Clean Cities and Communities

Alaska Clean Cities and Communities Coalition – Innovation & Resources for Transportation

November 11, 2026

AGC of Alaska, Annual Conference

Tim Leach

Opening Questions:

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Source: GM Fleet, International, Ford

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- How much of a pain point is the maintenance on your diesel emissions control systems?
  - Diesel Particulate Filter (DPF)
  - Diesel Emissions Fluid (DEF)
  - Downtime of equipment
  - Maintenance costs







Source: YPTCC

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- Who has considered an alternative fuel vehicle?







Source: GM Fleet, Mack

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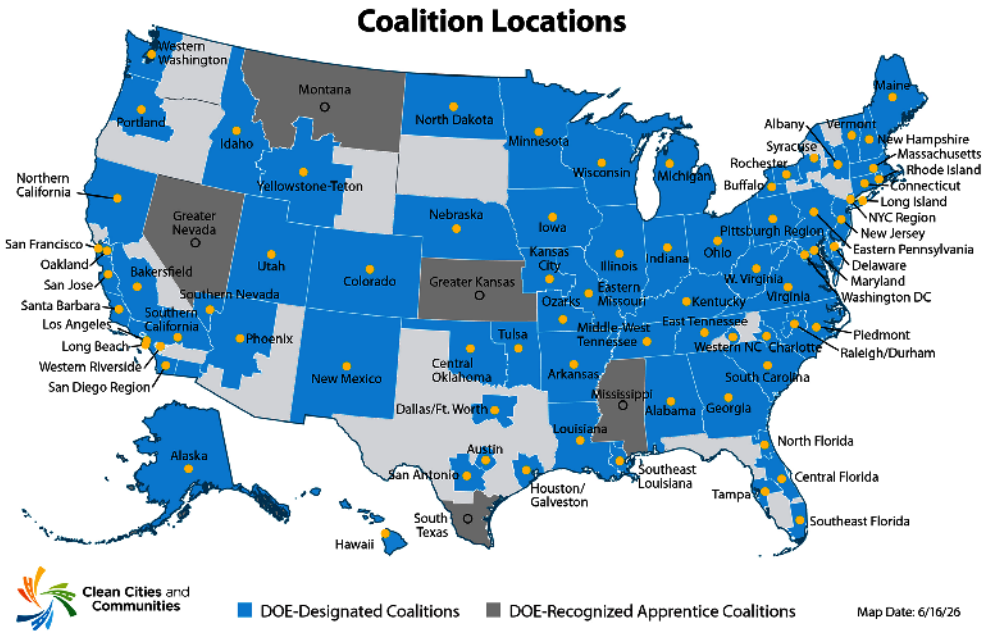
CC&C: What We Do

- Clean Cities and Communities (CC&C) is a U.S. Department of Energy (DOE) partnership to foster transportation and energy choices nationwide.
- More than 75 DOE-designated Clean Cities and Communities coalitions work locally in urban, suburban, and rural communities to strengthen the nation's energy security, support economic prosperity, and improve air quality.









