

# Report on driver attitudes towards flexifuel vehicles

Based on questionnaires in all participating sites  
Survey results from 2007 and 2008

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## **Report on driver attitudes towards flexifuel vehicles**

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# Preface

The BEST project (Bioethanol for Sustainable Transport) deals with the introduction and market penetration of bioethanol as a vehicle fuel, establishment of infrastructure for supply and fuelling of bioethanol, and the introduction and wider use of ethanol cars and flexible fuel vehicles on the market.

During the project more than 10.000 ethanol cars and 140 ethanol buses will be put in operation and E85 and E95 fuel stations will be opened.

Low blends with petrol and diesel will be developed and tested. Through this, the participating cities and regions aim to prepare a market breakthrough for ethanol vehicles and bioethanol and also to inspire and obtain followers.

Participating cities/regions are: Biofuel Region (SE), Rotterdam (NL), Somerset (UK), Basque Country, Nanyang (China), Madrid (ES), La Spezia (IT), Sao Paolo (Brazil) and Brandenburg (DE). Co-ordinating City is Stockholm (SE). Industrial partners are Ford Europe, Saab Automobile and several bioethanol suppliers.

The project is co-financed within the 6th framework; Sustainable Energy Systems/Alternative Motor Fuels: Biofuel Cities.

Within BEST, Stockholm is co-ordinating the sites` work with flexifuel cars (FFV), running on both ethanol (E85) and petrol. This report contains the results of two consecutive studies evaluating the experiences and attitudes of drivers of flexi-fuel cars within BEST. The survey was carried out in seven of the ten BEST sites with a total of 550 answers in 2007 and in nine sites with a total of 620 answers in 2008. The questionnaire was developed and approved by the BEST sites with inspiration from previous questionnaires carried out in Stockholm. This report was written by Lina Sjölin/Christine Schnabel and analysis made by Anna Johansson, all WSP Analys & Strategi in Stockholm.

Stockholm in December 2008

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## Summary

This report presents a survey about the attitudes of the drivers of flexifuel vehicles in sites which are part of the BEST project. The survey consists of two consecutive surveys (“before” and “after”), conducted in spring 2007 and autumn 2008. The first survey was carried out at seven of the BEST-sites, the second at nine sites. The surveys were directed to private ethanol car owners as well as to drivers of ethanol cars within city and commercial fleets. The purpose of the report is to analyse changes in driver attitudes during the course of the project.

The questionnaire was developed at the Stockholm site and was translated and administered at all participating sites. The sample sizes and numbers of respondents vary significantly between the sites, depending on how far the sites have come with the introduction of ethanol as fuel and on the means and possibilities of identifying users of ethanol cars at the different sites.

The survey contained, besides several questions about the respondents’ background, questions about reasons for purchasing and driving an ethanol car, about filling stations, perception of differences between ethanol cars and “conventional” cars, attitudes towards and satisfaction with ethanol cars, and sources of information regarding ethanol vehicles. These questions mentioned were included in both the 2007 and 2008 surveys. In 2008, a question concerning the perception of economic advantages of ethanol cars was added to the questionnaire.

When looking at the background data assembled for all sites together, the results are quite similar in both surveys. At a site-level, however, several significant changes have occurred, which are described in detail in the report.

- In both surveys most of the respondents (70 percent) were men and the predominant age group was between 26-65 years old (around 92 percent). The main share of respondents worked within public service (over 40 percent) and the cars driven by the respondents were mainly owned by their employers (around 70 percent). A significant change has occurred regarding the distances covered per week by the ethanol cars. In the 2008 survey more respondents covered up to 400 kilometres per week compared to 2007.

Results regarding attitudes, perceptions and behaviour are as follows:

- In 2007, for half of the owners of a private ethanol car the reason for purchasing an ethanol car was their concern for the environment. The importance of this reason has weakened over time to 44 percent in 2008. Instead, the reason of economic advantage has become more important, from 23 percent in 2007 to 38 percent in 2008.
- The primary reason for the drivers of company owned cars to drive an ethanol car was the companies’ policy and this became even more important in 2008 (43 percent in 2007, 61 percent in 2008). Compared to the results from 2007, the reasons environment, economic advantage and support for ethanol as a fuel are less important in 2008.
- A majority of the respondents have changed opinion on ethanol cars since they started driving them and this has changed only slightly over time. In both 2007 and 2008, around half of the respondents had become more positive and around 11 percent had become more negative.
- In both surveys three quarters of the drivers were generally satisfied with their experience driving an ethanol car.
- Most of the respondents would recommend ethanol cars to others (around 82 percent in both surveys).
- The share of respondents who found the number of fuelling stations for ethanol appropriate has almost doubled from 22 percent in 2007 to 40 percent in 2008.
- The most important sources of information about ethanol were in both surveys media, followed by colleagues/acquaintances and car dealers and manufacturers.



