

# Mid-America Fleet Assessment Report

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**Fleet Assessment Report**  
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Prepared by

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This report is available electronically at <http://www.metroenergy.org>

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*Metropolitan Energy Center, a 501(c)3 based in Kansas City, serves as the lead in this U.S. Department of Energy funded project. MEC provides staffing and administration for the Kansas City Regional Clean Cities Coalition.*

*The Mid-America Collaborative for Alternative Fuels is the Kansas City Regional Clean Cities Coalition, Nebraska Clean Cities Coalition, St. Louis Regional Clean Cities and the Iowa Clean Cities Coalition. The Collaborative endorses a multi-pronged approach where appropriate fuel diversity creates an energy secure future. We aim to eliminate obstacles to adoption of vehicles and infrastructure using natural gas, B20 biodiesel, E85 ethanol, propane autogas, electricity, and hybrid electric technologies. Visit [www.metroenergy.org](http://www.metroenergy.org) to learn more about the Collaborative. The project is funded by U.S. DOE Award DE-EE00060009.*

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## Abbreviations & Acronyms

<b>AF</b>	Alternative Fuel
<b>AFV</b>	Alternative Fuel Vehicle
<b>APWA</b>	American Public Works Association
<b>CNG</b>	Compressed Natural Gas
<b>DOE</b>	Department of Energy
<b>E85</b>	85% blend ethanol with gasoline
<b>FFV</b>	Flex Fuel Vehicle
<b>HDV</b>	Heavy Duty Vehicle
<b>LDV</b>	Light Duty Vehicle
<b>LNG</b>	Liquefied Natural Gas
<b>MDV</b>	Medium Duty Vehicle
<b>NAFA</b>	National Association of Fleet Administrators
<b>PHEV</b>	Plug-In Hybrid Electric Vehicle

## Executive Summary

Metropolitan Energy Center [MEC] and four Clean Cities coalitions formed the Mid-America Collaborative for Alternative Fuels [MAC] to address the barriers to widespread adoption of alternative fuels [AF] and alternative fuel vehicles [AFV] in the four-state region of Iowa, Kansas, Missouri and Nebraska. Although the benefits of AF and AFV adoption can be significant both financially and environmentally, striking the right message to engage policymakers and fleet decision-makers can be a challenge. MAC developed the present survey in order to provide perspective on the challenges fleets face when considering AFV and AF adoption.

The Fleet Survey is a compliment to the [SSurvey](#) which was also administered by MAC in 2014. Both surveys were developed in such a way as to be able to gauge perceptions of barriers to alternative fuel adoption within Region 7 as well as to gauge baseline knowledge of AFs and AFVs in order to better understand our audiences. While the stakeholder survey targeted a broad audience, the fleet survey specifically targeted fleet decision-makers within the four-state area. Although participation in the fleet survey was less than desired, the survey did reach the intended audience and provided additional insight into how and where Clean Cities' efforts, financially or otherwise, should be focused. The results of the two surveys regarding perceived barriers and knowledge base were consistent indicating that these issues transcend subjective perceptions, and are in fact real issues hindering AF adoption.that these issues transcend subjective perceptions, and are in fact real issues hindering AF adoption.

Among the primary goals of this survey was to assess the knowledge and concerns of fleets that are current or longstanding members or stakeholders in Clean Cities Coalitions. The current survey found that up-front investment costs, lack of refueling infrastructure and unknown operating and maintenance costs were three of the top influencers in AFV and AF adoption among fleets. The top two barriers to fleets are also the top barriers to stakeholders indicating that Clean Cities efforts should be focused on expansion of alternative fuel infrastructure which would lead to increased demand for AFVs and decrease their per unit cost. In addition, the survey highlights the importance of geographic factors in choosing which alternative fuels and technologies will be most successful.

## **1. BACKGROUND AND SCOPE OF WORK**

The Mid-America Collaborative for Alternative Fuel Implementation is researching and developing training, tools, and new ideas to accelerate the deployment of alternative fuels across four states: Iowa, Kansas, Missouri, and Nebraska. (More information on this project can be found on the [MEC website](#).) As part of this effort, the Collaborative sought input from companies and organizations with fleets to identify and address key barriers to broad adoption of alternative fuel vehicles (AFVs) and technologies. The Collaborative selected ASG Renaissance to design and conduct a survey of fleet managers and owners regarding their organizations' attitudes, perceptions, and interests regarding alternative fuels. ASG subsequently analyzed and summarized the survey data offering insights on the results. Survey approach, methodology, results, and key findings have been documented in this report.

## **2. APPROACH / METHODOLOGY**

### **2.1 SURVEY DEVELOPMENT**

Building upon a 2013 survey conducted by the Collaborative of their key stakeholders, ASG developed a survey targeted to organizations with fleets. The survey included a profile of the respondent and questions about the respondent's attitudes and knowledge about alternative fuels and AFVs including key barriers to broad adoption of alternative fuels by fleets. It included 26 questions and was estimated to take approximately 10 minutes to complete. For the purposes of the survey, the following alternative fuels / technologies were considered: Ethanol 85% (E85), Biodiesel, Dedicated Electric, Plug-In Hybrid Electric, Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG) and Propane. A copy of the final survey is included in [Appendix 1](#).

### **2.2 FLEETS / PROSPECTS LIST**

ASG worked with the Collaborative to develop a list of fleets/survey prospects in the four state (Iowa, Kansas, Missouri, and Nebraska) area. Assuming a response rate of 10%, ASG recommended a minimum of 2,000 prospects be surveyed to deliver a target of 200 responses. Accessing FleetSeek, an online database of trucking companies, private fleets and owner operators, the Collaborative was able to obtain a list of approximately 5,500 emails. However, given the low expected response rate (these were effectively "cold calls"), ASG recommended outreach to other organizations. As such, each of the Clean Cities organizations identified local / state wide organizations and requested their participation in the survey. These organizations included state trucking associations, municipal/state fleets, beverage industry associations, public works and parks & recreation organizations. Additionally, ASG identified Top 300 fleet contacts for the targeted states. An estimated 8700 individuals were sent the survey through all of these other organizations. [Appendix 2](#) provides a summary of the prospects.

### **2.3 CONDUCTING THE SURVEY**

ASG uploaded the final survey into the online survey tool, Survey Monkey utilizing the Collaborative's login/ membership. ASG and other team members tested the survey prior to launch. Using ASG's Acy Mailing software, the survey was initially sent out to the 5500+ FleetSeek and Top 300 Fleet emails on April 21<sup>st</sup>. A communication document, with links to the survey was also sent to the participating organizations for distribution to their members, beginning on this date. As an incentive for completing this survey, interested participants could opt in for a drawing to win a free fleet assessment from a

Green Fleet Technical Assistance Consultant. Four winners (one from each state) would be selected at the conclusion of the survey. Two reminder broadcasts were sent to the FleetSeek and Top 300 emails on May 7<sup>th</sup> and again on June 3<sup>rd</sup>. The participating Clean Cities organizations followed up with targeted organizations throughout the process. ASG provided weekly email updates on responses, and the group held periodic conference calls to discuss progress. With a total of 73 responses, on June 30<sup>th</sup> the group agreed to close the survey. While the ultimate survey response rate (<1%) was significantly lower than other studies ASG has completed, a large percentage of prospects (12-19%) opened the email newsletter and a reasonable number (2%) actually clicked on the link to the survey (2%). Unfortunately most didn't actually complete the survey. The results from the survey still provide a 90% confidence level with a 10% margin of error. [Appendix 2](#) includes additional mailing statistics.

