
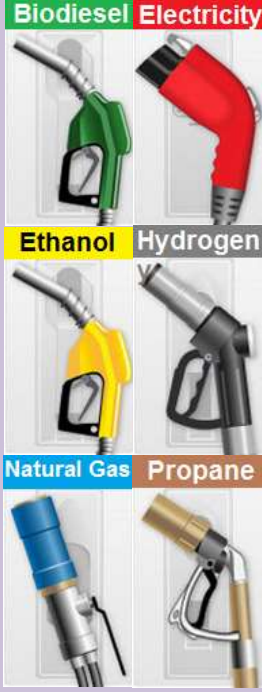




**REFUEL: SAN DIEGO REGIONAL ALTERNATIVE FUELS COORDINATING COUNCIL**







REPRESENTATION		Name	MEMBER/ALTERNATE
South County Subregion	City of Chula Vista	Brendan Reed	Member
North County Coastal Subregion	City of Carlsbad	Mike Grim	Member
	City of Oceanside	Mo Lahsaie	Alternate
North County Inland Subregion	City of Escondido	Jeff Wyner	Member
East County Subregion	City of Santee	Kathy Valverde	Member
City of San Diego		Jacques Chirazi	Member
County of San Diego		Susan Freed	Member
San Diego Association of Governments		Anna Lowe, Co-Chair	Member
		Susan Freedman	Alternate
San Diego Regional Airport Authority		Paul Manasjan	Member
Caltrans, District 11		Chris Schmidt, Chair	Member
Unified Port District of San Diego		Michelle White	Member
		Kellie Carlson	Alternate
San Diego Gas & Electric		Randy Schimka	Member
		Greg Haddow	Alternate
Center for Sustainable Energy		Colin Santulli	Member
University of California, San Diego		Jim Ruby	Member
Miramar College, ATTE Program		Greg Newhouse	Member
San Diego County Air Pollution Control District		Nick Cormier	Member
ADVISORY MEMBERS			
City of Coronado		Bill Cecil	Advisory
City of Del Mar		Kristen Crane	Advisory
City of El Cajon		Matt Lyer	Advisory
City of Encinitas		Bryce Wilson	Advisory
City of Imperial Beach		Chris Helmer	Advisory
City of La Mesa		Howard Lee	Advisory
City of Lemon Grove		Mike James	Advisory
City of National City		Martin Reeder	Advisory
City of Poway		Eric Heidemann	Advisory
City of San Marcos		Lisa Fowler	Advisory
City of Vista		Lyn Dedmon	Advisory
Metropolitan Transit System		Sharon Cooney	Advisory
North County Transit District		TBD	Advisory
Department of Defense/Military		David Powell	Advisory


**REFUEL: SAN DIEGO REGIONAL ALTERNATIVE FUELS COORDINATING COUNCIL**


REPRESENTATION	Name	MEMBER/ALTERNATE
San Diego Regional Clean Cities Coalition	Kevin Wood	Advisory
Energy Policy Initiatives Center	Nilmini Silva-Send	Advisory
University of San Diego	Michael Catanzaro	Advisory
San Diego Regional Chamber of Commerce	Mike Evans	Advisory
CleanTECH San Diego	Jason Anderson	Advisory


