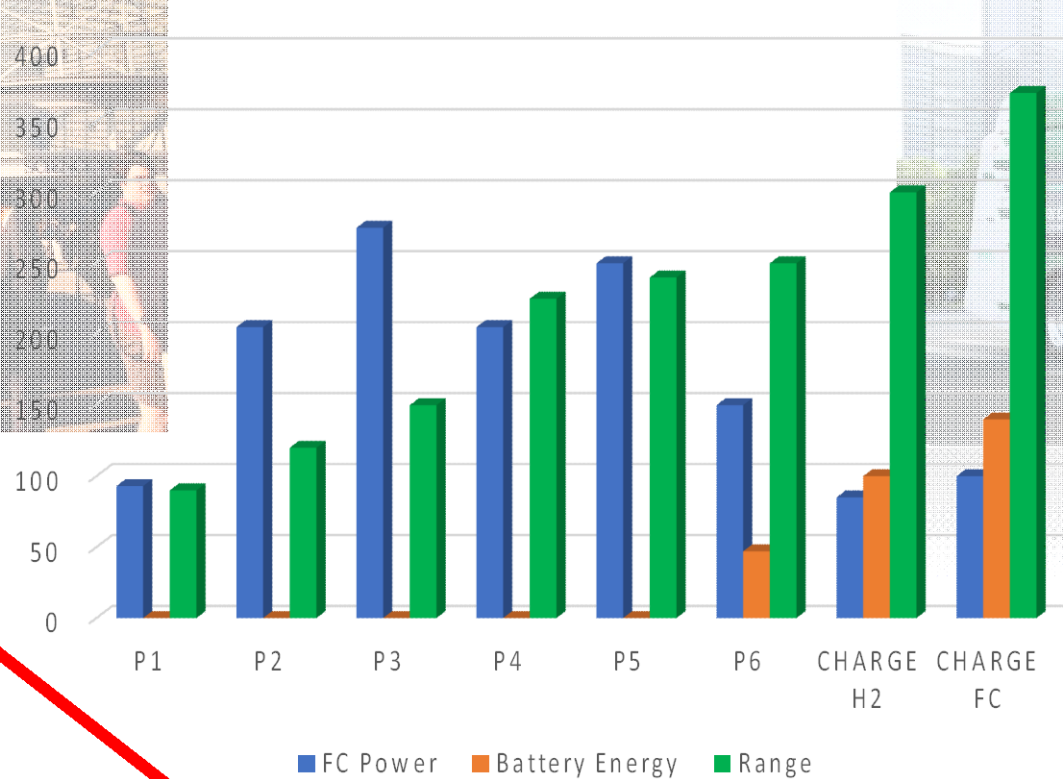


Ballard announces USD \$54m of additional funding support for Gigafactory – through investment tax credits courtesy of the Inflation Reduction Act



Ballard to power 1,000 fuel cell electric buses with Solaris in Europe – the biggest order in the company's history

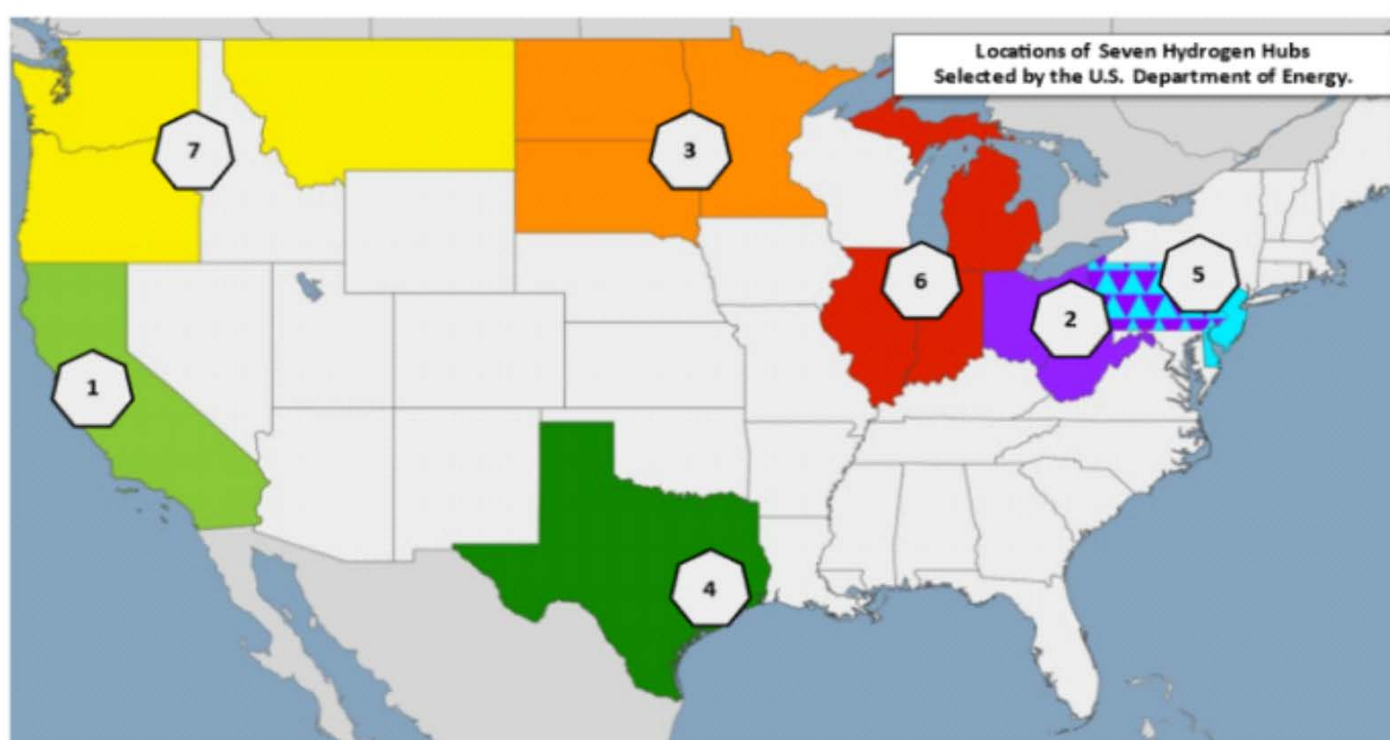
# FCEBs: Three decades of continuous evolution





# Seven Hydrogen Hubs selected by the DoE

“A network of clean hydrogen producers, potential clean hydrogen consumers, and connective infrastructure located in close proximity.”