# Background

The purpose of the BEST project is to initiate a lasting development of bioethanol fuel all over Europe and to demonstrate the prerequisites for a market breakthrough for bioethanol-fuelled vehicles. Therefore, the BEST sites work for the introduction of vehicles and distribution lines combined with targeted information campaigns. This work is followed-up by studies on, for example, effects of different kinds of local, regional and national incentives. This survey tries to explore the question of how the attitudes of ethanol-car-drivers have changed over time.

The introduction of ethanol cars is at different stages at the respective sites. Hence the possible number of drivers to answer the questionnaire varies from site to site. Stockholm has come the furthest, with 18 000 FFVs (flexi fuel vehicles) in Stockholm County at the beginning of 2007 and over 52 000 FFVs in the end of 2008. Other sites with a relatively large number of FFVs are the BioFuel Region (BFR) and Madrid.

The first of the two surveys was conducted in the sites Stockholm, Biofuel Region (Sweden), Rotterdam (The Netherlands), Somerset (Great Britain), Basque Country and Madrid (both Spain) and Brandenburg. The second of the surveys was conducted in the sites mentioned above and in Nanyang (China) and La Spezia (Italy).

In the following report flexifuel vehicles are also referred to as flexifuel cars, ethanol cars and ethanol vehicles. These are cars than can be propelled by both petrol and ethanol using the same fuel tank.

# Methodology

The questionnaire for this survey was developed at the Stockholm site together with the participating BEST sites. The survey built upon previous questionnaires carried out in Stockholm. For both the “before-” and the “after-” study the same questionnaire was used. However, two questions were added in the “after-” study. The questions are listed below and the complete questionnaire is to be found in Annex 1.

1. Your gender?
2. Your age?
3. Is the ethanol car you drive your private or is it owned by your employer?
- To drivers of privately owned ethanol cars:**
4. What was your main reason for purchasing an ethanol car? (one alternative)
- To drivers of company owned ethanol cars:**
5. What is your primary reason for driving an ethanol car? (one alternative)
6. In what type of organization are you employed? (one alternative)
- To all ethanol car drivers:**
7. How much (km/week) on average do you drive an ethanol car?
8. What is your opinion on the number of ethanol refuelling stations within your city in relation to your needs?
9. How well or poorly do the refuelling stations currently work?
10. In your opinion, is an ethanol car worse or better than a conventional car in the following aspects:
11. Comparing your attitude to ethanol cars before you began driving them with your current attitude – you are now:
12. In general, how satisfied or dissatisfied are you with your experience driving an ethanol car?
13. Would you recommend others to drive ethanol cars?
14. How important or unimportant to you are the following sources of information regarding ethanol vehicles?
- 2008’s survey only:**
15. Do you think that it is economically better or worse (including purchase, subsidies, fuel costs, taxes etc) to drive an ethanol car than an equivalent car powered by:
16. Have you answered this BEST questionnaire before (in spring 2007)?

An English version of the template for the questionnaire was distributed to all participating sites. The sites were free to choose whether they wished to translate the questionnaire into their local language or to use the original version. The distribution and collection of the questionnaires was handled by the sites themselves. It was up to the sites to decide on the method of distributing and collecting the questionnaires. A more detailed description of the methodology used by the different sites, the target audiences and responses obtained, follows below. After having collected the responses, the sites sent the completed questionnaires to Stockholm for processing, collation and analysis of the data.

Both the Nanyang and La Spezia sites participated only once, in the survey of 2008. Therefore it is not possible to evaluate the change of attitudes at these sites.

## Distribution and collection per site

The number of questionnaires distributed and the method of distributing them varies from site to site, depending on local conditions and preferences. Below follow the descriptions of the chosen methodologies, the chosen samples and obtained responses, based on the information provided by the sites. A compilation of the following figures and the calculated response rates can be found in the table on page 14.