### 3. STUDY FINDINGS

ASG summarized the aggregate results and compared these to results from several sub-sets of the population including:

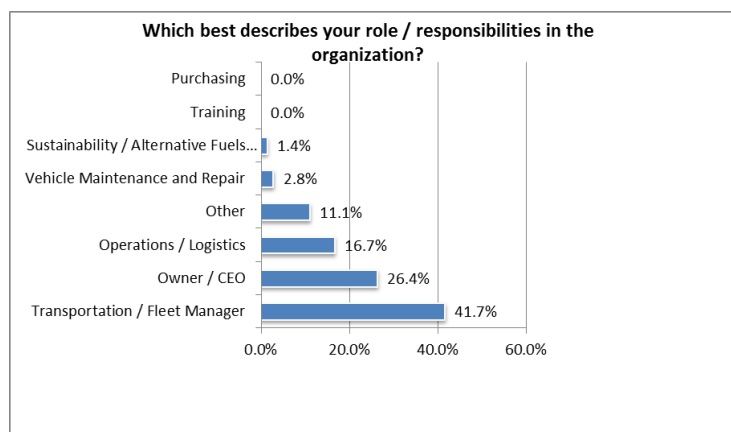
- Fleet Purchase Decision Makers/Influencers (66 responses)
- Government Entities (22 responses)
- Small Fleets (31 responses)
- Respondents Planning to Purchase Alternative Fuel Vehicles (44 responses)

Additionally, ASG evaluated responses from two states: Iowa and Missouri, since total respondents were 25 and 33 respectively. Overall, the small number of responses limited the sub-sets and this data should be considered to have a lower confidence level and greater margin of error. Complete data/answers to all questions are provided in [Appendix 3](#) to this report. Finally, ASG compared the aggregate results for relevant questions to other surveys / studies done including the 2013 Mid America Collaborative Stakeholder Survey ([Appendix 4](#)) and a 2014 GE Capital fleet survey ([Appendix 5](#)).

#### 3.1 BACKGROUND / PROFILE

##### Profile

Of the 73 respondents, 46% were from Missouri, 35% from Iowa, 10% from Nebraska, 8% from Kansas and 1% from another state and therefore was excluded from the survey going forward. Individuals were asked what type of organization they represented. The majority of respondents (61%) were from Private/Non- Government entities, 31% represented State or Local Governments and 6% characterized their organizations as Other, which included universities and public utilities.



The survey reached the intended audience (*Figure 1*): 42% were Transportation/Fleet Managers, 26% were the Owner/CEO and 17% were responsible for Operations/Logistics. Other roles included general manager and fleet support personnel. Further, evidence that the survey reached the intended audience was shown in the data asking about the

*Figure 1*

individual's role in the organization's fleet procurement decisions. More than 50% indicated they were Decision Makers, and approximately 92% of respondents indicated they were Decision Makers or Decision Influencers.

## Fleets

The survey asked questions regarding the associated fleets and saw a wide-range of responses.

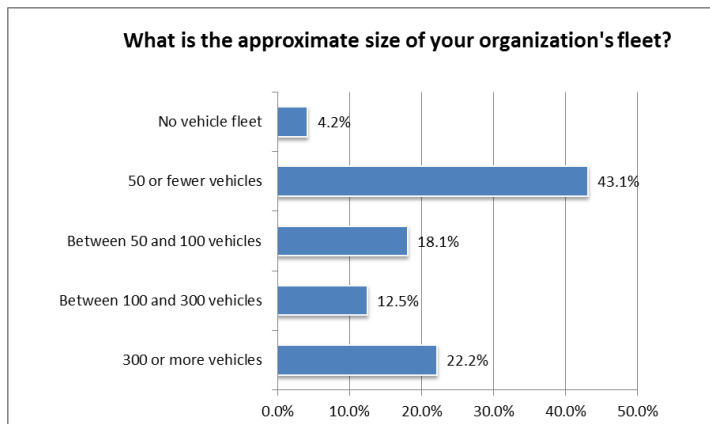


Figure 2

Fleet size was varied (Figure 2), with 43% of respondents indicating they had fewer than 50 vehicles, 18% had between 50 and 100, 12% had between 100 and 300 and 22% had greater than 300 vehicles.

Fleet vehicle makeup was also diverse:

- Light duty (LD) – 10%
- Medium duty (MD) – 5%
- Heavy duty (HD) – 13%
- Mostly LD w/some M/HD – 9%
- Mostly M/HD w/some LD – 15%
- A mix of all – 48%

## Alternative Fuels

Figure 3 shows the percentages of alternative fuel vehicles in respondents' fleets. E85 vehicles were most prevalent with 75% of fleets having at least one. Biodiesel vehicles were represented in more than one third of surveyed fleets, and approximately one fourth of these fleets had CNG (25%) or dedicated electric (23%) vehicles. It was interesting to note that only 9% of these fleets had plug-in hybrid electric vehicles, much lower than dedicated.

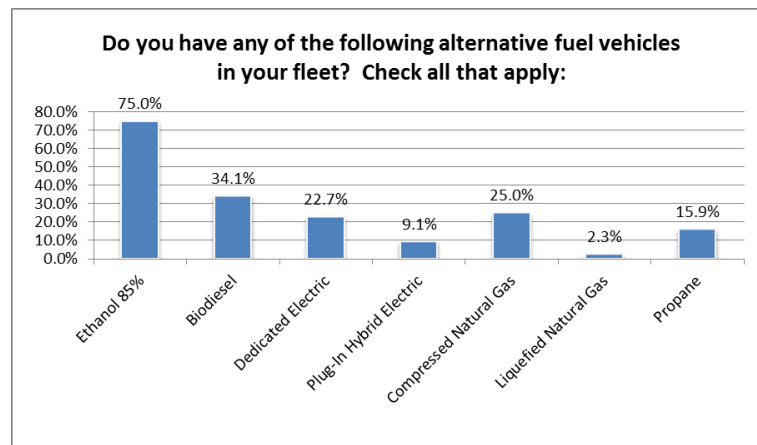


Figure 3

The survey also asked about the payback period of fuel savings organizations required to justify up-front investment in alternative fuel vehicles/technologies. Of those who responded, 75% indicated the payback period was 3 years or less, with 54% responding that a 2-year or less payback period was required. **Responses from government personnel showed longer payback periods (i.e. only 50% indicated a payback period of 3 years or less), while smaller fleets indicated shorter payback cycles (i.e. 84% required payback in 3 years of less).**



When asked if they planned to consider alternative fuel vehicles in future vehicle purchases, 77% of those who responded indicated they would. This is significantly higher than fleet managers surveyed by GE in 2014. GE Capital surveyed about 400 executives who oversee fleets for companies ranging from \$10 million to \$1 billion in sales. Not quite half indicated they will look to add alternative fuel vehicles over the next 5 years to mitigate fuel costs (Automotive News June 23, 2014). See [Appendix 5](#).

Of those who did not plan to consider alternative fuel vehicles most cited cost as the deterrent. Other reasons cited included lack of infrastructure (both regional and national) and concerns about the technologies. All respondents' answers are included in [Appendix 3](#).

### 3.2 PERCEPTIONS / UNDERSTANDING

One of the primary purposes of the survey was to obtain fleet perceptions and understanding of alternative fuel vehicles and technologies. This portion of the survey started by asking how much the individual had heard about each of the alternative fuels during the last year. Responses were rated on a scale from 1 to 4 with 1 being 'none' and 4 being 'a lot'. Based on survey responses, all of the technologies can be said to have some awareness, as the average of the responses scored between 2.5 – 3.5. Ethanol 85% rated highest with an average rating of 3.37; Dedicated Electric vehicles rated the lowest at 2.54.

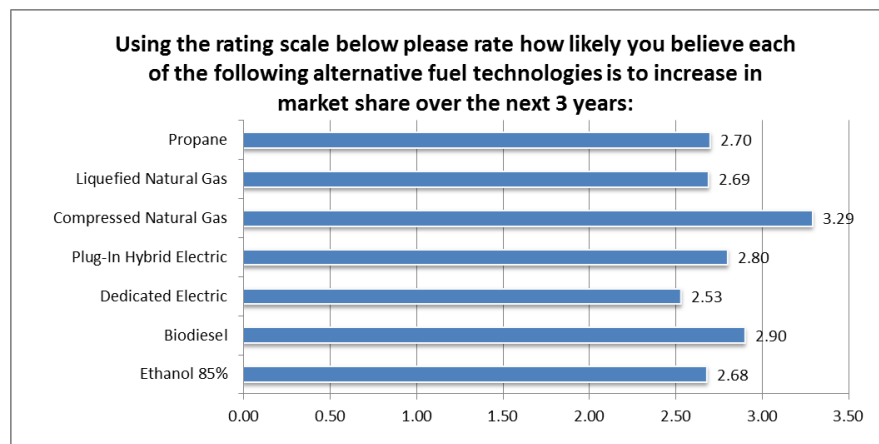


Figure 4

The survey then asked which of the alternative fuel technologies was most likely to increase in market share during the next 3 years. Ratings were from 'very unlikely' (1) to 'very likely' (4). *Figure 4* shows that all technologies were rated as 'likely' though Compressed Natural Gas ranked highest with an average score of 3.29. Responses also appeared consistent across sub-sets of the population.