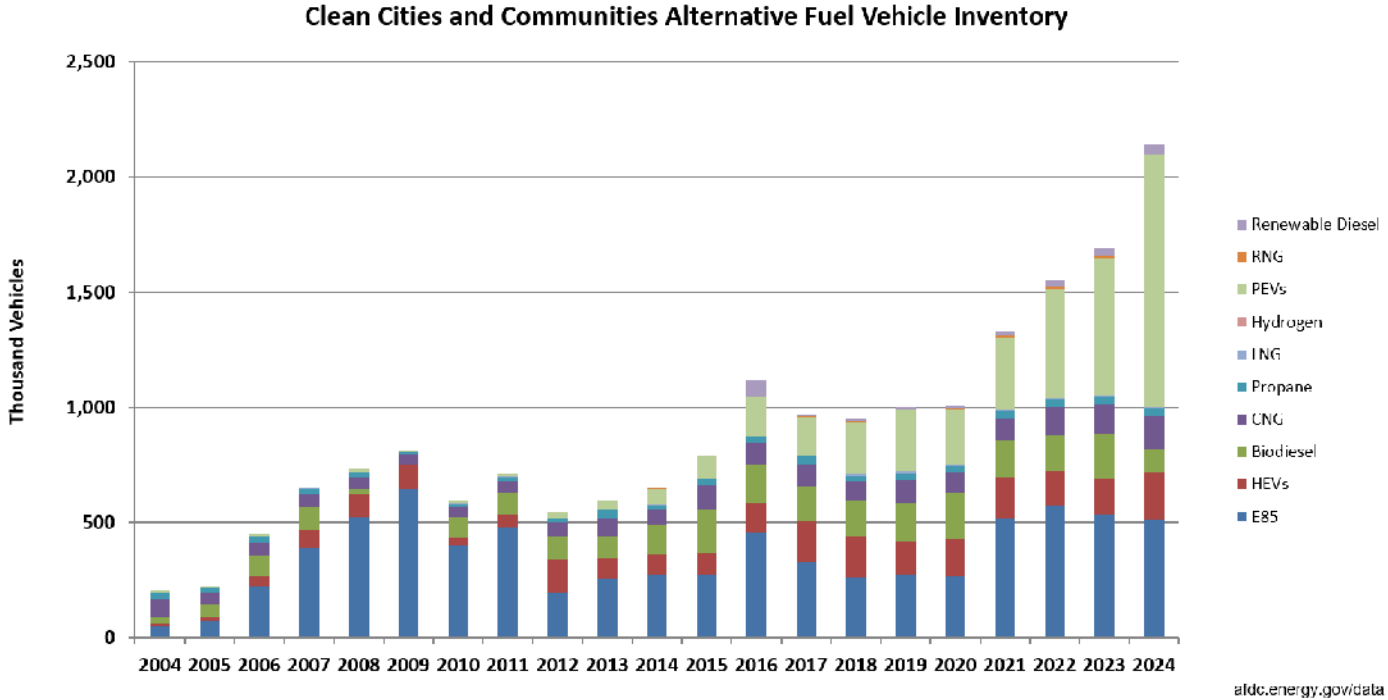


CC&C Results

- Coalition projects supported decision making enabling:
- >2 million alternative fuel vehicles on the road
- >72 million tons of emissions prevented
- Energy use impact of >14 billion gasoline gallon equivalents
- Nearly 40,000 public and private stakeholders.

30+ Years of Transforming Transportation

CC&C Impact



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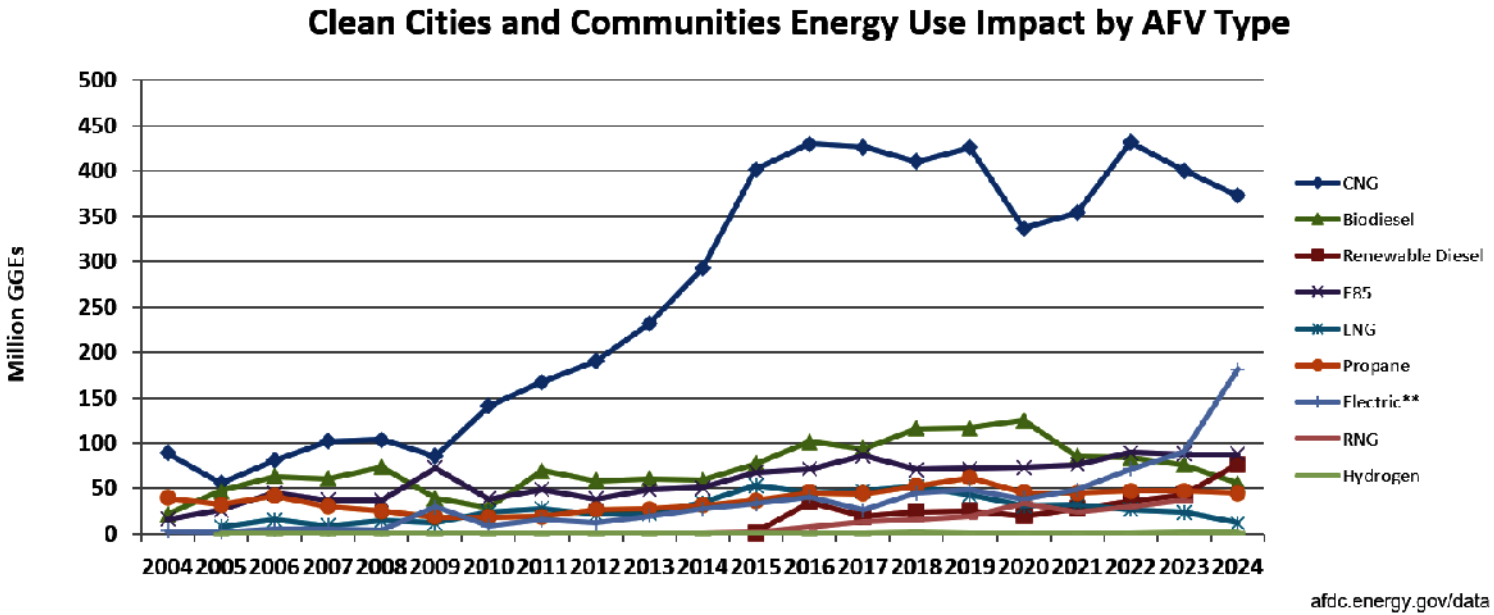
CC&C Impact