*Air Liquide is identified in six of the seven Hydrogen Hubs*

Hub Projects Selected by the Department of Energy	States	Funding
1 Alliance for Renewable Clean Hydrogen Energy Systems	CA	Up to \$1.2 billion
2 Appalachian Regional Clean Hydrogen Hub	OH, PA, WV	Up to \$925 million
3 Heartland Regional Hub	MN, ND, SD	Up to \$925 million
4 HyVelocity Hub	TX	Up to \$1.2 billion
5 Mid-Atlantic Clean Hydrogen Hub	DE, NJ, PA	Up to \$750 million
6 Midwest Alliance for Clean Hydrogen	IN, IL, MI	Up to \$1 billion
7 Pacific Northwest Hydrogen Hub	MT, OR, WA	Up to \$1 billion

## The questions: Road to FCEB adoption





# The funding dialogue

## *Where do I start?*

Search out Funding Opportunities

Climate Mitigation Plans

- City /Region Based Plans
  - The consultants
    - Drive the results and actions
    - Infrastructure Upgrades needed at the City to support deployments
- Who are the key players to discuss your plans
  - Fire Department, emergency services, planners, commissions
    - Partners when applying for funding
    - Contributes to the outcomes



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## Big planning and decision making



## Training, safety program and staff development

- H2 Hydrogen Tools – Resources
- First Responders Training and Learning – Training Guides
- University of Houston
- Centre for Hydrogen Safety
- DOE – Hydrogen – for Code Officials – text (Office of Energy Efficiency and Renewable Energy – Training Overview – The Centre for Grid Engineering and Education (H2 Edge))
- Various Bus Associations and Specialized Working Groups





## Funding resources to assist in your FCEB journey

- [Energy Financing Program](#)
- [Clean Hydrogen Electrolysis Program](#)
- [Tribal Energy Financing Program](#)
- [FEMA - Intercity Bus Security Grant Program](#)
- [Sustainable Cities Grant/Complete Streets Act](#)
- [The Summit Foundation Clean Cities & Communities](#)
- [FY24 VTO Technology Integration](#)
- [Prioritization Process Pilot Program \(PPPP\)](#)
- [Zero-Emission Technology Deployment Competition](#)
- [Communities Sparking Investment in Transformative Energy](#)
- [Vehicles Technologies Office Research & Development Funding Opportunity Announcement](#)
- [Charging & Fueling Infrastructure \(CFI\) Grant Program](#)
- [Congestion Mitigation & Air Quality Improvement \(CMAQ\)](#)
- [Federal Lands Access Funding \(FLAP\)](#)
- [Voluntary Airport Low Emission \(VALE\) Programs](#)
- [Environment Protection Agency \(EPA\)](#)
- [Diesel Emission Reduction Act \(DERA\)](#)
- [Federal Justice 40 Initiative](#)
- [Office of Energy & Efficiency & Renewable Energy \(EERE\)](#)
- [Enhanced Mobility of Seniors & Individuals with Disabilities](#)
- [Transit Workforce Center](#)
- [Department of Transportation](#)
- [Database of State Incentives for Renewables & Efficiency](#)

These sources are recommendations only and will require additional research and considerations for your project specific



# Applying for Low-No Grants for FCEBs



**Sydney Krueger**

President, Krueger Transit Consulting &  
Sales Manufacturers' Representative for Ballard Power  
Systems in the US

# 2024 Low-No Program Application Basics

## FTA support to decarbonize transit bus fleets

- Low-No and Bus and Bus Facilities (B&BF) awarding \$1.5BN this year!
- Once again, the B&BF program opens **at the same time!**
  - ZEBs and infrastructure qualify under the Clean Air Action Plan
  - In 2021 over **\$100M** of \$414M from B&BF went to **zero-emission buses** - **1/3<sup>rd</sup>** of that to hydrogen and fuel cell electric buses!
- Applicants **STRONGLY** encouraged to submit the **same application TWICE** - once for Low-No, once for B&BF
- Awards expected in the range of **\$5M-\$30M** \***North County Transit in San Diego was awarded \$29M last year for their FCEB program!**

Applications are due by 11:59pm EST on **April 25<sup>th</sup>, 2024!**

Award announcement no later than July 9<sup>th</sup> 2024

Awards available for obligation for 3 years, until Sept. 30<sup>th</sup>, 2027

Instructions for applying can be found [here](#)



# FTA Hydrogen Fuel Cell Electric Bus Awards



# NEW in Low-No 2024

## Administration Priority: Reduction of Vehicle Customization

Vehicle Projects

**\*UPDATED\*** **\*FTA intends to weigh this priority consideration greater than others\***

**FTA will give priority consideration to applications that identify their intent to...**

1. Use a joint procurement with at least 3 total transit agencies for a common specification; **OR**
2. For low- and no-emission projects where the applicant proposes a vehicle original equipment manufacturer (OEM) as a project partner; Commit to using a standard vehicle model without customization
  - Applicants must attach a letter from the vehicle OEM that certifies the applicant will use the OEM's standard model
  - See NOFO Section E.1.e and Section C.1 for information on the partnership provision

FTA will evaluate each project on its own merits but may select a participant that indicates its intent to pursue a joint procurement based on the selection of other potential participants in the procurement.