The Collaborative's 2013 stakeholder survey asked a similar question. Specifically, stakeholders were asked which fuel technologies (up to 3) they believe are the MOST likely to increase in market share in the next 5 years. **The top 3 alternative fuels were consistent between the two surveys. Natural gas again ranked number 1 by respondents, followed by Plug-In Hybrid Electric Vehicles and then Biodiesel.**

Individuals were then asked to rate how likely their organization's fleet was to adopt each of the alternative fuel technologies over the next 3 years. *Figure 5* shows that with the exception of Ethanol 85, which received a likely (2.52) rating, none of the other alternative fuels was likely to be adopted. LNG and Dedicated Electric rated lowest, though not quite "very unlikely".

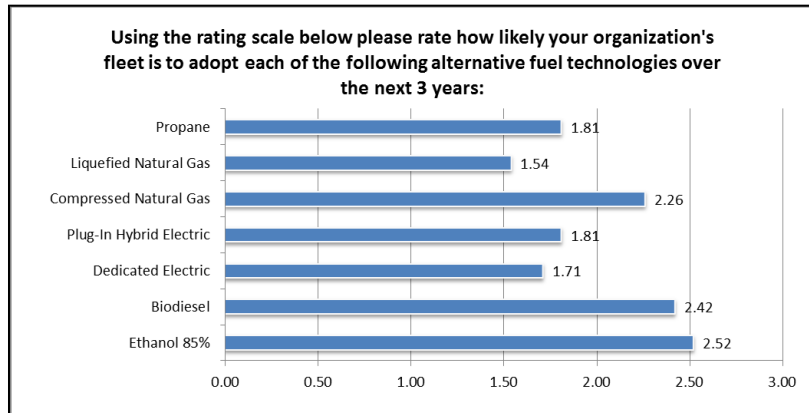


Figure 5

In reviewing the raw data, there were as many or more “very unlikely” as “unlikely” ratings for each of the alternative fuel technologies. Additionally, data was reviewed at a state level for Iowa and Missouri. Iowa respondents identified E85 (2.95), Biodiesel (2.70) and CNG (2.57) as technologies their organizations are likely to adopt. Missouri ratings were lower and did not identify any technology as likely to adopt.

Taking this one step further, individuals were asked to select the one alternative fuel technology that their organization was most likely to adopt for each vehicle class, recognizing that not all technologies were available for each type of vehicle. The results are shown in Figure 6 below. For light duty vehicles (both car and truck), E85 was ranked first. Biodiesel was the most likely technology for Medium Duty vehicles and was tied with CNG for Heavy Duty vehicles.

	Light Duty Cars	Light Duty Trucks	Medium Duty	Heavy Duty
Ethanol 85%	24	23	6	1
Biodiesel	0	5	20	17
Dedicated Electric	3	0	0	0
Plug-In Hybrid Electric	10	3	0	0
Compressed Natural Gas	7	10	15	17
Liquefied Natural Gas	0	1	0	0
Propane	0	3	3	1

Figure 6

The survey then sought to understand fleet perceptions of the various alternative fuel technologies:

- Biodiesel: 91% of respondents agreed that the biodiesel sold today is of higher quality than 10 years ago. Responses were consistent across sub-sets and states (Iowa and Missouri).
- Propane Autogas: 91% of respondents also agreed that propane autogas has improved substantially in the last 20 years. Responses were again consistent across sub-sets and states (Iowa and Missouri).
- Electric: Just under half (48%) of respondents agreed that electric vehicle technology is becoming more viable for fleets. **Government entities (75%) and Missouri residents (62%) rated electric vehicle technology as more viable.** Iowa rated this technology much lower with only 21% agreeing it is becoming more viable.

When asked if the price of E85 was low enough to make it worth considering a Flex Fuel Vehicle [FFV] using E85, only one third of respondents said yes. Much fewer respondents from Government entities (6%) and Missouri (20%) indicated the price was low enough. In contrast, approximately 50% of Iowa residents indicated E85 pricing made Flex Fuel vehicles worth considering.

When asked to rate the safety and reliability of each of the alternative fuel technologies, all received a ranking of ‘safe/reliable’ with E85 being ranked highest (3.35 out of 4) and Dedicated Electric ranked lowest (3.00 out of 4). These ratings were consistent across the population.

Individuals were asked whether they needed more information on where and how to find alternative fuel vehicles for their organization. The majority of respondents (62%) did not believe they needed additional information. Finally, the survey asked if fleets were interested in using a credible alternative fuel fleet planning tool. More than 75% of respondents agreed that they were interested. This was also consistent with the 2013 Mid America Collaborative’s Stakeholder Survey feedback; exactly 75% of respondents agreed that their organization would use this type of tool.

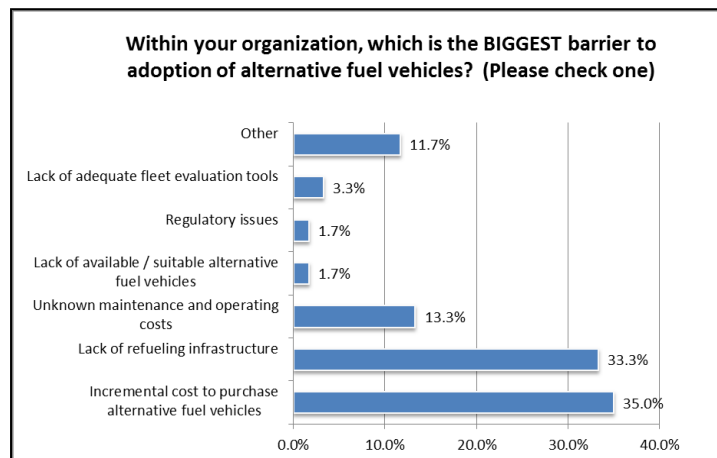
### 3.3 BARRIERS

The survey then addressed the barriers to broad adoption of alternative fuel vehicles.

When asked what the BIGGEST barrier to adoption of alternative fuel vehicles is within their organization, incremental cost was cited most (35%) followed very closely by a lack of refueling infrastructure (33%). (Reference *Figure 7*.) Unknown maintenance and operating costs were cited by 13% of respondents. ‘Other’ barriers (12%) included a variety of responses: all of the above, a lack of education, weight of vehicles and ability to fund conversions. Responses were consistent across the sub-sets evaluated.

With an understanding of the biggest barrier, respondents were next asked to rank the barriers impact from very low (1) to very high (4). The following barriers were ranked ‘high’ with their average noted in parentheses:

- Lack of refueling infrastructure (3.41)
- Incremental cost to purchase alternative fuel vehicles (3.22)
- Unknown maintenance and operations costs (2.72)
- Lack of available / suitable alternative fuel vehicles (2.69)



*Figure 7*

Again, responses were consistent across the population sub-groups identified. A similar question was asked in the 2013 Mid America Collaborative’s Stakeholder Survey. Stakeholders were asked to select (all that apply) the barriers limiting the broad adoption of alternative fuels and vehicles. Responses were again similar:

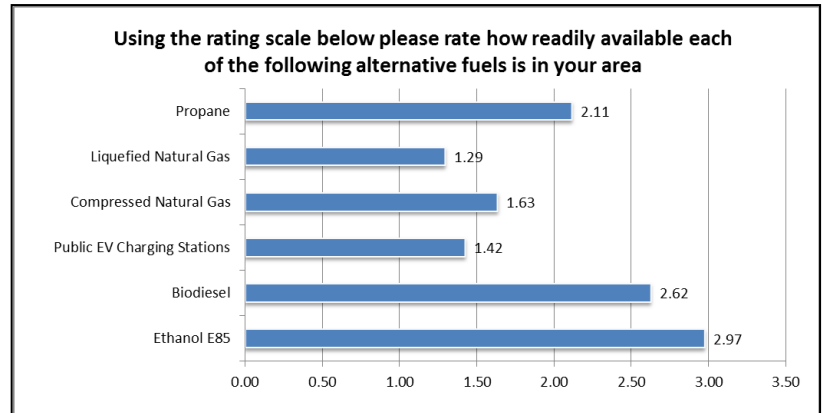
- Cost of new alternative fuel vehicles (68%)
- Lack of public alternative fuel vehicle refueling infrastructure (66%)
- Cost of retrofitting current fleet vehicles (64%)

- Cost of facility alternative fuel retrofitting (59%)

The survey then asked individuals to rate how readily available each of the alternative fuels was in their area.