## **Brandenburg**

In 2007, a total of 145 questionnaires were distributed via e-mail to the subscribers of the e-mail newsletter "Bioethanol" at the Brandenburg site. 27 questionnaires were completed and returned.

In 2008, the questionnaires were distributed to the approximately 250 subscribers of the newsletter "Bioethanol". It is not known how many of these subscribers actually use or own a FFV. Eleven questionnaires were completed and returned. 13 questionnaires arrived after the data processing had started and were therefore not included in this report.

## **Rotterdam**

In 2007, about 100 questionnaires were distributed by e-mail to persons in Rotterdam who use the FFVs within their company fleet. The companies are (semi-) governmental organizations in Rotterdam and its region. The cars in the fleet are used randomly. Except for three respondents, nobody takes the cars home. 49 questionnaires were completed and returned.

In 2008, the questionnaire was distributed by e-mail to 230 persons at the Department of Transport who used a FFV between 1 January 2008 and 28 July 2008. 66 questionnaires were completed and returned.

## **Madrid**

In 2007, 13 questionnaires were distributed and completed at the Madrid site. In 2008, 33 questionnaires were personally distributed and completed by the participants of a training programme.

## **Basque Country**

In 2007, the Basque Country distributed 18 questionnaires to the drivers using ethanol vehicles within the EVE and Basque Government fleets. 14 of the questionnaires were completed and returned.

In 2008, an unknown number of questionnaires were distributed to the drivers using ethanol vehicles within the EVE and Basque Government fleets. 19 questionnaires were completed and returned.

## **Somerset**

In Somerset, both surveys were sent via e-mail to all staff at County Hall, Wessex Grain, Avon & Somerset Police, Green Sprit Fuels and to a select number of drivers at the Environment Agency.

41 questionnaires in 2007 and 46 questionnaires in 2008 were completed and returned. Due to confidentiality reasons, there were no responses from Avon & Somerset Police in 2008.

## **BioFuel Region (BFR)**

At the BioFuel Region site, 58 questionnaires were distributed in 2007 to ISO 14001 certified companies in the region. 23 of the questionnaires were completed and returned.

In 2008, a total of 74 questionnaires were distributed to nine ISO 14001 certified companies and to two municipal departments and two municipal companies. 30 of the questionnaires were completed and returned.

## **Stockholm**

At the Stockholm site, a total of 650 questionnaires were distributed in both 2007 and 2008, to drivers of FFVs within the City fleet, private FFV-owning companies and private FFV-owners. Expecting varying respond rates, in 2007 the sample was split into under-samples with adjusted sizes: 150 questionnaires for the City fleet and 250 questionnaires each for private persons and companies. As the respond rates showed to be quite similar in all three groups, in 2008 the 650 questionnaires were

distributed equally for each of the three groups. The three groups are referred to as “City of Sthlm”, “Sthlm – comp” and “Sthlm – private”.

The two surveys were conducted as self-completion mail-in questionnaires. The questionnaires were sent directly or via contact persons to the drivers of ethanol cars within the City fleet at the different municipal administrations. The random selection of private companies and private drivers within the Stockholm Region was carried out by the Swedish Road Administration from their database of all car owners in Sweden.

In 2007, there were 84 responses from the City fleet, 145 for private companies and 153 private FFV owners. In 2008, the responses were 133 within the City fleet, 115 for private companies and 146 private FFV owners.

### **La Spezia**

La Spezia participated in this survey in 2008 only.

At the Municipality of La Spezia, seven questionnaires were personally distributed to the employees of the municipal police, municipal messengers and employees of the traffic control office. Three questionnaires were completed and returned.

At the Province of La Spezia, five questionnaires were distributed personally to two functionaries and three drivers, all of them employees of the Province. All these questionnaires were completed and returned. In total, there are eight completed questionnaires from the La Spezia site.

### **Nanyang**

Nanyang participated in this survey in 2008 only.

The questionnaire was e-mailed to and answered by the one responsible for the FFV-fleet in Nanyang. This person also distributed paper-questionnaires to the FFV-drivers in his fleet. In total, twelve questionnaires were both distributed and returned.

## **Samples and response rates**

In all, there were 550 completed and evaluated questionnaires from seven sites in 2007 and 620 questionnaires from nine sites in 2008. The sample sizes and number of respondents vary significantly between the sites, depending on how far the sites have come with their introduction of ethanol as fuel, how many users of ethanol cars there are and on the means and possibilities of identifying and approaching users of ethanol cars at the different sites.