## Streamlined Tribal Application Requirements (Section E.1)

**\*NEW in FY 2024\***

Applications from tribes requesting less than \$1 million have streamlined application requirements:

## Administration Priority: Contract Terms

Vehicle Projects

**\*NEW IN FY 2024\*** **\*FTA intends to weigh this priority consideration greater than others\***

**FTA will give priority consideration to applications that identify their intent to...**

1. Use advance payments; **OR**
2. Use progress payments

For applicants that identify their intent to use advance payments, FTA will not require securitization beyond the advance payment amount.

*For vehicle applications that request at least twenty 40-foot zero-emission buses: Identify greater emission reductions*

- Applicants must use the FTA Bus and Low-No Emission Reduction Calculator which can be found [here](#), attach the file, and include the amount of annual reductions per vehicle in the supplemental form

## Section I: Application Basics

### FCEB Success Tip:

Note that applications can be submitted to both Low-No and B&BF programs **for the same project**.

However, the application package needs to be submitted two times – once to the Low-No program, and designated as such, then again to the B&BF program.

**The same packet must be submitted for both programs, no differences!**

### FY 2024 Low or No Emission Grant Program and the Grants for Buses and Bus Facilities Competitive Program Applicant and Proposal Profile

Is this a resubmission due to an invalid/error message from FTA? ☐ Yes ☒ No

Is this application for: ☐ Low-No (FTA-2024-002-TPM-LWNO)  
(If applying to both programs, please check both boxes) ☐ Buses and Bus Facilities (FTA-2024-003-TPM-BUS)

Note: If applying to both programs, applicants should enter information for both programs on this form but **must** submit the application package, including the Supplemental Form and attachments, to **each** respective Opportunity ID on Grants.gov for each program. That is, complete one form, but submit it to both programs in Grants.gov.

#### Section I. Applicant Information (NOFO Section C.1)

Organization Legal Name:

FTA Recipient ID Number:

Organization Chief Executive Officer:  
(name and direct phone number)

Applicant Eligibility: ☐ Direct or Designated Recipient  
☐ State  
☐ Local Governmental Authority  
☐ Federally Recognized Indian Tribe

Is the Federal requested amount less than \$1 million? ☐ Yes ☐ No

Project Location  
(as of 2020 Census): ☐ Large Urbanized Area (200,000+ people)  
☐ Small Urbanized Area (50,000-199,999 people)  
☐ Rural (less than 50,000 people)

Description of Service Provided and Areas Served:



## Section II: Project Types

### FCEB Success Tips:

1. Remember your gov affairs group or outside gov support staff can help from top down to get Congressional support
2. **Project Title:** If you've been awarded for FCEB before FTA likes to see and fund program expansion Title i.e. "Hydrogen Fuel Cell Bus and Hydrogen Fueling Station Expansion".
3. **Executive Summary:** Explain that you are seeking funding for a certain number of FCEBs and associated fueling infrastructure to replace aging diesel, CNG, etc. units that are beyond their useful life.

*Hydrogen fuel cells represent the next generation of zero-emission transit technologies and these buses **provide the solution for the longer operational ranges needed for coverage on all our transit routes and faster refueling.** This growth will improve our agencies' services by **addressing the limitations with battery technologies, broaden our portfolio of alternative vehicles,** and continue agencies' commitment towards providing the most efficient services responsibly.*

### Congressional Districts (Project Location)

Congressional District

Insert Item

### Section II. Project Information (NOFO Section C.3 and D.2.6)

### About the Project

Project Title:  
(descriptive title of this project)

Project Executive Summary:

Propulsion Type (note: for facility projects, please select the predominant propulsion type used at the facility):

- ☐ Battery electric\*
- ☐ CNG
- ☐ Diesel
- ☐ Diesel-electric hybrid
- ☐ Gasoline
- ☐ Hydrogen fuel cell\*
- ☐ Other

If Other, specify:

\*Battery electric vehicles, hydrogen fuel cell vehicles, or facility projects for those types of vehicles are considered zero-emission projects; the applicant must address whether it is using 5% of the requested zero-emission federal funding for workforce development in the Project Budget section and include a Zero-Emission Fleet Transition Plan.

# Section III: Demonstration of Needs, Benefits

## FCEB Success Tip:

How will the project address **an unmet need for capital investment**?

For **NEED**: What substantiating evidence can be provided to support that? **Buses being replaced are listed here with age (miles), condition and performance. Condition of the facility, its age, condition and TAM score are listed here as well.**

Make sure you state that this is a consistent **Long Term Fleet Management Plan** and that the project conforms to **FTA's spare ratio guidelines**.

## For Benefits Low-No Only:

Benefits are energy consumption, harmful emissions, and carbon emissions. This can be quantitative - such as tons of CO<sub>2</sub> averted; or qualitative - such as a description of affected neighborhoods and pollutants removed. Here you can use the **FTA carbon emissions tool**.

Talk about your strategy to replace your **aging buses** with alternative fuel buses to **support region's air quality and sustainability policies**. Project will allow you to continue to take next crucial step in minimizing GHGs and other harmful air pollutants from the transit fleet. FCEB buses that have a range comparable to the diesel hybrid bus range will allow RTC to achieve its sustainability policies and goals to improve a region's air quality.

## For B&BF Only:

Project benefits should advance the goals of the President's January 27, 2021 Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.