Reference *Figure 8*.

Rating availability from very low (1) to very high (4), respondents identified only E85 and Biodiesel as high (2.97 and 2.62) respectively. Propane and CNG were ranked low. LNG and Public EV Charging Stations were ranked very low, supporting earlier feedback that refueling infrastructure was lacking. ASG noted no significant difference in sub-set responses.



*Figure 8*

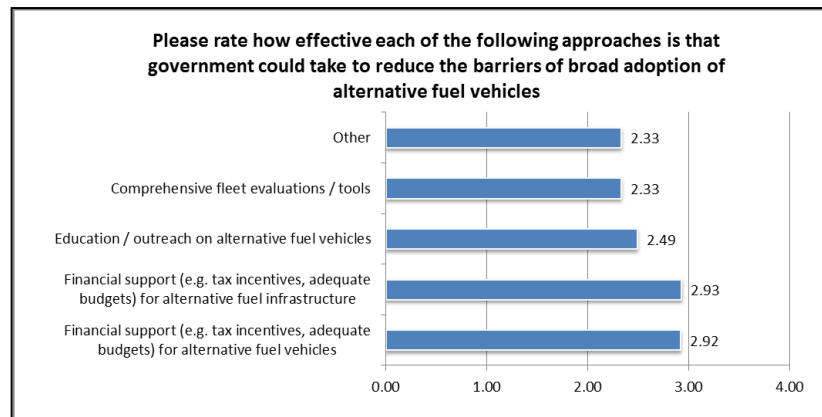
Stakeholders were also asked in the 2013 Mid America Collaborative’s Stakeholder Survey to rate on a scale of 0—not available to 5—very available the availability of alternative fuels in their area. E85 again ranked highest (4.22) followed by Biodiesel (3.10), Propane (2.75), and Natural Gas (2.55). The latter two fuels were rated slightly higher in the original survey, but still ranked as having moderate to low availability. EV charging stations and hydrogen were ranked very low.

To understand how government could help in reducing the barriers to adoption of alternative fuels, the survey asked individuals to rate the effectiveness of a variety of actions. See *Figure 9*.

Again, using a scale from 1 to 4 (not effective to very effective), **respondents identified financial support for both alternative fuel vehicles [AFVs] and infrastructure as effective (2.92 and 2.93 respectively) approaches that government could take.** Other actions

identified included: reducing restrictions on grant funding and weight, though most comments suggested no government involvement.

Sub-groups prioritized and rated these approaches similarly.



*Figure 9*

Finally, the survey asked for respondents to rate how much information is needed on each of the alternative fuels to advance their usage within their organization. Responses were rated on a scale from 1 to 4 with 1 being ‘none’ and 4 being ‘a lot’. *Figure 10* shows some information is needed on Dedicated Electric, PHEV, CNG, LNG and Propane. Respondents were familiar with E85 and Biodiesel. However, the

data suggests that while there are a number of individuals who do not need any information, there were still a high number of respondents who believe that a lot more information is required.

	None	Very Little	Some	A Lot	Rating Average
Ethanol 85%	23	17	11	6	2.00
Biodiesel	18	14	15	8	2.24
Dedicated Electric	16	8	8	21	2.64
Plug-In Hybrid Electric	15	9	9	20	2.64
Compressed Natural Gas	12	11	7	27	2.86
Liquefied Natural Gas	13	9	7	25	2.81
Propane	13	11	11	19	2.67

Figure 10

#### 4. CONCLUSIONS / RECOMMENDATIONS

Overall, the Mid America Collaborative’s online survey generated the desired input from companies and organizations with fleets. Although the response rate was low, the survey still provided a high confidence level (90%) with results that were consistent with a larger sample size survey of the Collaborative’s stakeholders in 2013. The survey reached its intended audience of Fleet Managers, Owner/CEOs and Operations/Logistics personnel and the key decision makers/influencers in fleet procurement decisions. Respondents to the survey included a mix of public and private organizations and represented a variety of fleet sizes and makeup. Further, most respondents had some familiarity with alternative fuel vehicles / technologies.

The goal of the survey was to identify and address key barriers to broad adoption of alternative fuel vehicles and technologies. Consistent with the Collaborative’s stakeholder survey, respondents identified four key issues:

- Lack of refueling infrastructure
- Incremental cost to purchase alternative fuel vehicles
- Unknown maintenance and operations costs
- Lack of available/suitable AFVs

Despite these issues, most (77%) indicated they planned to consider alternative fuel vehicles in future vehicle purchases. Of those who stated AFVs would not be considered, the key issues/barriers above were cited.

Secondarily the survey intended to obtain an understanding of organizations’ attitudes, perceptions, and interests regarding the various alternative fuels technologies. All alternative fuels were viewed as likely to increase in market share. Compressed Natural Gas technology was perceived to be the most likely alternative fuel to increase its market share, followed by Biodiesel and Plug-In Hybrid Electric. However, respondents indicated that their organizations were most likely to purchase E85 vehicles presumably because of the lack of incremental cost and established infrastructure. By vehicle class the survey showed E85 to be the likely alternative fuel technology for light duty vehicles, Biodiesel for medium duty and an equal preference for Biodiesel and CNG for heavy duty vehicles.

Alternative fuel vehicle technologies' quality and reliability are viewed highly. The survey showed that all technologies were viewed as "safe/reliable". Respondents agreed that both Biodiesel and Propane Autogas sold today are of higher quality than 10 to 20 years ago.

While the majority of respondents (62%) did not believe they needed additional information on alternative fuel technologies, there was still a large number who could benefit from education and outreach. Further the survey found that fleets were interested in a credible alternative fuel fleet planning tool. And while both the education/outreach and fleet evaluation tools were identified as somewhat effective in reducing the barriers to adoption of AFVs, financial support for alternative fuel vehicles and infrastructure was seen as the most effective means for reducing the barriers.

When deciding where to focus limited marketing and educational resources, it should be noted that government personnel showed a willingness to accept longer payback periods (i.e. only 50% indicated a payback period of 3 years or less), while smaller fleets indicated shorter payback cycles (i.e. 84% required payback in 3 years or less) were necessary. This indicates that government and larger fleets will remain more likely to adopt AFVs until the economics for those vehicles change resulting in shorter payback periods. Similarly, there may be more opportunities for electric vehicles in government fleets.

Considering this data and insight, the Collaborative of Clean Cities coalitions should continue to work directly with fleets to assist them in converting to alternative fuel technologies. By educating and bringing additional resources (e.g. grants, fleet tools), Clean Cities will assist these organizations in developing the necessary business cases for AFV conversions. Further insight may also be gained by conducting a small number of interviews with fleet managers. Those survey respondents who indicated an interest in obtaining additional alternative fuel information may be good candidates for this dialogue. Additionally, the Collaborative should consider additional analysis of their 2013 stakeholder survey which focused largely on education and outreach.

At a national level, the Department of Energy (DOE)/Clean Cities should continue to develop its fleet planning tools and locally the Collaborative should continue to educate fleet managers on how to use them. Further, both DOE and the Collaborative should continue to study the key infrastructure at national and local levels, which would be required to advance use of AFV technologies. Finally, where possible, DOE should provide funding support to cover some of the incremental cost of conversions and added infrastructure in order to advance the use of alternative fuel vehicles and technologies.

## APPENDIX 1 – SURVEY

### INTRODUCTION

The Mid-America Collaborative of Clean Cities coalitions is researching and developing training, tools and new ideas to accelerate the deployment of alternative fuels across our four states: Iowa, Kansas, Missouri and Nebraska, through a U.S. Department of Energy-funded project. As part of this effort, the Collaborative is conducting an online survey to get input from companies and organizations with fleets. Our goal is to identify and address key barriers to broad adoption of alternative fuel vehicles and technologies. The survey should take about 10 minutes, with questions about your organization and about your attitudes, perceptions and interests regarding alternative fuels.

As an incentive for completing this survey, interested participants can opt in for a drawing to win a free fleet assessment from a Green Fleet Technical Assistance Consultant. Four winners (one from each state) will be selected at the conclusion of the survey.