Barrier: Education	Barrier Pertains To	Guidance Materials	Action Items
<p><b>1. Lack of Public Knowledge on Alternative Fuels</b></p> <p>- Lack of knowledge and misconceptions about alternative fuels and advanced vehicle technology.</p> <p>-Additional education on hydrogen is needed since it is a newer vehicle technology.</p>		<p>Promote Clean Cities vehicle guides, handbooks, and other relevant documents.</p> <p>Leverage consumer-focused resources available.</p>	<p>Recommendation: Develop materials/toolkits that allow general consumers to better understand AFVs, and provide a baseline understanding of AFVs useful to local governments. Includes:</p> <ul style="list-style-type: none"> <li>• Reviewing existing consumer outreach materials</li> <li>• General "myths" and realities of each fuel (how the fuel is made, what vehicles use the fuel, range, etc.)</li> <li>• Relevant state policies that create the motivation for adopting AFVs</li> <li>• Guidance for local EV encouragement efforts- Work with South Bay Energy Action Collaborative to document best practices</li> </ul>
<p><b>2. Training and Education for Municipal Staff</b></p> <p>-Lack of knowledge about alternative fuels and advanced vehicle technology.</p> <p>-Additional education on hydrogen is needed since it is a newer vehicle technology.</p> <p>-Need to further plan for AFVs in energy planning documents and implement strategies in municipal fleets.</p>		<p>Existing Conditions Report public agency survey results. The survey results reveal what municipalities have done to prepare for alternative fuels and what resources they lack in order to further adopt alternative fuel-friendly policies and strategies.</p> <p>Existing Conditions Report's section on codes and standards can serve as guidance for installations.</p> <p>Leverage National Renewable Energy Laboratory (NREL) developed codes and standards handbooks.</p> <p>Replacing government fleet vehicles with alternative fuel vehicles is a strategy noted in some Climate Action Plans (CAPs), or other energy planning documents.</p> <p>Ensuring open communication among fleet managers and planning staff to secure the success of CAP strategies.</p>	<p>Recommendation: Develop materials and toolkits that allow fleet managers and municipal staff to integrate AFVs and create/promote AF-friendly policies. Includes:</p> <ul style="list-style-type: none"> <li>• Reviewing existing educational programs/materials</li> <li>• Reviewing past and current training programs &amp; promote them</li> <li>• Planning documents to better assist jurisdictions in achieving GHG reduction strategies using alternative fuels</li> <li>• How to choose optimal locations for alternative fuel infrastructure</li> <li>• Relevant state policies that motivate greater AFV adoption</li> <li>• Sample policies that support the growth of AFVs</li> </ul>

<p><b>3. Training and Education for Emergency Personnel and Transportation Fleet Staff</b></p> <p>-Lack of safety and technical training for AFVs and AFI.</p> <p>-Need specific fleet data to better understand AFV performance.</p>		<p>Needs Assessment for Alternative Fuel Vehicle Training in California offer insight to training needs.</p> <p>Existing Conditions Report offers a section on training for emergency personnel and fleet staff.</p> <p>Existing Conditions Report fleet survey results. The survey results reveal what alternative fuels fleets around the San Diego region have already adopted. It informs about resources desired by fleet managers in order to integrate more alternative fuels into their fleet.</p>	<p>Recommendation: Develop materials and toolkits that will help train emergency personnel on how to handle AFVs and fleet staff on how to service AFVs. Includes:</p> <ul style="list-style-type: none"> <li>• Reviewing past and current training programs</li> <li>• Developing training resources one pager, which includes contacts for training facilities within and near San Diego County and provide course/topic recommendations for each fuel type</li> <li>• Promoting trainings</li> <li>• Specific fleet data that allow fleets to understand the technical capacities/build of an AFV</li> </ul>
<p><b>4. TOU Utility Rates/ Grid Integration</b></p> <p>-Need to discourage charging when electricity supplies are in high demand and cost more. Support of time of use (TOU) pricing.</p> <p>-High demand charges that impact EVSE host utility bills. Expensive metering options to access TOU rates.</p> <p>-Need further education on how PEVs integrate with the electricity grid, and how to reduce its grid impact.</p>		<p>Educate public on SDG&amp;E EV time of use rates.</p> <p>Promote Plug-In Electric Vehicle Collaborative (PEVC) materials and guidance documents from the PEV Readiness Plan.</p> <p>Information on minimizing utility charges from natural gas station operation.</p> <p>Maintain regular updates and communication from SDG&amp;E regarding its work with a proposed vehicle-to-grid pilot project.</p>	<p>Recommendation: Develop guidance and toolkits that help AFV users understand the way vehicles integrate with the electricity grid and general EV charging time of use information. Includes:</p> <ul style="list-style-type: none"> <li>• Promoting information and guidance on utility rates/ grid integration</li> <li>• How vehicle charging time affects overall electricity/grid capacity (i.e. duck curve)</li> <li>• How used PEV batteries can be integrated into the electrical grid.</li> <li>• Optimizing natural gas infrastructure for limited electrical demand</li> </ul>