## Section III. Evaluation Criteria (NOFO Section E.1)

\*\*\* Address each of the evaluation criteria as described in the Notice of Funding Opportunity.\*\*\*

### Demonstration of Need

### Demonstration of Benefits

Note: If applying to both programs, be sure to select "yes" and provide a response to both questions below.

Is this application for the Low-No program? ☐ Yes ☐ No

Please describe how the proposed project will support the statutory requirements of the Low-No Program (See 49 U.S.C. 5339(c)(5)(A)):

Is this application for the Buses and Bus Facilities program? ☐ Yes ☐ No

Please describe the benefits of the proposed project:

# Local Planning & Budget

## FCEB Success Tip:

### Planning and Local/Regional Prioritization

How is the proposed project consistent with local and regional long-range planning and local gov priorities?

Reference your Fleet Management Plan, Ozone Advance Action Plan, Sustainability Plan and Regional Transportation Plan.

Reference that your congressional delegation supports your zero-emission project; attach a letter of support jointly signed by your Senators and Congressman and other letters of support here.

### Local Financial Commitment

*When will funds be secured and what's the source?*

Detail how much in local match you are contributing and whether it is from sales tax revenue or other local sources. Mention that you have a stable, dedicated source of transit funding for the local match and how it is derived.

#### Planning and Local/Regional Prioritization

#### Local Financial Commitment

Matching Funds Amount:

Provide information and supporting documentation on the source and availability of the local match amount, other Federal funds, and other funds noted in the Project Budget.

#### Project Budget

Description	QTY	Federal Amount Requested	Local Match Amount	Other Federal Funds	Other	Total Cost
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Insert Item"/>		Total: <input type="text"/>				

Does the project budget include funding for workforce development activities or training at the National Transit Institute (NTI)? *Note: if selecting "yes", please ensure a unique line item is listed in the project budget above for this activity.* ☐ Yes ☐ No



# Workforce Development & Project Scalability

## FCEB Success Tip:

Ballard can provide a comprehensive training package to support your application. Please contact us for more information.

**Tip:** To allow the FTA to scale back your project to 50% less buses or remove redundancy from your fueling station if necessary to still be awarded a portion of the project.

For any zero-emission project components (vehicle, facility, or equipment), is 5% of the Federal request budgeted for workforce development? **Note: if including any request for workforce development activities, please ensure a unique line item is listed in the project budget above.** ☐ Yes ☐ No

If no, an explanation must be provided for the project to be eligible.

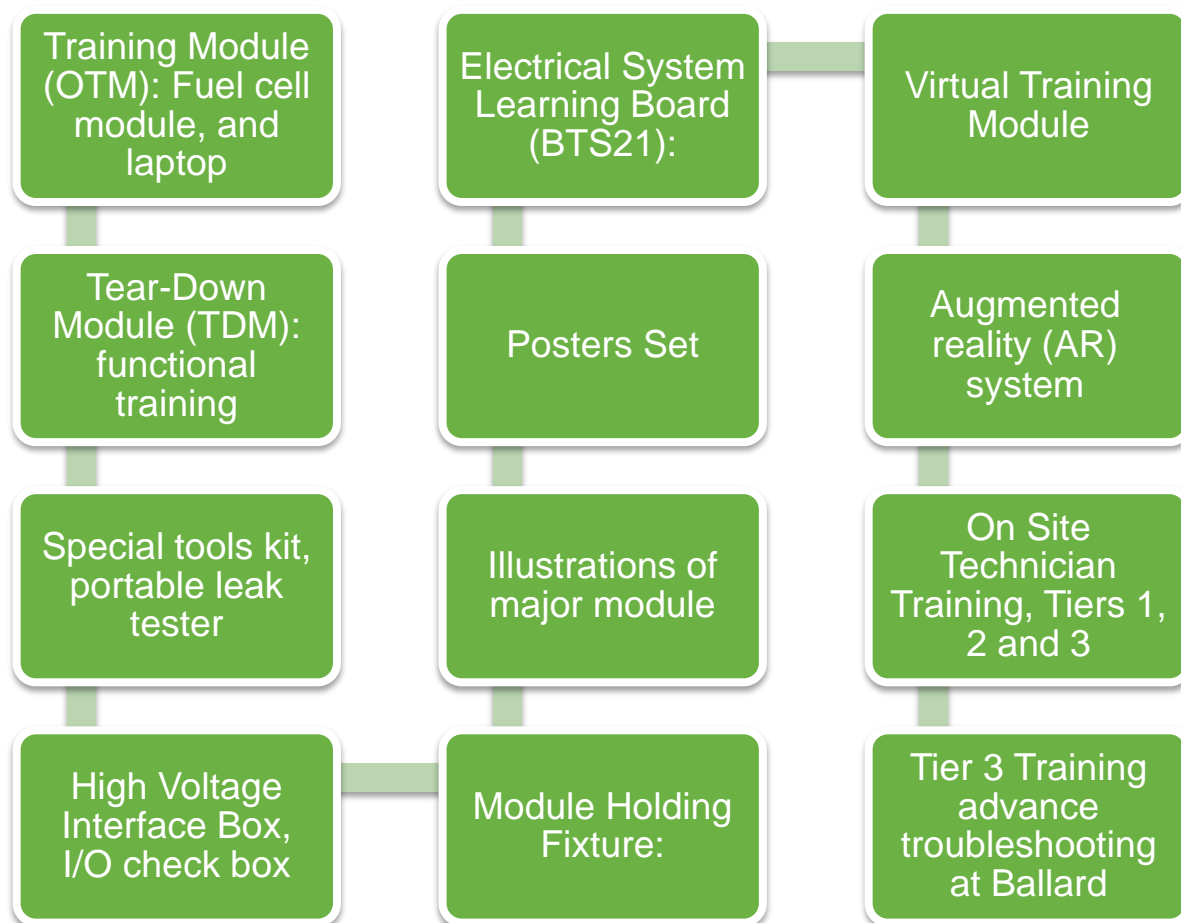
## Project Scalability

Is project scope scalable? ☐ Yes ☐ No

If Yes, specify minimum Federal funds necessary:

Provide explanation of scalability with specific references to the budget line items above:

# Fuel Cell Power Module Training Package Example for Low No



# Implementation Strategy and Timeline

## FCEB Success Tip:

Discuss:

- Who your **partners are**, how many buses you are deploying, what kind of station you are building
- How **project funds will be obligated upon execution of a grant agreement**
- **The lead time for the project, e.g. 18-25 months**, that the purchase of vehicles will qualify for a categorical exclusion, and the project will be included in the State Transportation Improvement Program

Project Timeline (Please be as specific as possible)	
Timeline Item Description	Timeline Item Date
Grant Award	07/01/2024
Kick-Off Meeting	08/15/2024
Contracting and Board Approval	9/01/2024
Hydrogen Fueling Station Design	10/15/2024
30% Design submitted to local AHJ's for comment	10/15/2024
Purchase Hydrogen Fuel Cell FCEB Buses and Purchase Fueling Equipment	11/15/2024
Complete 100% Station Design and Submit for Permit	03/15/2025
Permit received	03/15/2026
Delivery of Equipment and Begin Fueling Station Construction/Fueling Equipment Installation	04/15/2026
Commissioning of Fueling Station and Delivery of FCEB Buses	6/15/2026
FCEB Buses' Acceptance Test	7/01/2026
FCEB Bus Operator and Maintenance Training	7/15/2026

Detail the timeline for the project assuming a grant award of **July 2024 deployment 24 months later**. **Once awarded, the project team will commence kick-off meeting and the contracting phase will begin**. Talk about how you and your PM will develop a detailed Project Management Plan to provide a comprehensive baseline for efficient and timely execution of the project.

# Partnership Provision & Tech/Legal/Finance Capacity

## FCEB Success Tip:

### Partnership Provision:

For Low-No or Low-No + B&BF ONLY: **Allows specific project partners such as equipment providers fueling providers and project developers to be named** and not require a competitive bidding process.

I.E. "We are partnering with New Flyer of America Inc., Gillig, Ballard Power Systems, Air Liquide and Krueger Transit Consulting (KTC) for this project."  
> Include a paragraph on each partner - the stronger the team the stronger the application!

### Technical, Legal and Financial Capacity

Does the applicant have the know-how to carry out the proposed project? What technical, legal or financial capacity issues exist?

### Partnership Provision

Note: The partnership provision is only applicable to low- or no-emission projects that are applying to the Low-No Program or both the Low-No Program and Bus Program. Projects applying only to the Bus Program are not eligible to use the partnership provision. See NOFO Section C.1.

Is this application a partnership between an eligible applicant and one or more partners? ☐ Yes ☐ No

If yes, please list project partners

Project Partners

Insert Item

Provide a description of the partner(s) qualifications:

### Technical, Legal, and Financial Capacity



# Section IV: Procurement Methods & Contract Terms

## FCEB Success Tip:

OEMs are looking at level of customization on previous builds and will help generate standardization from the last build. OEMs are now providing specific language with how this will work. **Make sure to ask your OEM of choice for this letter** and include that language in your application!

Also if you are writing a **joint spec** with other agencies this is encouraged to allow advance payments.

Explain that you will utilize state procurement contracts as authorized under the FAST Act to purchase zero-emission FCEBs in order to reduce customization.

## Section IV. Additional Considerations (NOFO Section E.2)

### Procurement Methods that Reduce Vehicle Customization

Will this project procure vehicles? ☐ Yes ☐ No

If yes:

Will this project use a joint procurement with at least 3 total transit agencies for a common specification? ☐ Yes ☐ No

Will this project use the standard model from a vehicle original equipment manufacturer without customization? ☐ Yes ☐ No

Note: This option is only applicable to Low-No and Joint Bus/Low-No applications.

If yes to either question above, please identify other partners if applicable, and how the procurement approach will reduce vehicle customization:

### Contract Terms

Will this project procure vehicles? ☐ Yes ☐ No

If yes:

Will this project use advance payments? ☐ Yes ☐ No

Will this project use progress payments? ☐ Yes ☐ No

If yes to either question above, discuss the proposed approach and how the project's proposed contracting terms will expedite payments to vehicle original equipment manufacturers (OEMs):

# Climate Change & Emissions Reduction Calculation

## FCEB Success Tip:

Additional Considerations sections support several Executive Orders and initiatives involving climate change, environmental justice, racial equality, quality jobs and workforce engagement.

These entries are used to prioritize high-scoring applications when funding has been exceeded.

Bus procurement would only apply for 20+ buses.

### Climate Change and Sustainability

#### Facility Projects

Is this a facility project that will strengthen the resilience of the transit system to climate change? ☐ Yes ☐ No

If yes, describe:

#### Bus Procurements

Is this application requesting 20 or more 40-foot zero-emission buses? ☐ Yes ☐ No

If yes, input the amount of emissions reductions from the FTA Bus and Low-No Emissions Reduction Calculator:

Reduction Calculator:

MTCO<sub>2</sub>eq per vehicle per year

# Full Fleet Transition Workforce Transition

## FCEB Success Tip:

Explain how your agency has a goal of transitioning to a 100% zero-emission transit fleet by \_\_\_\_ date.

Explain how the proposed project would increase the ZEB percentage of the fleet to \_\_\_\_%.