For the purposes of this survey, please consider the following alternative fuels/technologies: Ethanol 85%, Biodiesel, Dedicated Electric, Plug-In Hybrid Electric, Compressed Natural Gas, Liquefied Natural Gas, and Propane.

### BACKGROUND / PROFILE

1. Which state are you located in?

- Iowa
- Kansas
- Missouri
- Nebraska
- Other

THANK YOU FOR YOUR TIME

2. Which best describes the type of organization that you represent?

- Federal Government
- State or Local Government
- Private (Non-Government)
- Other (Please Specify) \_\_\_\_\_

3. What best describes your role/responsibilities in the organization?

- Transportation / Fleet manager
- Sustainability / Alternative Fuels Vehicle Manager
- Purchasing
- Operations / Logistics
- Vehicle Maintenance and Repair
- Training
- Owner/CEO
- Other (Please Specify) \_\_\_\_\_

4. What is your role in your organization's fleet procurement decisions?

- Decision maker
  - Decision influencer
  - Limited involvement
5. What is the approximate size of your organization's fleet?
- 300 or more vehicles
  - Between 100 and 300 vehicles
  - Between 50 and 100 vehicles
  - 50 or fewer vehicles
  - No vehicle fleet
- THANK YOU FOR YOUR TIME
6. Which best describes the make-up of your organization's fleet?
- Light duty vehicles (Up to 8,500 lbs. GVW)
  - Medium duty vehicles (8501 – 33,000 lbs. GVW)
  - Heavy duty vehicles (Over 33,000 lbs. GVW)
  - Mostly light duty, but some medium/heavy duty vehicles
  - Mostly medium/heavy duty, but some light duty vehicles
  - A mix of all vehicles
  - Other (Please Specify) \_\_\_\_\_
7. Do you have any of the following alternative fuel vehicles in your fleet? Check all that apply:
- Ethanol 85%
  - Biodiesel
  - Dedicated Electric
  - Plug-In Hybrid
  - Compressed Natural Gas
  - Liquefied Natural Gas
  - Propane
8. Within your organization, what payback period of fuel savings, if any, would be enough to justify the up-front investment in alternative fuel vehicles? (Assume that you either have publicly available refueling or are not including cost of on-site refueling equipment.)
- 6 months
  - 6 months-1 Year
  - 1-2 Years
  - 2-3 Years
  - 3-5 Years
  - 5-7 Years
  - 7+ Years
  - I Don't Know
9. If your organization plans to purchase any new vehicles will you consider alternative fuel vehicles?
- Yes
  - No



- I Don't Know

10. If your answer to Question 9 is “no”, please briefly explain why not:

---

## PERCEPTIONS / UNDERSTANDING

11. Using the rating scale below, please rate how much you have heard about each of the following alternate fuels during the last year. (Please include any training, outreach and discussions within/outside of your organization):

None    Very Little    Some    A Lot    I Don't Know

- Ethanol 85%
- Biodiesel
- Dedicated Electric
- Plug-In Hybrid Electric
- Compressed Natural Gas
- Liquefied Natural Gas
- Propane

12. Using the rating scale below, please rate how likely you believe each of the following alternative fuel technologies is to increase in market share over the next three years:

Very Unlikely    Unlikely    Likely    Very Likely    I Don't Know

- Ethanol 85%
- Biodiesel
- Dedicated Electric
- Plug-In Hybrid Electric
- Compressed Natural Gas
- Liquefied Natural Gas
- Propane

13. Using the rating scale below, please rate how likely your organization's fleet is to adopt each of the following alternative fuel technologies over the next three years:

Very Unlikely    Unlikely    Likely    Very Likely    I Don't Know

- Ethanol 85%
- Biodiesel
- Dedicated Electric
- Plug-In Hybrid Electric
- Compressed Natural Gas
- Liquefied Natural Gas
- Propane

14. For each class of vehicle which alternative fuel technology is your organization are you most likely to adopt? (Please check one)

Ethanol 85%	Biodiesel	Dedicated Electric	Plug-In Hybrid Electric	Compressed Natural Gas	Liquefied Natural Gas	Propane	I Don't Know
-------------	-----------	--------------------	-------------------------	------------------------	-----------------------	---------	--------------

- Light duty cars
- Light duty trucks
- Medium duty trucks
- Heavy duty trucks

15. Biodiesel being sold today is of higher quality than of 10 years ago

- Agree
- Disagree
- I Don't Know

16. Propane autogas vehicle technology today has improved substantially in the last 20 years ago

- Agree
- Disagree
- I Don't Know

17. The price of E85 in my area is low enough to make it worth considering a Flex Fuel Vehicle/using E85

- Agree
- Disagree
- I Don't Know

18. Electric vehicle technology is becoming more reliable and viable for fleets

- Agree
- Disagree
- I Don't Know

19. Using the rating scale below, please rate how safe and reliable you believe each of the following alternative fuels / technologies is:

Very Unsafe	Not Safe	Safe	Very Safe	I Don't Know
Very Unreliable	Not Reliable	Reliable	Very Reliable	

- Ethanol 85%
- Biodiesel
- Dedicated Electric
- Plug-In Hybrid Electric
- Compressed Natural Gas
- Liquefied Natural Gas
- Propane

20. I need more information on where and how to find alternative fuel vehicles for my organization.

- Agree
- Disagree
- I Don't Know

21. Most organizations like mine are interested in using a credible alternate fuel fleet planning tool.

- Agree
- Disagree
- I Don't Know

## BARRIERS

22. Within your organization, which is the BIGGEST barrier to adoption of alternative fuel vehicles?

(Please check one)

- Incremental cost to purchase alternative fuel vehicles
- Lack of refueling infrastructure
- Unknown maintenance and operations costs
- Lack of available / suitable alternative fuel vehicles
- Regulatory issues
- Lack of adequate fleet evaluation tools
- Other (Please Specify) \_\_\_\_\_

23. Using the rating scale below, please rank the barriers to broad adoption of alternative fuel vehicles in your organization.

- |   | Very Low | Low | High | Very High | I Don't Know |
|---|----------|-----|------|-----------|--------------|
| <input type="checkbox"/> Incremental cost to purchase alternative fuel vehicles |          |     |      |           |              |
| <input type="checkbox"/> Lack of refueling infrastructure                       |          |     |      |           |              |
| <input type="checkbox"/> Unknown maintenance and operations costs               |          |     |      |           |              |
| <input type="checkbox"/> Lack of available / suitable alternative fuel vehicles |          |     |      |           |              |
| <input type="checkbox"/> Regulatory issues                                      |          |     |      |           |              |
| <input type="checkbox"/> Lack of adequate fleet evaluation tools                |          |     |      |           |              |
| <input type="checkbox"/> Other (Please Specify) _____                           |          |     |      |           |              |

24. Using the rating scale below, please rate how readily available each of the following alternate fuels are in your area.

- |  | Very Low | Low | High | Very High | I Don't Know |
|--|----------|-----|------|-----------|--------------|
| <input type="checkbox"/> Ethanol 85                  |          |     |      |           |              |
| <input type="checkbox"/> Biodiesel                   |          |     |      |           |              |
| <input type="checkbox"/> Public EV charging stations |          |     |      |           |              |
| <input type="checkbox"/> Compressed Natural Gas      |          |     |      |           |              |
| <input type="checkbox"/> Liquefied Natural Gas       |          |     |      |           |              |
| <input type="checkbox"/> Propane                     |          |     |      |           |              |

25. Please rate how effective each of the following approaches is that government could take to reduce the barriers of broad adoption of alternative fuel vehicles?

- |  | Not Effective | Somewhat Effective | Effective | Very Effective | I Don't Know |
|--|---------------|--------------------|-----------|----------------|--------------|
| <input type="checkbox"/> Financial support (e.g. tax incentives, adequate budgets) for alternative fuel vehicles       |               |                    |           |                |              |
| <input type="checkbox"/> Financial support (e.g. tax incentives, adequate budgets) for alternative fuel infrastructure |               |                    |           |                |              |
| <input type="checkbox"/> Education / outreach on alternative fuel vehicles   |               |                    |           |                |              |
| <input type="checkbox"/> Comprehensive fleet evaluations / tools   |               |                    |           |                |              |
| <input type="checkbox"/> Other (Please Specify) _____  |               |                    |           |                |              |

26. Using the rating scale below, please rate how much information you need on each of the alternative fuel technologies in order to advance usage within your organization:

None    Very Little    Some    A Lot    I Don't Know

- Ethanol 85%
- Biodiesel
- Dedicated Electric
- Plug-In Hybrid electric
- Compressed Natural Gas
- Liquefied Natural Gas
- Propane

27. If you are interested in being entered into a drawing for a free fleet assessment and/or copy of the survey results, please provide your contact information below. (Note that your survey responses will remain confidential.)