Barrier: Infrastructure	Barrier Pertains To	Guidance Materials	Action Items
<p><b>5. Station Development: Codes &amp; Permitting</b>                      -Need for increased guidance on EVSE, propane, natural gas, and hydrogen station installation processes.</p> <p>-Direction on how city staff and station developers can work together to ease station deployment process.</p>	<p><b>Biodiesel Electricity</b></p>  <p><b>Ethanol Hydrogen</b></p>  <p><b>Natural Gas Propane</b></p> 	<p>Promote Best Practice documents generated through the California Statewide Alternative Fuels and Fleets project.</p> <p>Propane, hydrogen, and biofuel Refuel subcommittees devoted a portion of time identifying barriers to station installation.</p> <p>Existing Conditions Report section on codes and standards serves as guidance for installations.</p>	<p>Recommendation: Address problems that frequently occur when stations are being installed (e.g., when propane station is built, screens are often required to be surrounding the propane tanks; not favored by propane providers). Includes:</p> <ul style="list-style-type: none"> <li>• Fuel-specific permitting best practices to help jurisdictions facilitate station installations(Reference existing codes)</li> <li>• Successful installation case studies</li> <li>• Compiled station installation processes as discussed through Refuel subcommittees</li> </ul>
<p><b>6. Station Development: Site Assessment</b>                      -Station developers have come across right of way and easement issues.</p> <p>-Stations should be located along fleet routes.</p>	<p><b>Biodiesel Electricity</b></p>  <p><b>Ethanol Hydrogen</b></p>  <p><b>Natural Gas Propane</b></p> 	<p>Assist municipal staff through Clean Cities tools on zoning, station design, and assessment of station fueling needs.</p> <p>Conduct fleet route assessment to determine best locations for AFI.</p> <p>Promote electric, natural gas and hydrogen best practice documents generated through the California Statewide Alternative Fuels and Fleets project.</p>	<p>Recommendation: Provide solutions and guidance for municipal staff and other fleets on where to place fueling infrastructure. Includes:</p> <ul style="list-style-type: none"> <li>• Enabling cities to site fueling stations based on their fleets’ routes and fuel usage (i.e., how to conduct fueling analysis)</li> <li>• Enabling private fleets to site fueling stations based on their fleets’ routes and fuel usage (i.e., how to conduct fleet analysis)</li> <li>• Enabling public agencies to determine best locations to install infrastructure for the public (i.e. providing relevant variables, methods, etc.)</li> </ul>

<p><b>7. Access to Public Alternative Fuel Stations</b>                  -Lack of AFV adoption due to limited infrastructure near where fleets and the public need to refuel.                   -Lack of station access for heavy-duty vehicles.</p>	 <p>The image shows five different types of fuel nozzles arranged in a grid. The top row shows a green nozzle labeled 'Biodiesel' and a yellow nozzle labeled 'Ethanol'. The middle row shows a grey nozzle labeled 'Hydrogen' and a blue nozzle labeled 'Natural Gas'. The bottom row shows a single orange nozzle labeled 'Propane'.</p>	<p>Increase awareness of current and planned alternative fuel stations to fleet managers.</p> <p>Compile resource list of station locator maps.</p> <p>Guidance to station developers on building stations that are accessible to heavy-duty vehicles.</p> <p>Examples of outreach activities San Diego Regional Clean Cities Coalition has performed with local alternative fuel providers.</p> <p>Clean Cities Coalition guide on costs associated with CNG and propane fueling stations.</p> <p>San Diego Regional Clean Cities Coalition-developed maps of San Diego County infrastructure and proximity to residences.</p>	<p>Recommendation: Develop ways for fuel providers and local jurisdictions to increase awareness of public alternative fuel station locations. Includes:</p> <ul style="list-style-type: none"> <li>• Reviewing existing resources and updating as necessary</li> <li>• Mapping tools to encourage more installations</li> <li>• Best practices for promoting alternative fuel stations to the public (e.g., an outreach guide)</li> </ul>
--	---	---	--