Although the number of respondents is very small at some sites, the responses are accounted for each site separately. Comparisons between sites should be done with caution, since the fractions are based on small numbers of responses in several cases. The number of responses was very small in 2007 in Madrid (13) and Basque country (14); in 2008 this applies for La Spezia (8), Brandenburg (11), Nanyang (12) and Basque Country (19). To help the reader to interpret the results, the total number of responses is to be found in connection with any fractions.

The number of distributed and completed questionnaires at each site and the implied response rates are presented in the following table:

	2007			2008		
Site	Sample	Responses	Response rate	Sample	Responses	Response rate
Brandenburg	145	27	19%	approx. 250*	11 (25)**	0.4% (1%)**
Rotterdam	100	49	49%	230	66	29%
Madrid	13	13	100%	33	33	100%
Basque Country	18	14	78%	?	19	?
Somerset	(see below)	41	?	(see below)	46	?
BFR	58	23	40%	74	30	41%
City of Stockholm	150	84	56%	217	134	64%
Stockholm private	250	154	62%	217	146	67%
Stockholm comp	250	145	58%	217	115	53%
La Spezia				12	8	67%
Nanyang				12	12	100%
<b>Total</b>		550			620	

\* Share of FFV-owners / -users not known.

\*\* 13 questionnaires arrived after the data processing had started and are not included in this report.

**Table 1 Samples and response rates at the different sites**

# Results

In this chapter, the survey results are presented. The data is shown in form of diagrams and tables. The diagrams provide an assembled image of the total results of all responses from the nine participating sites. The tables provide detailed results of all responses from the participating sites. The sample at the Stockholm site was handled and is presented in form of three groups: Employees of the municipality of Stockholm which use the cities' car fleet (City of Sthlm); residents of the Stockholm region, owning a private ethanol car (Sthlm priv); private companies in the Stockholm region with ethanol cars (Sthlm com).

The results in the tables are displayed in percentages. Due to very small samples and low response rates in some of the sites, calculations of the fractions are based on a very small number of responses. Thus, to help the reader interpret the results, the number of responses is to be found in connection with any fraction. The sites La Spezia and Nanyang only participated in the survey of 2008 and the corresponding cells for 2007 are therefore empty in the tables.

As mentioned earlier in this report the outcome of the responses is closely connected to the various circumstances at every site and to conditions influencing the choice of sample at the different sites. The quality and the content of most responses are therefore dependent on what site they were compiled at. This applies to both the background data and the questions about attitudes. Due to very small sample sizes and low response rates at several sites we chose not to undertake profounder statistical analyses for the relation of the results between the different sites.

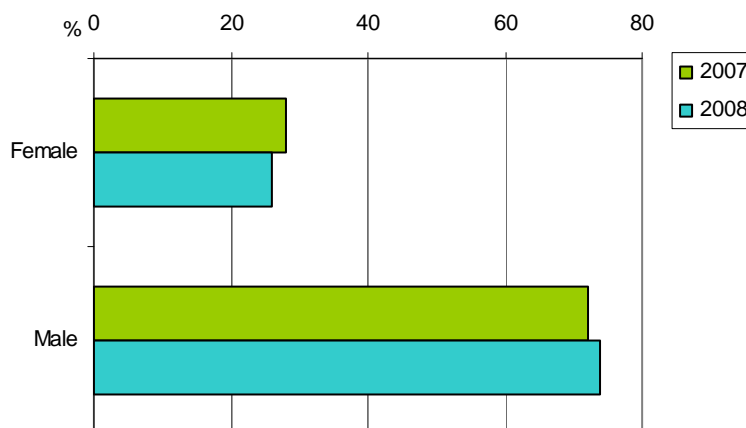
An analysis has been made, however, investigating whether there are significant changes between the assembled responses in 2007 and 2008. The analysis is based on the original question in the questionnaire, i.e. without assembling several types of responses in one question. In most cases the responses' variations lie within the margin of error and they are therefore not statistically secured. For some questions there is a statistically significant difference between the responses of 2007 and 2008. This is indicated for the questions this applies for.

## Background data

The background data comprises factors such as gender, age, owner of the ethanol car, type of employment and km-coverage.