- Name \_\_\_\_\_
- Email \_\_\_\_\_
- Phone \_\_\_\_\_

28. If you are interested in receiving any additional information on alternative fuel vehicles / technologies, please provide your contact information below. (Note that your survey responses will remain confidential.)

- Name \_\_\_\_\_
- Email \_\_\_\_\_
- Phone \_\_\_\_\_

Thank you for your response to this survey!

## APPENDIX 2 – FLEET PROSPECTS/ STATISTICS

Source	State(s)	No. of Prospects	Audience
Fleet Seek	All	5525	Fleets w/5+ vehicles
Top 300 Fleets	All	21	Large private fleets
Beverage Industry Association	Iowa	50	Beverage fleets
League of Cities	Iowa	857	Public fleets
Society of Solid Waste Operators	Iowa	158	Waste fleets
APWA - Public Works Associations	Kansas	51	Public fleets
SWANA	Kansas	25	Waste fleets
Municipal and State Fleets	Kansas	35	State/university fleets
NAFA - Mid-America Chapter	Kansas	300	Fleet managers
Missouri Parks & Rec Association	Missouri	25	Park fleets
Missouri Chamber of Commerce	Missouri	25	Private fleets
Missouri Clean Cities Stakeholders	Missouri	25	Various fleets
Missouri Trucking Association	Missouri	500	Missouri trucking companies
Municipal and State Fleets	Missouri	25	State/university fleets
Municipal and State Fleets	Missouri	25	State/university fleets
NAFA - St Louis Chapter	Missouri	300	Fleet managers
Nebraska Trucking Association	Nebraska	800	Nebraska trucking companies
<b>Total Surveyed</b>		<b>8747</b>	

Rough estimate only

### Acy Mailing Statistics

5525 e-mails sent

Send Date : 21 April 2014 20:00

18.80% users opened the Newsletter ( 1039 )

2.298% users clicked on a link ( 127 )

1.429% users unsubscribed ( 79 )

0% bounced ( 0 )

10834 e-mails sent

Send Dates : 07 May 2014 12:00 and 03 June 2014 14:44

11.85% users opened the Newsletter ( 1284 )

1.772% users clicked on a link ( 192 )

1.236% users unsubscribed ( 134 )

0% bounced ( 0 )

## APPENDIX 3 – SURVEY RESPONSES

### BACKGROUND / PROFILE

1. Which state are you located in?		
Answer Options	Response Percent	Response Count
Iowa	34.7%	25
Kansas	8.3%	6
Missouri	45.8%	33
Nebraska	9.7%	7
Other	1.4%	1
<i>answered question</i>		<b>72</b>
<i>skipped question</i>		<b>1</b>

2. Which best describes the type of organization that you represent?		
Answer Options	Response Percent	Response Count
Federal Government	0.0%	0
State or Local Government	30.6%	22
Private (Non-Government)	61.1%	44
Other	8.3%	6
Other (please specify)		6
<i>answered question</i>		<b>72</b>
<i>skipped question</i>		<b>1</b>

3. Which best describes your role / responsibilities in the organization?		
Answer Options	Response Percent	Response Count
Transportation / Fleet Manager	41.7%	30
Owner / CEO	26.4%	19
Operations / Logistics	16.7%	12
Other	11.1%	8
Vehicle Maintenance and Repair	2.8%	2
Sustainability / Alternative Fuels Vehicle Manager	1.4%	1
Training	0.0%	0
Purchasing	0.0%	0
Other (please specify)		7
<i>answered question</i>		<b>72</b>
<i>skipped question</i>		<b>1</b>



#### 4. What is your role in your organization's fleet procurement decisions?

Answer Options	Response Percent	Response Count
Decision Maker	51.4%	37
Decision Influencer	40.3%	29
Limited Involvement	8.3%	6
<i>answered question</i>		<b>72</b>
<i>skipped question</i>		<b>1</b>

#### 5. What is the approximate size of your organization's fleet?

Answer Options	Response Percent	Response Count
300 or more vehicles	22.2%	16
Between 100 and 300 vehicles	12.5%	9
Between 50 and 100 vehicles	18.1%	13
50 or fewer vehicles	43.1%	31
No vehicle fleet	4.2%	3
<i>answered question</i>		<b>72</b>
<i>skipped question</i>		<b>1</b>

#### 6. Which best describes the make-up of your organization's fleet?

Answer Options	Response Percent	Response Count
Light duty vehicles (Up to 8,500 lbs. GVW)	10.4%	7
Medium duty vehicles (8501 to 33,000 lbs. GVW)	4.5%	3
Heavy duty vehicles (Over 33,000 lbs. GVW)	13.4%	9
Mostly light duty, but some medium / heavy duty vehicles	9.0%	6
Mostly medium / heavy duty, but some light duty vehicles	14.9%	10
A mix of all vehicles	47.8%	32
Other	0.0%	0
Other (please specify)		0
<i>answered question</i>		<b>67</b>
<i>skipped question</i>		<b>6</b>

**7. Do you have any of the following alternative fuel vehicles in your fleet? Check all that apply:**

Answer Options	Response Percent	Response Count
Ethanol 85%	75.0%	33
Biodiesel	34.1%	15
Dedicated Electric	22.7%	10
Plug-In Hybrid Electric	9.1%	4
Compressed Natural Gas	25.0%	11
Liquefied Natural Gas	2.3%	1
Propane	15.9%	7
<i>answered question</i>		<b>44</b>
<i>skipped question</i>		<b>29</b>

**8. Within your organization, what payback period of fuel savings would be enough to justify the up-front investment in alternative fuel vehicles / technologies? (Assume that you either have publicly available refueling or are not including cost of on-site refueling equipment.)**

Answer Options	Response Percent	Response Count
6 Months	6.1%	4
6 Months-1 Year	12.1%	8
1-2 Years	24.2%	16
2-3 Years	16.7%	11
3-5 Years	13.6%	9
5-7 Years	1.5%	1
7+ Years	4.5%	3
I Don't Know	21.2%	14
<i>answered question</i>		<b>66</b>
<i>skipped question</i>		<b>7</b>

**9. If you plan to purchase new vehicles, will your organization consider alternative fuel vehicles?**

Answer Options	Response Percent	Response Count
Yes	65.7%	44
No	19.4%	13
I Don't Know	14.9%	10
<i>answered question</i>		<b>67</b>
<i>skipped question</i>		<b>6</b>

**10. If your organization will not consider alternative fuel vehicles, please briefly explain why not:**

Answer Options	Response Count
	17

<i>answered question</i>	<b>17</b>
<i>skipped question</i>	<b>56</b>

Responses:

- The cost savings return takes longer than the replacement life cycle of the vehicle.
- Cost
- Upfront cost of conversion, even with the grants which pose their own issues the upfront cost does not make sense at this time for a cost effective payback in a reasonable time frame.
- Short of biodiesel, the other technologies in the heavy truck space have too long of a payback period, if ever.
- Have had significant issues with biodiesel products in our vehicles.
- The last review of alternative fuels proved the ROI three times greater than the life expectancy of the asset.
- Very conservative management
- Infrastructure and geography
- Straight alternative vehicles weigh too much and without a special weight exemption to compensate for the loss in revenue it is not feasible to run straight alternative trucks
- Need to have more history before purchasing
- Not available
- Our drivers are all over the United States. We do not have the infrastructure to support it. For E-85, the decrease in fuel economy increases the overall cost for fuel in the vehicle, making it a more expensive option in the long run.
- Lack of refueling nationwide in remote areas
- Too time consuming and cost prohibitive
- It would be absolutely ridiculous to spend more money to purchase a vehicle that uses an alternative fuel that costs more to operate because the fuels cause more problems to the vehicles than regular diesel and gasoline.
- Would only consider if cost neutral or savings versus traditional engine.