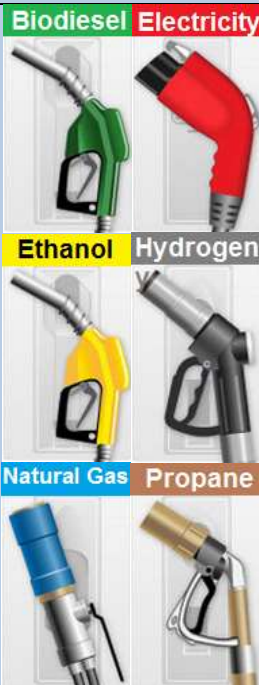


<p><b>8. EVSE at Multi Unit Dwellings</b>                  -Consumer and property owners have lack of knowledge regarding EVSE installation in these buildings.</p> <p>-Need to educate and work with HOAs to identify and find solutions to unique building challenges.</p>	<p><b>Electricity</b></p> 	<p>Promote PEVC materials and guidance documents from the PEV Readiness Plan.</p> <p>PEVC’s case studies on charging installations at MuDs.</p>	<p>Recommendation: Increase public understanding of complexities of charging at MuDs and gather resources to help facilitate charging installations. Includes:</p> <ul style="list-style-type: none"> <li>Gathering complementary information about MuD charger installations. Or, developing specific studies for particular charging scenarios (i.e., SB 880 and AB 2565 being ineffective if insurance companies will not add HOA as additionally insured – get examples of this.)</li> <li>Promoting installation and information about EVSE through future CSE and SANDAG PEV Implementation work. This work may be coordinated in tandem with SDG&amp;E’s vehicle-to-grid pilot project and adjusted as necessary</li> </ul>
<p><b>9. Workplace Charging</b>                  -Lack of understanding regarding benefits and approaches to workplace charging.</p> <p>-Need to further educate employers and property management companies about the benefits of workplace charging</p>	<p><b>Electricity</b></p> 	<p>Promote Calstart’s <a href="#">Best Practices for Workplace Charging</a> and the California Plug-In Electric Vehicle Collaborative guidance documents.</p>	<p>Recommendation: Increase public understanding of complexities of charging at workplaces and gather resources to help facilitate installations. Includes:</p> <ul style="list-style-type: none"> <li>Promoting installation and information about EVSE through future CSE and SANDAG PEV Implementation work</li> </ul>

<p><b>10. Infrastructure Costs</b></p> <p>-Lack of capital for station construction and operation costs.</p> <p>-Who pays for the upfront costs of the infrastructure? The grantee, ratepayer or end user.</p> <p>-Risk of investment.</p> <p>-Need justification/incentives for higher costs to build stations.</p> <p>-Need partners to justify investment.</p>	 <p>The image shows a 2x3 grid of fuel dispensing nozzles. The top row contains a green nozzle labeled 'Biodiesel' and a red nozzle labeled 'Electricity'. The middle row contains a yellow nozzle labeled 'Ethanol' and a grey nozzle labeled 'Hydrogen'. The bottom row contains a blue nozzle labeled 'Natural Gas' and a gold nozzle labeled 'Propane'.</p>	<p>Create forum for stakeholders to discuss and form partnerships.</p> <p>Promote Clean Cities tools, such as natural gas Vehicle and Infrastructure Cash-Flow Evaluation (VICE) Model which address payback period for natural gas vehicles and infrastructure.</p> <p>Past success from regions to apply for infrastructure funding from the California Energy Commission.</p>	<p>Recommendation: Provide public agencies and fleets with tools for evaluating and overcoming infrastructure costs. Includes:</p> <ul style="list-style-type: none"> <li>• Evaluating and promoting existing tools</li> <li>• Providing a forum for coordination</li> <li>• Best practices of CEC infrastructure grant recipients so other jurisdictions may have similar success</li> <li>• Developing a guide that allows jurisdictions to better navigate and understand CEC infrastructure grants</li> </ul>
---	--	--	---