## Gender

As shown in the table below, the share of women and men is almost the same in both 2007 and 2008. The share of men in both surveys is over 70 percent, but is a little bit larger in 2008 (74%) than in 2007 (72%).



**Figure 1 Gender - total**

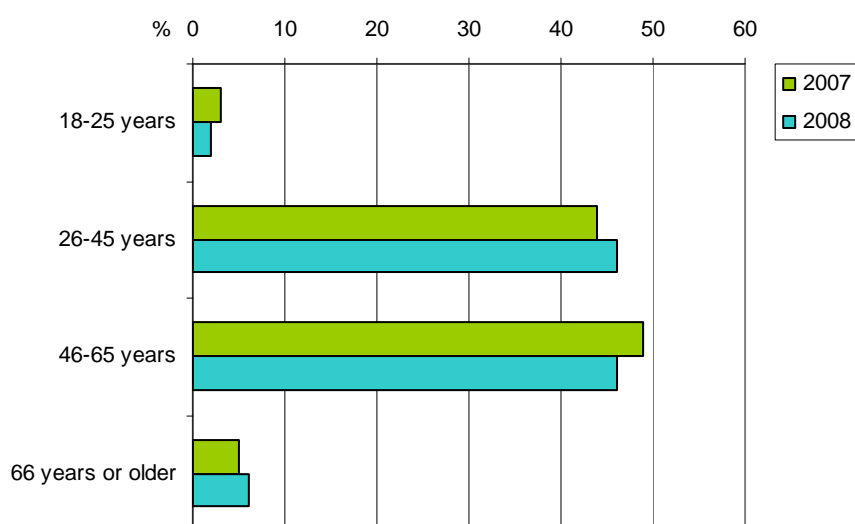
In the table below, we can compare the sites. There are changes concerning the gender distribution over time. Both in Madrid and the Basque Country, the share of women is larger in 2008 than it was in 2007. In the three of Stockholm-groups, the share of women became smaller in 2008 compared to 2007. The most equal distribution between male and female respondents can be found in City of Stockholm in 2007 with 43 percent female and 57 percent male, and in Somerset in 2008 with 46 percent female and 54 percent male; the lowest shares of women amongst respondents were in Madrid with 8 percent in 2007, Rotterdam and La Spezia in 2008 with 8 percent and 13 percent respectively.

Gender	2007			2008		
	No of responses	Female, %	Male, %	No of responses	Female, %	Male, %
Brandenburg	25	24	76	11	27	73
Rotterdam	48	13	88	66	8	92
Madrid	12	8	92	33	21	79
Basque	14	14	86	19	37	63
Somerset	41	37	63	46	46	54
BFR	25	32	68	30	23	77
City of Sthlm	83	43	57	125	26	74
Sthlm priv	152	30	70	145	34	66
Sthlm comp	145	23	77	113	19	81
La Spezia				8	13	88
Nanyang				11	18	82
<b>Total</b>	<b>545</b>	<b>28</b>	<b>72</b>	<b>607</b>	<b>26</b>	<b>74</b>

**Table 2 Gender – per site**

## Age

In both surveys, most of the respondents were 26-45 and 46-65 years old. However, over the time the group of respondents seems to have become younger with a larger share in the age group 26-45 years.



**Figure 2 Age - total**

When comparing the sites, the predominant age-groups were 26-45 and 46-65 years old. The youngest respondents are to be found in Nanyang with 17 percent of persons up to 25 years old. BFR had a share of 12 percent in this age group in 2007, but has none in 2008. The samples Stockholm priv and Stockholm comp have a share of 18 percent and 10 percent respectively of respondents older than 66 years (2008). In contrast to 2007, both the oldest and the youngest groups of respondents were not represented in Brandenburg and BFR in 2008.