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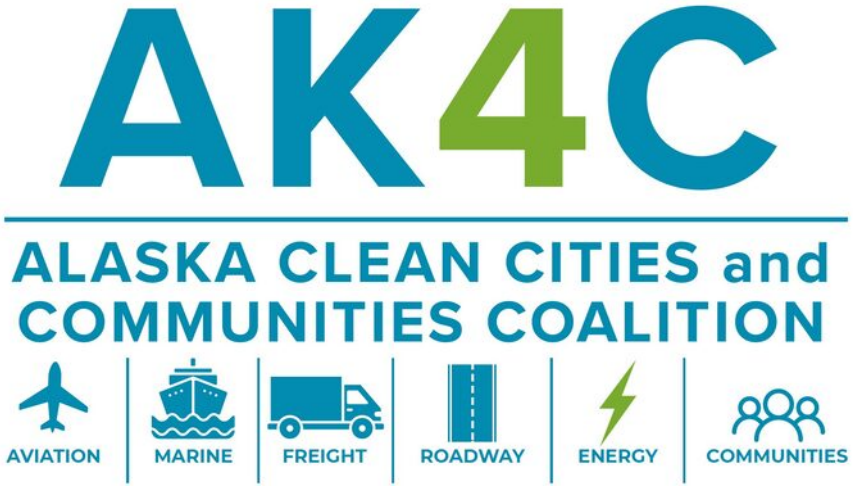
AK4C Mission

AK4C exists to advance U.S. and Alaska leadership in the transportation sector by accelerating the modernization of Alaska's transportation systems through development and deployment of innovative technologies, the production and use of alternative fuels, and the implementation of energy-efficient practices.



Strategically Advance Clean Transportation

Access technical assistance and hands-on problem-solving support.



Connect to unbiased, data-driven tools and resources



Build partnerships



Receive personalized experience rooted in local context



Collaborate on funding opportunities

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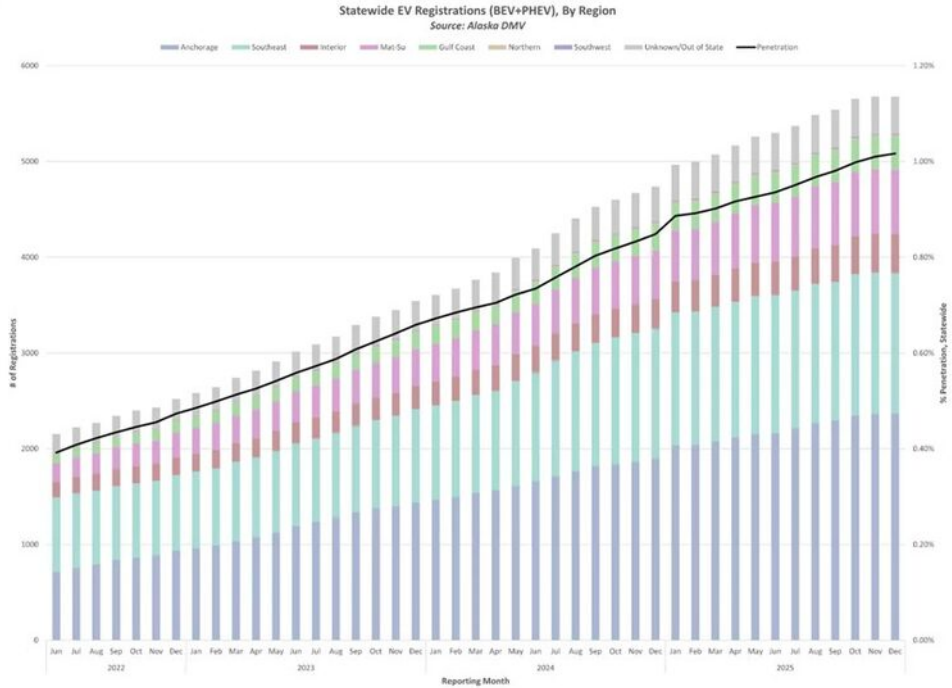
AFV Market Snapshot

- Light-duty EVs - passed 1% of registered vehicles in late 2025, totaling 5,375.
- Medium- and heavy-duty EVs - 280 Class 2B-8
- Off-road electric vehicles - recently commercialized options starting to enter the market
- CNG - Alaska CNG operating Class 8 tractor on North Slope; Fairbanks introducing transit buses to fleet in 2026
- LNG - TOTE Services operates 2 cargo vessels



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Alt. Fuels - Why Should I Care?