Barrier: Vehicles	Barrier Pertains To	Guidance Materials	Action Items
<p><b>11. Selecting Appropriate AFVs</b>                      -Advise municipal staff and businesses on choosing alternative fuels that will meet fleet needs.</p>		<p>Clean Cities tools such as the Vehicle Cost Calculator and Vehicle Search.</p>	<p>Recommendation: Help fleet staff and businesses choose most appropriate AFVs for their needs.                      Includes:</p> <ul style="list-style-type: none"> <li>Promoting Clean Cities tools</li> <li>Developing guidance on determining most appropriate AFVs</li> </ul>
<p><b>12. Procuring and Financing AFVs</b>                      -Initial higher costs of AFVs barrier to adoption.                       -Need further outreach to fleets and public about incentives for procuring AFVs.</p>		<p>Connect municipal staff, businesses and local residents to dealers and vehicle manufactures. Provide guidance on leasing vs. purchasing an EV.</p> <p>Educate public on available incentives.</p> <p>A Public Fleet Pilot Project allows for cities with disadvantaged communities to apply for extra funding to buy new PEVs</p> <p>The CalEnviroScreen, a state-developed tool that identifies “disadvantaged communities” in the state, helps determine who can benefit from additional funding and pilot projects, such as the Public Fleet Pilot Project.<sup>1</sup></p>	<p>Recommendation: Assist fleets to understand the costs of AFVs and provide guidance on procurement and financing AFVs.                      Includes:</p> <ul style="list-style-type: none"> <li>Identifying &amp; promoting best resources on financing and procurement</li> <li>Reaching out to cities with disadvantaged communities to take advantage of extra funding to buy PEVs</li> <li>Costs associated with each type of AFV (provide a cost analysis)</li> <li>Developing models for financing vehicle acquisition</li> </ul>

<sup>1</sup> The lack of San Diego regional communities labeled as “disadvantaged communities” limits the extra funding coming to the region. SANDAG believes this tool is not representative of the underserved communities existing in the region; that is, there are far more than are actually labeled in the tool.

<p><b>13. Converting Conventional Vehicles to an Alternative Fuel</b>                  - Lack of understanding on the regulations, conversion kits available or companies that provide retrofit services.</p>	<p><b>Natural Gas Propane</b></p> 	<p>Information on CARB acceptable conversion kits and manufacturers.</p>	<p>Recommendation: Provide guidance on how to safely and lawfully convert conventional vehicles to use alternative fuels.</p> <ul style="list-style-type: none"> <li>• Provide guidance on CARB approved conversion kits</li> </ul>
<p><b>14. AFV Technology</b>                  -AFV lifespan and range (especially for PEVs) in some cases is not competitive with conventional vehicles.</p> <p>-People not making the investment until they feel confident of the technology’s reliability.</p> <p>-People are wary of emerging AFV technology, unsure of its reliability.</p>	<p><b>Biodiesel Electricity</b></p>  <p><b>Ethanol Hydrogen</b></p>  <p><b>Natural Gas Propane</b></p> 	<p>Meeting summaries from Refuel subcommittee meetings serve as background for fuels and new technology.</p> <p>Alternative fuel vehicle industry websites also serve as background for new technology.</p>	<p>Recommendation: Provide insight into the up-and-coming technology and emerging fuels. Includes:</p> <ul style="list-style-type: none"> <li>• Guidance on fuel and technology developments: dimethyl ether (DME), hydrogen, algae, renewable natural gas, drop-in fuels in general</li> <li>• Alternative fuel life cycle analysis, including second-life batteries</li> <li>• Discussion on vehicle technology “maturity” – how long have certain fuels been used, by who, and with what kind of results</li> </ul>