Idea to explain how your agency will develop a Coach Mechanic Zero Emission Apprenticeship Program. This apprenticeship program will be jointly sponsored by the agency, your operator and the Teamsters union. This will be a four-year program that requires Apprentice Mechanics to pass two training classes per year and pass evaluations conducted by Maintenance every six months. Apprentice Mechanics will be required to complete 200 hours of classroom instruction and 2,000 hours of training.

### Full Fleet Transition

Is this a zero-emission project?

☐ Yes ☐ No

Does the project support the conversion of the applicant's entire fleet to zero emission?

☐ Yes ☐ No

If yes, describe how and reference relevant content in the zero emission fleet transition plan:

### Zero-Emission Fleet Transition Plan - Workforce Involvement

Is this a zero-emission project?

☐ Yes ☐ No

Were workforce representatives consulted on all aspects of the workforce plan?

☐ Yes ☐ No

If yes, please describe which workforce representatives were consulted, and how they were consulted.

Is there a plan to provide or connect workers to supportive services (e.g., childcare and transportation assistance)?

☐ Yes ☐ No

If yes, please describe the supportive services that will be provided, as well as the plan to provide or connect workers to these services.

Does the workforce plan include at least one of the following strategies:

Use of labor-management partnerships for training?

☐ Yes ☐ No

Use of registered apprenticeship training to support skilling in incumbent and entry-level workers with focus on using registered apprenticeship to advance Black, Hispanic, Asian American, Native Hawaiian and Pacific Islanders, tribal women, and other groups facing systemic barriers to employment that may be underrepresented in the current workforce, especially in higher-paying jobs? If yes, please describe below.

☐ Yes ☐ No

If yes, please describe how the project will use registered apprenticeships that focus on advancing groups facing systemic barriers to employment.

## FCEB Success Tip:

Explain how moving to a ZEB fleet requires training employees to keep pace with changing technologies.

Highlight how you will provide operational training for your bus operators, mechanics, and other support employees.

Highlight how you will follow an apprenticeship model of learning while doing and will include a five-week technical (hands-on) fuel cell training program including classes on high voltage, energy storage systems, powertrain and fuel cell. This will include virtual and augmented reality.

### Creating Good-Paying Jobs

Is this a facility project? ☐ Yes ☐ No

Is there a commitment to registered apprenticeship positions and use of apprentices on the facility project? ☐ Yes ☐ No

If yes, please describe how the facility project will use apprentices and registered apprenticeship positions.

Will the facility project use workforce development programs that have supportive services? ☐ Yes ☐ No

If yes, please describe partnerships with workforce development programs that have supportive services.

Is the total facility project cost (excluding vehicles, chargers, and equipment) over \$35 million (including all funding sources)? ☐ Yes ☐ No

If yes:

Is there a project labor agreement? ☐ Yes ☐ No

Is there a commitment to participating in the U.S. Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) Mega Construction Project Program if selected by OFCCP (see F.2.e. Federal Contract Compliance)? ☐ Yes ☐ No



## FCEB Success Tip:

FTA will give priority consideration to applications that:

1. Identify disadvantaged communities in the project area that are impacted by the project using the Climate & Economic Justice Screening Tool (CEJST) (<https://screeningtool.geoplatform.gov/>) - Explain how operational savings resulting from this facility will be reinvested back into the transit system to improve service frequencies and the quality of the trip experience for customers.

2. Identify how the benefits of the project will reverse or mitigate the burden of disadvantage and how the project will address challenges and accrue benefits.

3. Provide evidence of strategies used in the planning process to seek out and consider the needs of those disadvantaged by existing transportation systems, including public and community engagement.

### Justice40

Does the project impact one or more Justice40 population? ☐ Yes ☐ No

Identify the disadvantaged communities that are impacted by or are expected to receive benefits from the project:

Did you use the Climate & Economic Justice Screening Tool (CEJST) to identify these communities? ☐ Yes ☐ No

Identify and discuss the expected benefits of the project for disadvantaged communities, and demonstrate how the project will address challenges:

When planning the project, did you seek out and consider the needs of disadvantaged communities (e.g., by using public and community engagement)? ☐ Yes ☐ No

If yes, describe the strategies used in the planning process to seek out and consider the needs of disadvantaged communities:

# Application Basics: Zero-Emission Transition Plans

## FCEB Success Tip:

Zero-Emission Fleet Transition Plans are **not** accepted if “draft”, so internal approvals may be needed.

Plans can be as short as one or two pages, so for faster internal approval, simple is better!

The Zero-Emission Fleet Transition Plan must be a separate document provided as an attachment to the application (there is no form).

**All SIX elements must be present and clearly labelled**

Ballard’s FCEB Low-No Success Guide provides ample information to cover FCEB and hydrogen specific elements for your agency’s plan.



# Sample Budget For 9 Bus Project with a 50 bus Liquid Hydrogen Fueling Station Capable of Scaling up to 100 buses

## Example of a Project Budget for Grant

Description	Qty	Total Cost	Federal ask	Local match
RMS Facility Modifications Design/ Build	1	\$1,750,000	\$1,575,000	\$157,500
40' Hydrogen fuel cell buses	9	\$13,410,000	\$11,398,500	\$2,011,500
Utility upgrades	1	\$400,000	\$360,000	\$40,000
Project Management, Reporting, KPI's, etc	1	\$540,000	\$432,000	\$108,000
Hydrogen Liquid Fueling Station Design/ Build	1	\$6,500,000	\$5,850,000	\$650,000
Hydrogen Mobile Fueller- leased for 6 months	1	\$700,000	\$630,000	\$70,000
Training	1	\$1,110,960	\$888,768	\$177,754
<b>Total</b>	n/a	<b>\$24,410,960</b>	<b>\$21,134,268</b>	<b>\$3,214,754</b>