Age in years	2007					2008				
	Total	18-25, %	26-45, %	46-65, %	66 or older, %	Total	18-25, %	26-45, %	46-65, %	66 or older, %
Brandenburg	25	4	44	48	4	11	0	64	36	0
Rotterdam	48	6	63	31	0	66	6	55	39	0
Madrid	12	0	58	42	0	33	0	67	33	0
Basque	14	7	79	14	0	19	5	68	26	0
Somerset	41	10	59	32	0	46	11	59	28	2
BFR	25	12	52	28	8	30	0	67	33	0
City of Sthlm	82	2	33	65	0	125	1	34	65	0
Sthlm priv	152	1	39	47	13	145	1	50	31	18
Sthlm comp	145	1	39	59	1	114	0	25	66	10
La Spezia						8	0	38	63	0
Nanyang						12	17	58	25	0
<b>Total</b>		<b>3</b>	<b>44</b>	<b>49</b>	<b>5</b>		<b>2</b>	<b>46</b>	<b>46</b>	<b>6</b>
Total	544	16	239	264	25	609	15	278	278	38

**Table 3 Age - per site**

## Employment

The types of the chosen samples at the different sites have a great influence on the results of the type of employment. The greatest share of respondents is employed within public service, in 2008 even more than in 2007 with 45 percent respectively 43 percent. Also Other services and Self-employed are well represented. The detailed tables with data about the employment situation at each site are to be found in Annex 2 (Table 14 and Table 15).

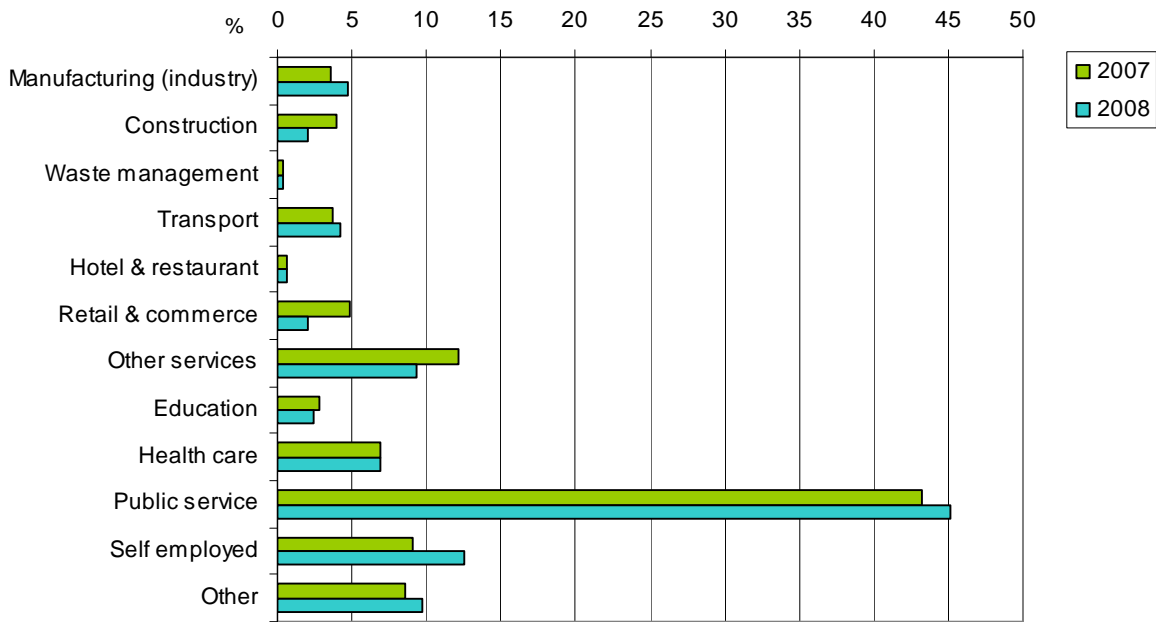


Figure 3 Employment - total

## Ethanol car ownership

Both in 2007 and in 2008, the cars of the respondents were mainly owned by their employers (around 70 percent). Over time this has increased slightly from 70 percent to 72 percent.