A view from above

- TSAIA - critical gas station for transpacific air cargo

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- Dutch Harbor - largest commercial fishing port in U.S. by volume & located along Great Circle route

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Alt. Fuels = Economic Development Opportunity for Alaska

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Innovations in Transportation Technology

Opportunities for Alaska

Innovations in Transportation Technology



Synthetic Aviation Fuel (SAF)

- Up to 80% lower emissions
- Can be produced from agriculture and forestry waste products, or with carbon from direct air capture and hydrogen from electrolysis or steam methane reformation
- State of Alaska exploring a synthetic fuel refinery

Source: DOE & IATA

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Innovations in Transportation Technology



Hybrid-electric aircraft

- 50-90% emissions benefit
- 40% lower maintenance and fuel costs
- Retrofits up to 400NM for 3 seat missions and up to 1100NM for 11 seat missions available for pre-order

Source: Ampaire

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Innovations in Transportation Technology



Electric Vehicles

- 50-70% lower emissions on CEA grid mix*
- 50-60% lower fuel costs
- 30-40% lower maintenance costs
- Increasing number of light-medium- and heavy-duty EV options available, as well as electric offroad vehicles, and purchase price gap closing

Source: CEA, AAA, NRDC, & personal experience

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Innovations in Transportation Technology



<u>Renewable Diesel Fueled Vehicles & Vessels (and generators)</u>

- ~65% lower GHG emissions, no SOx & reduced NOx emissions
- Meets the same specifications as petroleum diesel (ASTM D975), can be blended with petroleum diesel
- Maintenance cost savings
- Cold weather blending cost benefit

Source: AFDC

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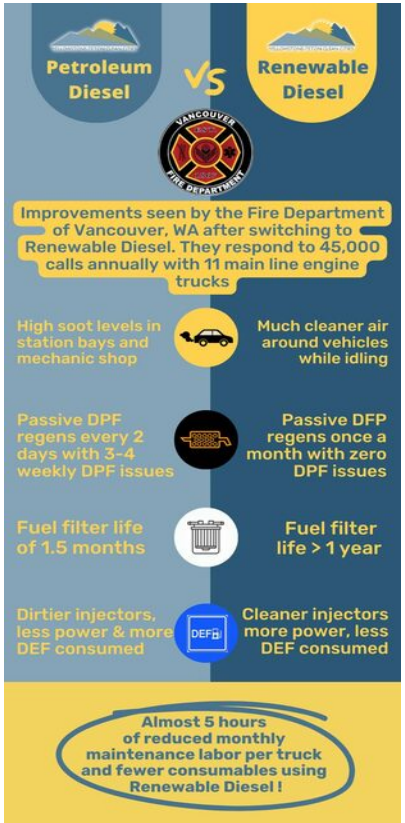
Innovations in Transportation Technology



Petroleum diesel



Renewable diesel



Renewable Diesel (RD)

- RD has narrow range of paraffins: C15-C19, no aromatics, no sulfur, no metals
- Vancouver, WA Fire Dept. experience with RD is typical
- Net cost savings determined by fuel price premium, LCFS subsidy, proximity to production
- US RD production capacity small (317 mb/d) & growing

Source: YTCC, AFDC

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Innovations in Transportation Technology





<u>Battery Electric, Hybrid, Alternative Fuels Vessels, & Shore Power</u>

- ~25-100% lower emissions
- 40-60% lower operating costs in hybrid applications in Norway
- Hybrid-electric is the main option for longer ferry routes
- Alt. fuels in pilot and demonstration use - methanol, ammonia, gaseous, and liquid hydrogen fuel cell

Source: Siemens Energy

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Additional Resources

Access Tools and Resources

- Alternative Fuels Data Center: afdc.energy.gov
  - Maps and data
  - Publications and case studies
  - Digital tools and calculators.
- FuelEconomy.gov
  - Data and calculators to help drivers improve fuel economy
  - Gas mileage tips.
- Clean Cities and Communities: cleancities.energy.gov
  - History and current activities, including coalition search
  - Open funding opportunities.
- Technical Response Service: technicalresponse@icf.com.



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Connect to Funding Opportunities

- Coalitions are a go-to resource to help navigate federal funding opportunities.
- Coalitions provide insights to DOE about on-the-ground needs that can help inform funding priorities.

https://cleancities.energy.gov/funding-opportunities/





How can we help you *innovate* and drive *cost savings*?

Clean Cities and Communities

Thank You

Tim Leach
AK4C, Coalition Director
tim.leach@ak4cllc.com

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