\*Maintenance facility upgrades range from \$50K \$350K per maintenance bay

\*Santa Cruz, Ca was awarded \$20M in FTA funds and North County \$29M

## Important FTA Links

- FTA funding opportunities: <https://www.transit.dot.gov/funding/grants/notices>
- FY24 Bus/Low-No Notice of Funding Opportunity: <https://www.transit.dot.gov/notices-funding/low-or-no-emission-and-grants-buses-and-bus-facilities-competitive-programs-fy2024>
- Application Information: <https://www.grants.gov/> (search for “Low-No” or “Buses and Bus Facilities”)
- Low-No Program Webpage: <https://www.transit.dot.gov/funding/grants/lowno>
- Buses and Bus Facilities Program Webpage: <https://www.transit.dot.gov/bus-program>
- FAQs: <https://www.transit.dot.gov/funding/grants/low-no-and-buses-and-bus-facilities-faqs>
- FTA Bus and Low-No Emissions Reduction Calculator: <https://www.transit.dot.gov/funding/grants/ftabus-and-low-no-emission-reduction-calculator>

Bus/Low-No NOFO Email: [FTALowNoBusNOFO@dot.gov](mailto:FTALowNoBusNOFO@dot.gov)

**GRANTS.GOV Applicant Support 1-800-518-4726 [support@grants.gov](mailto:support@grants.gov)**



# Grant Funding Success: RTC Reno



**James Gee**

Director of Public Transit and Operations at Regional  
Transportation Commission of Washoe Co



## REGIONAL TRANSPORTATION COMMISSION

*Metropolitan Planning • Public Transportation & Operations • Engineering & Construction*

Metropolitan Planning Organization of Washoe County, Nevada

# Fuel Cell Electric Bus Webinar Series





# RTC Overview

## RTC is MPO, Transit Authority, and Regional Road Engineering / Construction for Reno NV.



### Public Transportation

- RTC RIDE (fixed-route service)
  - 21 routes (2 BRT)
  - 15,000 trips a day
  - 65 buses (23 BEB)
- RTC ACCESS (paratransit)
  - ADA service for people whose disability prevents them from using fixed-route transit service
- RTC FlexRIDE
  - Curbside-to-curbside transit service available in select areas of Sparks/ Spanish Springs, Somerset/Verdi, and in select areas of North Valleys
- RTC VANPOOL
  - 335 vans
- Fuels used
  - Battery Electric, Hybrid (biodiesel-battery), CNG, Hydrogen Fuel Cell



# Technology Overview



- Culture of innovation
  - Vehicles, software, services
- Early adopter of BEB buses
- Two high frequency BRT routes
- Strong track record of using federal grants





# Why Hydrogen?



- Vehicle range / Scheduling
  - 90m BEB (125-150m newer generation)
  - 300m HFCE
  - 400m diesel hybrid
  - Increasingly difficult to schedule BEB and maintain 1:1 replacement
- Scalability
  - Generally, HFCE buses have more upfront cost and less incremental costs than BEB
- Fueling time
  - 7-10 minutes vs. overnight charging (4 to 5 hours)



## RTC Plan - Funding



- 2021 Federal Low-No grant
  - 2 buses
  - Fueling infrastructure for up to 10 vehicles (5 per hour)
  - \$6,800,000
- 2023 Federal Low-No Grant
  - 6 buses
  - Fueling expansion for up to 50 vehicles (10 per hour)
  - VR training platform
  - \$8,800,000
- Facility to be located at our current ACCESS/Facility Maintenance Sutro facility



## Low-No Grant Advice



- Promote previous successes
- Be a sure bet
- Ask for help
- Make a business case
- Make a commitment, not a pilot
- Line your partners up and make a strong team
- Get feedback before and after





## What's Next?



- First vehicles received
- Fueling facility finished later this year
- Battery reuse study
- Long term – combined facility
- Mixed fleet of hydrogen and electric moving forward



Thank You!

**Jim Gee**  
**Director of Public Transit**

Regional Transportation Commission  
of Washoe County

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[rtcwashoe.com](http://rtcwashoe.com)  
Your RTC. Our Community.





- What are the steps for successful onboarding of your staff when it comes to selling a mode of propulsion they may have very little prior experience of?
- When applying for funding, what is the biggest hurdle to allocating the operational plan budget forecast to support the implementation of a FCEB fleet?
- What are the three most critical things to consider when applying for funds to support fueling infrastructure?
- What do you find works the best for staff training and support when applying for funding? Is it setting aside a dedicated group, or do you look at the whole team approach?
- You have the go ahead - now what? What are the fundamental steps to planning the FCEB project?





# Funding, Consulting & Information Resources



**Timothy Sasseen**

Market Development Director, Ballard

# FCEB Resources & Funding Beyond Low-No

## U.S. Funding Resources

- [DSIRE](#)
- [CMAQ](#)
- [H2 Matchmaker](#)

## California Funding Resources

- [HVIP](#)
- [EnergIZE](#)
- [CalSTART Funding Finder](#) (California Only)

## Fuel Cell Electric Bus Info

- [California Hydrogen Business Council – FCEB info page](#)
- [NREL FCEB Evaluations](#)
- [USHA H2NET](#)
- [H2tools.org](#)
- [Ballard web resources](#)
- [Sandia Labs – Codes and Standards Tools](#)

The DSIRE logo, with "DSIRE" in bold black sans-serif font and a registered trademark symbol.