## Appendix C: Public Agency Alternative Fuel Survey

The public agency survey focused on the needs and applications of alternative fuels within their agencies. It queried public agencies to find out information about their familiarity with alternative fuels (notably, biodiesel, electricity, ethanol, hydrogen, natural gas, and propane), alternative fuel applications, and state and regional strategies.

The public agency survey was first delivered to Refuel member agencies on December 16, 2014. Following the December release, the public agency survey was subsequently delivered to other local and regional stakeholder groups, such as the SANDAG Regional Energy Working Group. By February 24, 2015, there were twenty responses to the survey, thirteen of which were from public agencies. The non-public agency responses were from individuals or private companies who were present at Refuel meetings. The following unique jurisdictions were represented:

- Caltrans
- City of Chula Vista
- City of Del Mar
- City of Encinitas
- City of Escondido
- City of Oceanside
- City of San Diego
- County of San Diego
- Port of San Diego
- San Diego Association of Governments
- San Diego County Air Pollution Control District
- San Diego County Regional Airport Authority

The following are the questions that were presented in the survey.

### Public Agency Survey Questions

The purpose of this survey is to better gauge how municipal staff are working with alternative fuels and their level of awareness of such fuels. Using alternative fuels reduces petroleum consumption and greenhouse gas (GHG) emissions that come from transportation. Accordingly, responses from this survey will be used to inform the creation of regional alternative fuel tool kits and the development of an in-depth assessment of alternative fuel use in the San Diego region.

This survey intends to assess the region’s general alternative fuel awareness. Please answer each question to the best of your ability; no outside research is needed to provide a response. Please note that for the purpose of this survey, alternative fuels refer to biodiesel, electricity, ethanol, hydrogen, natural gas, and propane. For more in-depth information about these fuels, please visit <http://www.sdcleancities.org/alt-fuels/>.

Name:

Jurisdiction:

Title:

1. How familiar are you with the following alternative fuels: not familiar at all, slightly familiar, somewhat familiar, moderately familiar, or extremely familiar? Extremely familiar would mean that you would feel comfortable explaining basic information about the fuel and/or have used the fuel.

Fuel Type	Not at all familiar	Slightly familiar	Somewhat familiar	Moderately familiar	Extremely familiar
Biodiesel					
Electricity					
Ethanol (E85)					
Hydrogen					
Natural Gas (LNG/CNG)					
Propane (LPG)					

2. Of the fuels with which you are very familiar, how did you acquire the familiarity? Please check all that apply.

- Workshops or conferences
- Online or print trade publications or other media
- Used the alternative fuel in a vehicle (personal or work)
- Developing or implementing my local government’s policies (i.e., permitting, codes, planning)
- Other, please describe:

3. How many public fueling (or charging) stations of each fuel type are you aware of in San Diego County?

Fuel Type	1-5	6-11	12 or more	None	I don’t know

Biodiesel					
Electricity					
Ethanol (E85)					
Hydrogen					
Natural Gas (LNG/CNG)					
Propane (LPG)					

4. The average price of a gallon of gasoline is currently about \$3.00 in California. For the following alternative fuels, do you believe their gasoline-gallon equivalents cost more or less than a gallon of gas?

Fuel Type	Costs Less	Costs About the Same	Costs More	I don't know
Biodiesel				
Electricity				
Ethanol (E85)				
Hydrogen				
Natural Gas (LNG/CNG)				
Propane (LPG)				

5. Please match the following vehicle types with alternative fuels that it can use. (Note: you may check more than one box for each vehicle type.)