## PERCEPTIONS / UNDERSTANDING

11. Using the rating scale below, please rate how much you have heard about each of the following alternative fuels during the last year. (Please include any training, outreach and discussions within / outside of your organization.)							
Answer Options	None	Very Little	Some	A Lot	I Don't Know	Rating Average	Response Count
Ethanol 85%	2	5	22	31	1	3.37	61
Biodiesel	3	8	23	26	1	3.20	61
Dedicated Electric	8	22	15	12	2	2.54	59
Plug-In Hybrid Electric	6	18	24	13	1	2.72	62
Compressed Natural Gas	4	12	18	28	1	3.13	63
Liquefied Natural Gas	7	21	17	15	1	2.67	61
Propane	4	16	26	16	1	2.87	63
<i>answered question</i>							<b>63</b>

*skipped question* 10

12. Using the rating scale below please rate how likely you believe each of the following alternative fuel technologies is to increase in market share over the next 3 years:

Answer Options	Very Unlikely	Unlikely	Likely	Very Likely	I Don't Know	Rating Average	Response Count
Ethanol 85%	3	26	17	13	3	2.68	62
Biodiesel	2	16	28	14	2	2.90	62
Dedicated Electric	6	15	30	2	7	2.53	60
Plug-In Hybrid Electric	6	10	28	11	7	2.80	62
Compressed Natural Gas	2	7	22	28	4	3.29	63
Liquefied Natural Gas	3	19	24	8	7	2.69	61
Propane	3	22	20	11	6	2.70	62
<i>answered question</i>							63
<i>skipped question</i>							10

13. Using the rating scale below please rate how likely your organization's fleet is to adopt each of the following alternative fuel technologies over the next 3 years:

Answer Options	Very Unlikely	Unlikely	Likely	Very Likely	I Don't Know	Rating Average	Response Count
Ethanol 85%	14	14	19	13	2	2.52	62
Biodiesel	15	15	18	11	3	2.42	62
Dedicated Electric	27	19	9	1	4	1.71	60
Plug-In Hybrid Electric	28	16	11	3	4	1.81	62
Compressed Natural Gas	18	18	11	11	5	2.26	63
Liquefied Natural Gas	29	24	3	0	6	1.54	62
Propane	25	21	8	3	5	1.81	62
<i>answered question</i>							63
<i>skipped question</i>							10

14. For each vehicle class below, which alternative fuel technology is your organization most likely to adopt? (Please check one)

Answer Options	Ethanol 85%	Bio-diesel	Dedicated Electric	Plug-In Hybrid Electric	CNG	LNG	Propane	I Don't Know	Response Count
Light Duty Cars	24	0	3	10	7	0	0	15	59
Light Duty Trucks	23	5	0	3	10	1	3	11	56
Medium Duty Trucks	6	20	0	0	15	0	3	15	59
Heavy Duty Trucks	1	17	0	0	17	0	1	23	59
<i>answered question</i>									63
<i>skipped question</i>									10

15. Biodiesel being sold today is of higher quality than of 10 years ago

Answer Options	Response Percent	Response Count
Agree	66.7%	42
Disagree	6.3%	4
I Don't Know	27.0%	17
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**16. Propane autogas vehicle technology today has improved substantially in the last 20 years**

Answer Options	Response Percent	Response Count
Agree	50.8%	32
Disagree	4.8%	3
I Don't Know	44.4%	28
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**17. The price of E85 in my area is low enough to make it worth considering a Flex Fuel Vehicle using E85**

Answer Options	Response Percent	Response Count
Agree	28.6%	18
Disagree	58.7%	37
I Don't Know	12.7%	8
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**18. Electric vehicle technology is becoming more viable for fleets**

Answer Options	Response Percent	Response Count
Agree	33.3%	21
Disagree	36.5%	23
I Don't Know	30.2%	19
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**19. Using the rating scale below, please rate how safe and reliable you believe each of the following alternative fuels/technologies is:**

Answer Options	Very Unsafe / Very Unreliable	Not Safe / Not Reliable	Safe / Reliable	Very Safe / Very Reliable	I Don't Know	Rating Average	Response Count
----------------	-------------------------------	-------------------------	-----------------	---------------------------	--------------	----------------	----------------

Ethanol 85%	2	5	23	30	2	3.35	62
Biodiesel	2	4	25	27	4	3.33	62
Dedicated Electric	4	3	24	11	20	3.00	62
Plug-In Hybrid Electric	2	5	23	13	19	3.09	62
Compressed Natural Gas	1	7	23	17	15	3.17	63
Liquefied Natural Gas	2	7	20	12	21	3.02	62
Propane	1	4	31	14	13	3.16	63
<i>answered question</i>							<b>63</b>
<i>skipped question</i>							<b>10</b>

**20. I need more information on where and how to find alternative fuel vehicles for my organization**

Answer Options	Response Percent	Response Count
Agree	33.3%	21
Disagree	54.0%	34
I Don't Know	12.7%	8
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**21. Most organizations like mine are interested in using a credible alternative fuel fleet planning tool**

Answer Options	Response Percent	Response Count
Agree	54.0%	34
Disagree	17.5%	11
I Don't Know	28.6%	18
<i>answered question</i>		<b>63</b>
<i>skipped question</i>		<b>10</b>

**BARRIERS**

**22. Within your organization, which is the BIGGEST barrier to adoption of alternative fuel vehicles? (Please check one)**

Answer Options	Response Percent	Response Count
Incremental cost to purchase alternative fuel vehicles	35.0%	21
Lack of refueling infrastructure	33.3%	20
Unknown maintenance and operating costs	13.3%	8
Lack of available / suitable alternative fuel vehicles	1.7%	1
Regulatory issues	1.7%	1
Lack of adequate fleet evaluation tools	3.3%	2
Other	11.7%	7

Other (please specify)	10
<i>answered question</i>	<b>60</b>
<i>skipped question</i>	<b>13</b>

Other Responses:

- Lack of education
- We are focused in E-85 Ethanol; it complements our agriculture business
- All above
- Weight of vehicles
- Refineries are not required to let anyone know % of bio in diesel, impossible to asses or use in different temperatures to add more bio. manufacturers and their service dealers not in Midwest to sell or service.
- Known maintenance and operating cost are HUGE!
- We are a DOT & funded by the fuel tax -- the funding structure needs to change before we can fully support technology such as CNG. We already use B20 & E85
- Don't know
- Getting the entire fleet converted to CNG takes time with a large fleet and substantial investment

<b>23. Using the rating scale below please rate the following barriers to broad adoption of alternative fuel vehicles in your organization</b>							
Answer Options	Very Low	Low	High	Very High	I Don't Know	Rating Average	Response Count
Incremental cost to purchase alternative fuel vehicles	2	11	18	28	2	3.22	61
Lack of refueling infrastructure	2	2	25	30	2	3.41	61
Unknown maintenance and operations costs	5	21	17	15	3	2.72	61
Lack of available / suitable alternative fuel vehicles	8	18	17	16	2	2.69	61
Regulatory issues	12	19	13	8	10	2.33	62
Lack of adequate fleet evaluation tools	10	27	15	3	6	2.20	61
Other	6	1	3	2	8	2.08	20
Other (please specify)							4
<i>answered question</i>							<b>62</b>
<i>skipped question</i>							<b>11</b>

Other Responses:

- Very conservative management structure
- Weight again
- Known maintenance and operating cost are HUGE!
- Poor fuel efficiency for E85

**24. Using the rating scale below please rate how readily available each of the following alternative fuels is in your area**

Answer Options	Very Low	Low	High	Very High	I Don't Know	Rating Average	Response Count
Ethanol E85	3	15	22	19	2	2.97	61
Biodiesel	2	25	20	8	6	2.62	61
Public EV Charging Stations	35	14	1	2	9	1.42	61
Compressed Natural Gas	30	16	6	2	8	1.63	62
Liquefied Natural Gas	35	12	1	0	13	1.29	61
Propane	22	11	14	7	8	2.11	62
<i>answered question</i>							<b>62</b>
<i>skipped question</i>							<b>11</b>



**25. Please rate how effective each of the following approaches is that government could take to reduce the barriers of broad adoption of alternative fuel vehicles**

Answer Options	Not Effective	Somewhat Effective	Effective	Very Effective	I Don't Know	Rating Average	Response Count
Financial support (e.g. tax incentives, adequate budgets) for alternative fuel vehicles	5	15	20	20	2	2.92	62
Financial support (e.g. tax incentives, adequate budgets) for alternative fuel infrastructure	5	13	22	19	2	2.93	61
Education / outreach on alternative fuel vehicles	8	20	22	7	4	2.49	61
Comprehensive fleet evaluations / tools	7	30	14	6	4	2.33	61
Other	4	1	1	3	11	2.33	20
Other (please specify)							6
<i>answered question</i>							<b>62</b>
<i>skipped question</i>							<b>11</b>