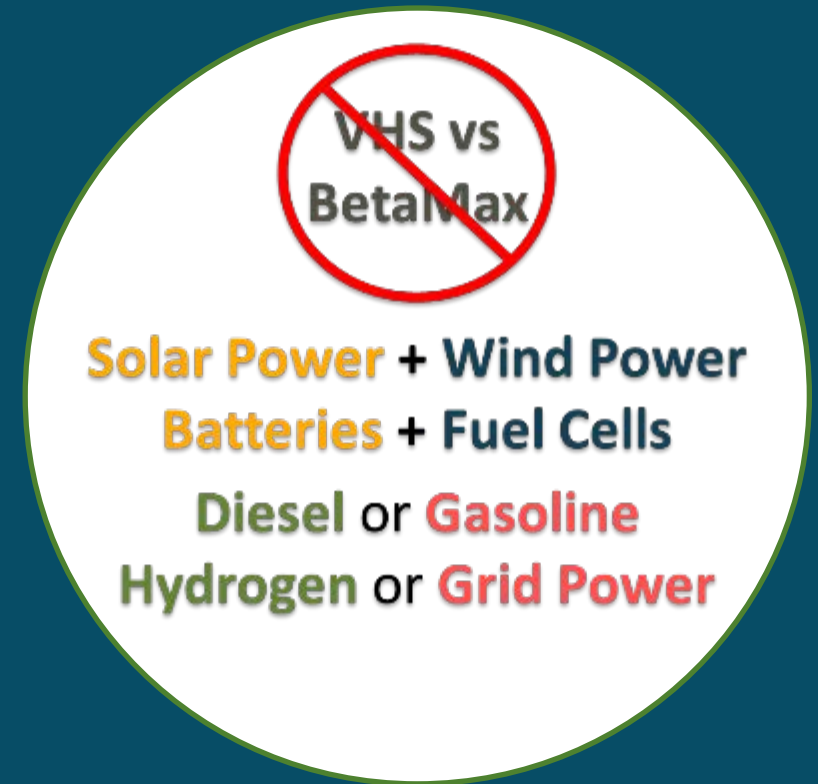
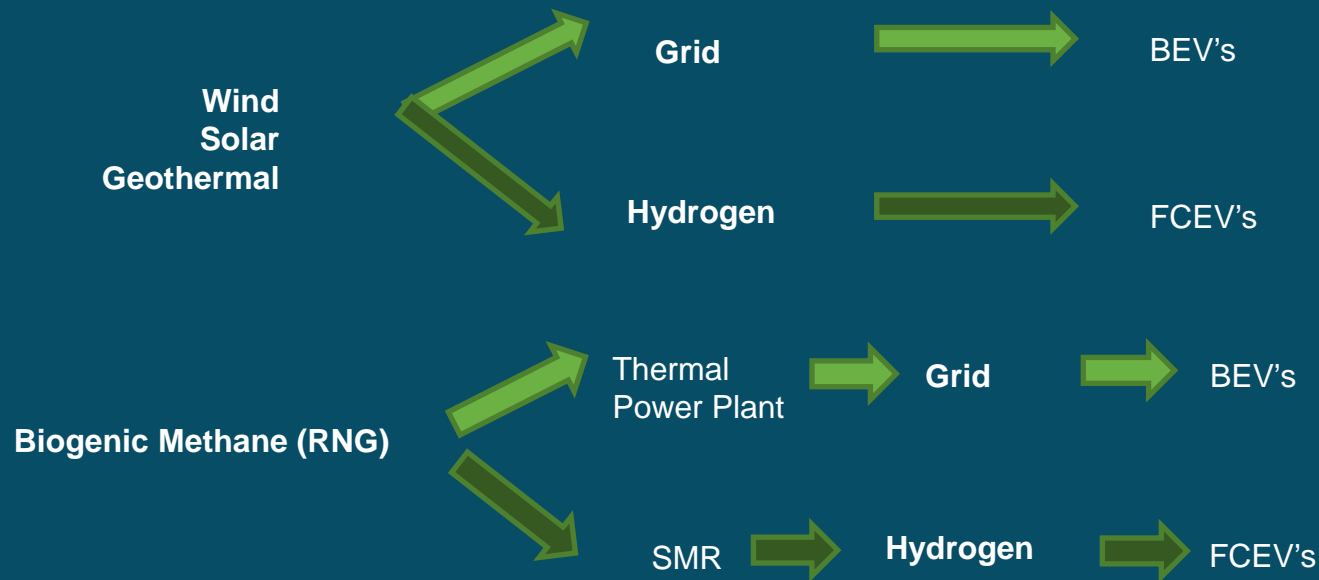
Advanced Vehicle Technology and Infrastructure  
**Funding Finder Tool**



Hydrogen Means Business in California!

# Carbon-Free Renewable Power Depends on the SOURCE

Carbon content is decided before the electron hits the grid,  
or hydrogen enters the pipe



## H<sub>2</sub> is Here 2 Help!



# Hydrogen Fuel Cell Bus Council

Interested in touring a transit agency with a hydrogen fuel cell fleet?

**Contact the Hydrogen Fuel Cell Bus Council at [info@hfcbuscouncil.com](mailto:info@hfcbuscouncil.com).**

The Council can connect you with its member agencies to facilitate a tour.

Join the Council to learn more about hydrogen fuel cell fleets and **advocate for Federal resources dedicated to the zero-emission transition!**

Membership is available to transportation agencies, engineering firms, manufacturers, design consultants, fuel suppliers, and any other entity in the hydrogen sector.





# Webinar Q&A



**Tim Sasseen**

Market Development Director, Ballard



**Kim Leach**

Market Development Manager, Ballard



**Sydney Krueger**

President, Krueger Transit Consulting &  
Sales Rep for Ballard in the US



**James Gee**

Director, Public Transit & Operations,  
Regional Transportation Commission  
of Washoe Co

**Q&A Moderator**



# Thank you

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