	Biodiesel	Electricity	Ethanol	Hydrogen	Nat'l Gas LNG/CNG	Propane (LPG)	I don't know
Transit bus							
Passenger vehicles							
Pickup trucks							
Refuse hauler							
Other medium/heavy duty truck							

6. There are several policies at a state level that aim to mitigate the effects of climate change through increasing the use of alternative fuel vehicles. Please check-off the box if your jurisdiction has referenced or addressed the listed state climate and transportation goal in a policy document or otherwise.

- Reduce greenhouse gas (GHG) emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050 [AB 32]
- 10% reduction in carbon intensity of transportation fuels in California by 2020 [Low Carbon Fuel Standard]
- Reduce petroleum fuel use to 15% below 2003 levels by 2020 [*State Alternative Fuels Plan*]
- Produce in California 20% of biofuels use in state by 2010, 40% by 2020, and 75% by 2050 [*Bioenergy Action Plan*]
- Accommodate 1 million electric vehicles by 2020 and 1.5 million by 2025 [Governor Executive Order B-16-2012]
- Unfamiliar with all of the above

7. If your agency or jurisdiction has a Climate Action Plan, Sustainability Action Plan, or other energy planning document, are alternative fuels identified as a key substitute to conventional fuels?

- My agency/jurisdiction has not yet adopted/accepted a such a document
- I'm not sure if alternative fuels are identified in the document
- No, alternative fuels are not identified as a key substitute to conventional fuels
- Yes, alternative fuels are identified as a key substitute to conventional fuels

8. Has your jurisdiction used the San Diego Regional Plug-in Electric Vehicle Readiness Plan as a guidance document or implemented its recommendations as policy or practice?

- No, we have no plans to implement the recommendations
- No, but we plan to implement the recommendations
- Yes, recommendations have been implemented
- I don't know

9. Does your jurisdiction have zoning codes/ordinances for specific alternative fuel infrastructure?

- Yes, for the following alternative fuels: [open response]
- No, we have zoning codes/ordinances for only gasoline
- No, we have zoning codes/ordinances for general vehicle fueling only; no specific fuel listed
- I don't know

10. What types of alternative fuel resources would be desirable to your jurisdiction to support the adoption or updating of energy planning documents and/or the development of alternative fuel-friendly policies? Please rank each resource on the following scale:

Very undesirable, Undesirable, neutral, Desirable, and Very desirable

- Fact sheets or reference guides on general information about alternative fuels
- Case studies of jurisdictions or private fleets that use alternative fuels
- Guidance on availability of funding for alternative fuel vehicles and infrastructure installation projects

- Sample permits and zoning codes for alternative fuel infrastructure
- Webinars or in-person workshops on specific alternative fuels
- A telephone or online help line to get specific alternative fuel questions answered
- Other, please describe:

Thank you for participating in this survey. If you have any colleagues who you feel would add value to this research, please e-mail Kevin Wood, [kevin.wood@energycenter.org](mailto:kevin.wood@energycenter.org).

## **Appendix D: Local Fleet Alternative Fuel Survey**

Fleets throughout the San Diego region also were surveyed to understand their familiarity with alternative fuels (notably, biodiesel, electricity, ethanol, hydrogen, natural gas, and propane), motivations for adopting alternative fuels, and barriers to adopting alternative fuels.

The fleet survey was delivered to a list of fleets in the San Diego region as part of the San Diego Regional Clean Cities 2014 Annual Questionnaire (questionnaire). The SDRCCC questionnaire seeks fuel usage information from the 2014 calendar year about fleets operating in San Diego County. This questionnaire was answered by seventeen fleets (public and private), of which ten identified having used alternative fuels in their fleet vehicles. Alternative fuel-adopting fleets' as well as non-adopting fleets' responses are part of this analysis.

Below are the questions that were found on the Fleet Survey.