## Other Responses:

- More grant funding with less restrictions on the grant
- Overweight allowances so trucks can haul same payload
- The government should not be involved & allow the market to decide
- The government should not be developing or funding infrastructure or incentives. If it needs to be developed the free market system should foot the bill. The good old American way. Limited government influence.
- Quit using MY tax dollars to fund a farce!
- Change DOT Funding Structure so alternative fuels/electric vehicles don't take money away from the roads

**26. Using the rating scale below please rate how much information you need on each of the alternative fuel technologies in order to advance usage within your organization**

Answer Options	None	Very Little	Some	A Lot	I Don't Know	Rating Average	Response Count
Ethanol 85%	23	17	11	6	3	2.00	60
Biodiesel	18	14	15	8	5	2.24	60
Dedicated Electric	16	8	8	21	7	2.64	60
Plug-In Hybrid Electric	15	9	9	20	6	2.64	59
Compressed Natural Gas	12	11	7	27	4	2.86	61
Liquefied Natural Gas	13	9	7	25	5	2.81	59
Propane	13	11	11	19	5	2.67	59
<i>answered question</i>							<b>61</b>
<i>skipped question</i>							<b>12</b>

**27. If you are interested in being entered into a drawing for a free fleet assessment and/or copy of the survey results, please provide your contact information below. (Note that your survey responses will remain confidential.)**

Answer Options	Response Percent	Response Count
Name	100.0%	16
Email	100.0%	16
Phone Number	93.8%	15
<i>answered question</i>		<b>16</b>
<i>skipped question</i>		<b>57</b>

**28. If you are interested in receiving additional information on alternative fuel vehicles / technologies, please provide your contact information below. (Note that your survey responses will remain confidential.)**

Answer Options	Response Percent	Response Count
Name	100.0%	12
Email	100.0%	12
Phone Number	91.7%	11
<i>answered question</i>		<b>12</b>
<i>skipped question</i>		<b>61</b>

*Metropolitan Energy Center, a 501(c)3 based in Kansas City, serves as the lead in this U.S. Department of Energy funded project. MEC provides staffing and administration for the Kansas City Regional Clean Cities Coalition.*

*The Mid-America Collaborative for Alternative Fuels is the Kansas City Regional Clean Cities Coalition, Nebraska Clean Cities Coalition, St. Louis Regional Clean Cities and the Iowa Clean Cities Coalition. The Collaborative endorses a multi-pronged approach where appropriate fuel diversity creates an energy secure future. We aim to eliminate obstacles to adoption of vehicles and infrastructure using natural gas, B20 biodiesel, E85 ethanol, propane autogas, electricity, and hybrid electric technologies. Visit [www.metroenergy.org](http://www.metroenergy.org) to learn more about the Collaborative. The project is funded by U.S. DOE Award DE-EE00060009.*

Mid-America Collaborative for Alternative Fuels Implementation









Iowa Clean Cities Coalition is a program of



[www.metroenergy.org](http://www.metroenergy.org)

Metropolitan Energy Center

816-531-7283

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## APPENDIX 4 – 2013 MID AMERICA COLLABORATIVE STAKEHOLDER SURVEY

### Relevant Questions Only

8. Which fuel technologies do you consider the MOST likely to increase market share in the next five (5) years? Select up to three (3) choices:		
Answer Options	Response Percent	Response Count
Ethanol-85	17.8%	31
Ethanol-15	12.6%	22
Biodiesel	30.5%	53
Plug-in Electric (PEV)	42.0%	73
Hybrid Electric (HEV)	56.3%	98
Extended Range EV	25.3%	44
Hydrogen	12.6%	22
Natural Gas	70.1%	122
Propane	20.1%	35
<i>answered question</i>		<b>174</b>
<i>skipped question</i>		<b>29</b>

21. Most organizations like mine are interested in using a credible alternative fuel fleet planning tool		
Answer Options	Response Percent	Response Count
Agree	75.4%	104
Disagree	25.4%	34
<i>answered question</i>		<b>138</b>
<i>skipped question</i>		<b>65</b>

24. In your opinion, how readily available are the following alternative fuels in your area? (0 - Not Available to 5 - Very Available)									
Answer Options	0	1	2	3	4	5	Don't Know	Rating Average	Response Count
Ethanol 85	4	11	16	24	31	43	9	4.22	138
Biodiesel	7	20	17	27	24	17	26	3.10	138
EV charging stations	37	43	16	13	5	4	20	1.97	138
Hydrogen	87	6	1	2	0	0	42	0.80	138
Natural Gas	23	40	25	19	10	8	13	2.55	138
Propane	19	17	17	23	15	18	29	2.75	138
<i>answered question</i>									<b>138</b>
<i>skipped question</i>									<b>65</b>

**26. Within your organization, which is the BIGGEST barrier to adoption of alternative fuel vehicles? (Please check one)**

Answer Options	Response Percent	Response Count
Cost of new alternative fuel vehicles	68.1%	94
Lack of public AFV refueling infrastructure	65.9%	91
Lack of financial incentives	53.6%	74
Unknown vehicle resale market	24.6%	34
Cost of retrofitting current fleet vehicles	63.8%	88
Cost of facility alternate fuel retrofitting	59.4%	82
Local government regulations	8.7%	12
Local permitting process	7.2%	10
Outdated utility statutes	8.0%	11
Cost of training current staff	11.6%	16
Lack of staff training resources	12.3%	17
Unknown maintenance and operating costs	13.3%	8
Lack of alternative fuels fleet planning guidelines	22.5%	31
Alternative fuels are not in state or metropolitan plan	11.6%	16
Lack of market ready alternative fuel vehicles	29.7%	41
There is good petroleum supply and availability	31.2%	43
<i>answered question</i>		<b>138</b>
<i>skipped question</i>		<b>65</b>

## APPENDIX 5 – GE CAPITAL FLEET SURVEY

### Fleet buyers want to expand, add alternative-fuel vehicles, survey finds

Kathleen Burke

Automotive News | June 23, 2014 - 2:58 pm EST

Middle-market companies are looking to expand and tweak their aging vehicle fleets in light of the improving economic outlook and rising fuel costs, an industry survey released today found.

GE Capital surveyed about 400 executives who oversee fleets for companies that range from \$10 million to \$1 billion in sales. It found that about 27 percent plan to expand their fleets in the next year, and almost half will look to add alternative-fuel vehicles over the next five years to mitigate fuel costs. Just 4 percent already operate alternative-fuel vehicles.

Executives said their primary fleet costs were maintenance and fuel, with more than half expecting costs to increase this year. The largest expenses this past year came from older-vehicle upkeep and unscheduled repairs.

In a fleet services study released in May, GE Capital reported that general maintenance costs decreased 4 percent in 2013 from 2012 levels.

Though fleet maintenance costs have been an area of concern, the respondents -- which included retail, construction and health care executives -- reported overall improvement in their companies' performance, with better financial results and higher employment. They also expressed confidence in the local and national economies.

The most common method of acquiring new fleet vehicles was leasing, according to the survey. Thirty percent of executives said they leased vehicles, while 28 percent used cash on hand to purchase vehicles.

For the top seven automakers, fleet sales increased 7 percent in May from a year earlier, Automotive News reported this month.

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Metropolitan Energy Center, a 501(c)3 based in Kansas City, provides staffing and administration for the Kansas City Regional Clean Cities Coalition.

The Mid-America Collaborative for Alternative Fuels is the Kansas City Regional Clean Cities Coalition, Nebraska Clean Cities Coalition, St. Louis Regional Clean Cities and the Iowa Clean Cities Coalition. The Collaborative endorses a multi-pronged approach wherein appropriate fuel diversity creates an energy secure future. We aim to eliminate obstacles to adoption of vehicles and infrastructure using natural gas, B20 biodiesel, E85 ethanol, propane autogas, electricity, and hybrid electric technologies. Visit [www.metroenergy.org](http://www.metroenergy.org) to learn more about the Collaborative. The project is funded by U.S. DOE Award DE-EE0006009.

Mid-America Collaborative for Alternative Fuels Implementation



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