

Low and Zero-Emission Vehicles and Infrastructure



ARKANSAS
ENERGY & ENVIRONMENT

Building partnerships to
advance affordable,
domestic transportation
fuels and technologies



Jason Willey

Manager of Strategic Energy Initiatives,
Arkansas Energy Office
Director,
Arkansas Clean Cities Coalition

<https://www.adeg.state.ar.us/energy/initiatives/cities>

Clean Cities Coalitions:

- Serve as forums for local stakeholders to connect and collaborate on saving energy and using affordable alternative fuels
- Provide grassroots support and resources on new transportation technologies and infrastructure development
- Support networks to help their stakeholders identify cost-effective solutions that work locally



THE CHALLENGE:
Reduce Transportation
Emissions



WHY?: The Benefits of GHG Reduction



Mitigating
Climate Change

Improved Air
Quality

Energy Security

Economic Savings

Energy Efficiency

Health Benefits



STRATEGIES
How Do We Do This?



Reduce Fuel Use

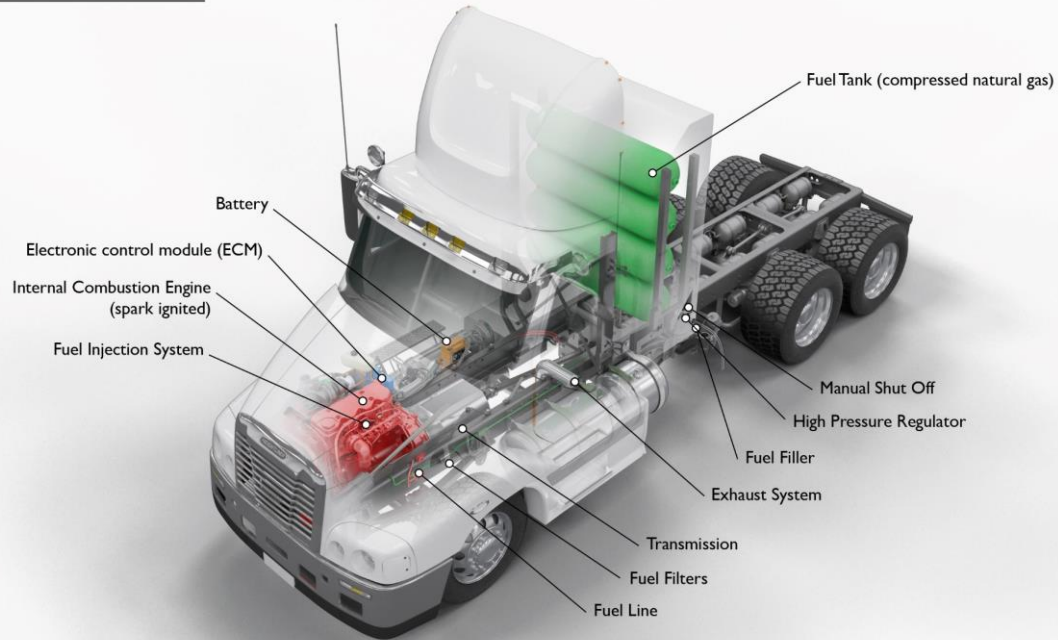


Lower Emission Traditional Fuels



Alternative Fuels

Natural Gas Vehicle



afdc.energy.gov

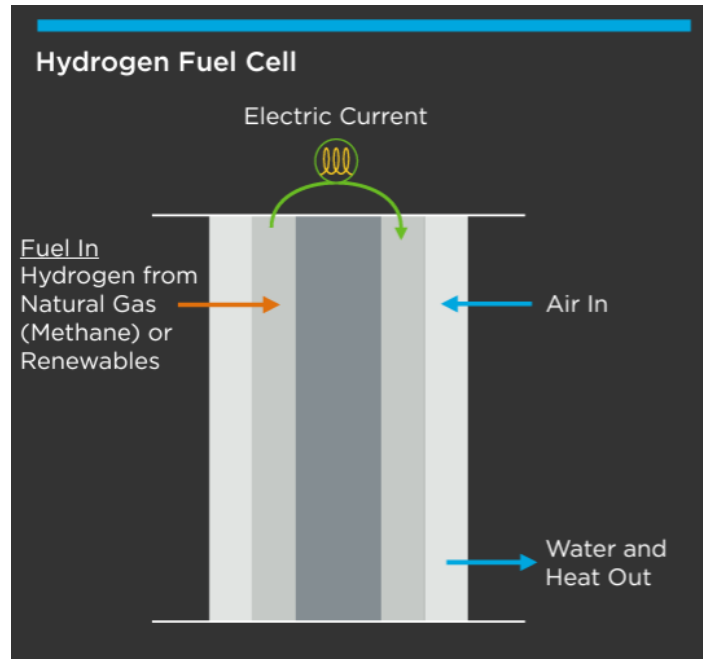
Renewable Natural Gas (RNG)

RNG Highlights

- Reduces GHG Emissions
- Refuels Rapidly
- Domestically sourced
- Scales up easily
- Familiar to consumer
- Existing infrastructure

Challenges

- Still produces some emissions
- Competes with other end-uses
- Can be hard to source
- Production is not efficient
- Vehicle Maintenance



Hydrogen Fuel Cell (FCEVs)

Hydrogen Highlights

- Creates no GHG Emissions
- Refuels Rapidly
- Approx. 300 mi. range
- Uses domestic fuel
- Greater efficiency
- Scales up easily
- Robust Federal Funding

Challenges

- The industry is in its infancy
- Fuel Cells and infrastructure are expensive to deploy
- Only available in select markets
- Generating “clean” hydrogen is tedious and expensive



Battery Electric Vehicles (BEVs)

EV Highlights

- Creates no emissions
- Uses domestic fuel
- Greater efficiency
- Fuel is cheap
- Runs quietly
- Robust Federal Funding
- Vehicle to Grid (V2G) applications



Dannar Mobile Power Station

EV Challenges

- Peak demand rates can make charging expensive
- Installing charging infrastructure can be expensive
- Charging takes time compared to other fuels
- Emissions in generation can impact GHG reductions



Obstacles To Alt. Fuel Deployment

- Outreach & Education
- Underserved & Rural Communities
- Vehicle Costs
- Up-Front Infrastructure Costs
- Operation and Maintenance Costs



Funding

FUNDING OPPORTUNITIES How Do We Pay For It?



Example Fed. Funding Opportunities

- National Electric Vehicle Infrastructure Formula (NEVI)
- Charging and Fueling Infrastructure Discretionary Grant (CFI)
- Energy Efficiency Conservation Block Grant (EECBG)
- Clean Bus Grant Program

Fuel - Use Focus

Climate Pollution Reduction Grants (CPRG)

- Flexible
- Innovative
- Address Funding Gaps
- Private-Public Partnerships

Emissions - Comm. Focus

CPRG Planning and Implementation

Questions:

- What is the emissions strategy?
- Who is responsible long-term?
- How is it supported by the public and private sector?
- How do we ensure equitable access to workforce training and other benefits?

KEEP IN TOUCH



Arkansas Energy Office

5301 Northshore Drive
North Little Rock, AR 72118
Jason.Willey@adeq.state.ar.us



WEBSITE

www.adeq.state.ar.us



@AREnergyEnvironment



@ArkansasEE



ARKANSAS
ENERGY & ENVIRONMENT