### Fleet Survey Questions

Thank you for taking the time to complete our annual 2014 fleet questionnaire. The Coalition promotes clean vehicle technology to reduce regional petroleum consumption and improve the environment. The coalition provides resources, outreach and education to assist fleets and consumers make informed decisions on fuel and vehicle technology. Your participation in this questionnaire helps the Coalition to track progress towards reducing fuel use and improving air quality. Your responses will not be shared publicly.

In addition to helping us track fuel consumption, this fleet questionnaire will help the region better understand how alternative fuels are being used among fleets. Accordingly, responses from this survey will be used to inform the creation of regional alternative fuel tool kits and the development of an in-depth assessment of alternative fuel use in the San Diego region. For more information on this project, please visit [www.sdcleancities.org/refuel/](http://www.sdcleancities.org/refuel/).

Name:

Organization:

Phone Number:

Email:

Alternative fuel vehicles include biodiesel, electricity (including hybrids and battery electric), clean diesel, ethanol (E85), propane (LPG), natural gas (CNG/LNG), and hydrogen fuel cell. Does your fleet employ any of these alternative fuel types?

- Yes
- No

1. How familiar are you with the following alternative fuels: not familiar at all, slightly familiar, somewhat familiar, moderately familiar, or extremely familiar? Extremely familiar would mean that you would feel comfortable explaining basic information about the fuel and/or have used the fuel.

Fuel Type	Not at all familiar	Slightly familiar	Somewhat familiar	Moderately familiar	Extremely familiar
Biodiesel					
Electricity					
Ethanol (E85)					
Hydrogen					
Natural Gas (LNG/CNG)					
Propane (LPG)					

2. Of the alternative fuel vehicles you have listed, what motivated you to adopt them into your fleet?

	Size and types of vehicles I need are available	Can justify the cost of vehicle, fuel and ownership	Vehicles are reliable and maintenance is available	I have access to fueling or charging	Driving range or performance meets needs	Rebates and incentives are available	Is a public benefit (reduced GHG, pollution, or petroleum)
Plug-in battery electric							
Plug-in hybrid or range extended electric							
Natural gas (CNG or LNG)							
Hydrogen fuel cell							
Clean diesel							
Ethanol (E85)							
Propane (LPG)							

3. In a few words, please describe your biggest challenge or concern about adding alternative fuels and vehicles to your fleet.

4. Of the following topics, for which would you like more information or education?

- Total cost of ownership
- Available rebates and incentives
- Government mandates and regulations
- Fleet purchasing language or policy
- Public fueling/charging availability and future growth
- Fueling/charging at fleet yards
- Public benefits
- Safety
- Maintenance or mechanic training
- Other, please describe:

5. What types of alternative fuel resources would be desirable to your organization or jurisdiction to support the adoption or updating of alternative fuel-friendly policies that would encourage more alternative fuel adoption in fleets? Please rank each resource on the following scale:

Very Undesirable, Undesirable, Neutral, Desirable, and Very Desirable

- Fact sheets or reference guides on general information about alternative fuels
- Case studies of jurisdictions or private fleets that use alternative fuels
- Guidance on availability of funding for alternative fuel vehicles and infrastructure installation projects
- Sample permits and zoning codes for alternative fuel infrastructure
- Webinars or in-person workshops on specific alternative fuels
- A telephone or online help line to get specific alternative fuel questions answered
- Other, please describe:

6. (Optional – for those who do not adopt alternative fuel vehicles) Why has your fleet not adopted any of the following alternative fuel vehicles? Check all that apply.

	Size and types of vehicles I need are not available	Cannot justify the cost of vehicle, fuel and ownership	Vehicles are not reliable and maintenance is not available	I do not have access to fueling or charging	Driving range or performance does not meet my fleet's needs	Unaware of the public benefits of this vehicle type
Plug-in battery electric						
Natural gas (CNG or LNG)						

Hydrogen fuel cell						
Clean diesel						
Ethanol (E85)						
Propane (LPG)						