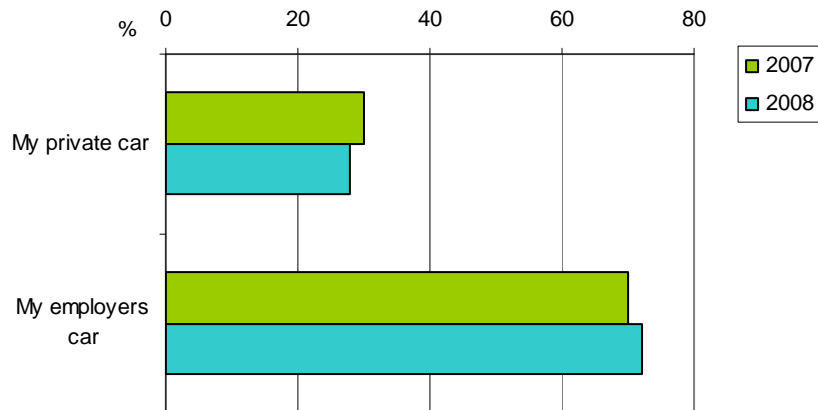


Figure 4 Ethanol car ownership - total

Depending on the type of the chosen samples at the different sites, there are also differences to be seen in the results regarding car ownership. In BFR, about one third of the cars are privately owned; this share is larger in 2008 than in 2007 with 34 percent respectively 28 percent). Sites with mainly privately owned cars in 2008 are Brandenburg and Stockholm private. In Brandenburg, the situation is almost reversed as the cars were mainly owned by the employer in 2007 and are mainly privately owned in 2008.

Car-owner	2007			2008		
	Total	Private car, %	Employers car, %	Total	Private car, %	Employers car, %
Brandenburg	27	22	78	11	91	9
Rotterdam	48	0	100	66	0	100
Madrid	13	0	100	33	3	97
Basque	13	8	92	17	6	94
Somerset	41	0	100	46	0	100
BFR	25	28	72	29	34	66
City of Sthlm	82	1	99	131	0	100
Sthlm private	152	95	5	145	98	2
Sthlm comp	144	3	97	110	5	95
La Spezia				8	0	100
Nanyang				11	0	100
<b>Total</b>		<b>30</b>	<b>70</b>		<b>28</b>	<b>72</b>

Table 4 Ethanol car ownership - per site

**Distances covered**

The diagram below presents the distances covered per week with ethanol cars. Most respondents drive up to 100 km per week (31 percent in 2007 and 37 percent in 2008) and since the survey in 2007, a greater share of drivers used the FFV up to 400 km/week. Only a few drove longer distances than that. The differences between the responses of 2007 and 2008 in both the diagram and the table are significant.

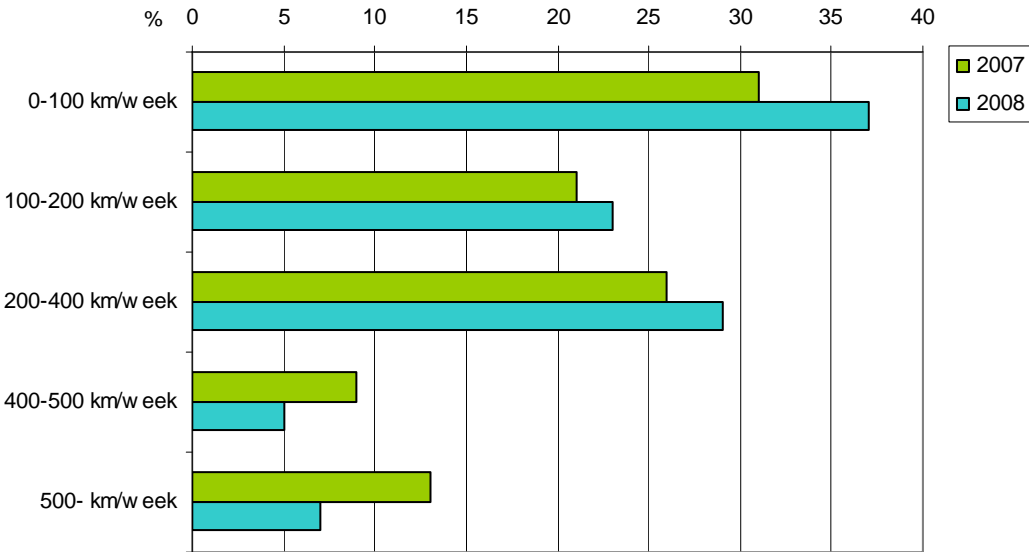


Figure 5 Distances covered - total

In 2008, ethanol cars are used up to 100 km per week mostly in Somerset (97 percent), Rotterdam (91 percent) and the Basque Country (87 percent). Cars driven in Madrid (70 percent), Nanyang (67 percent) and La Spezia (57 percent) mainly travel between 200 and 400 km. The covered distance per week is quite the same over time in the three Stockholm-samples. Stockholm comp is the sample with the greatest share of respondents who drive more than 500 km per week with their ethanol cars (19 percent in 2008). In the 2007 survey, more than 500 km were also covered in Brandenburg (41 percent), but this has decreased to 9 percent in 2008.

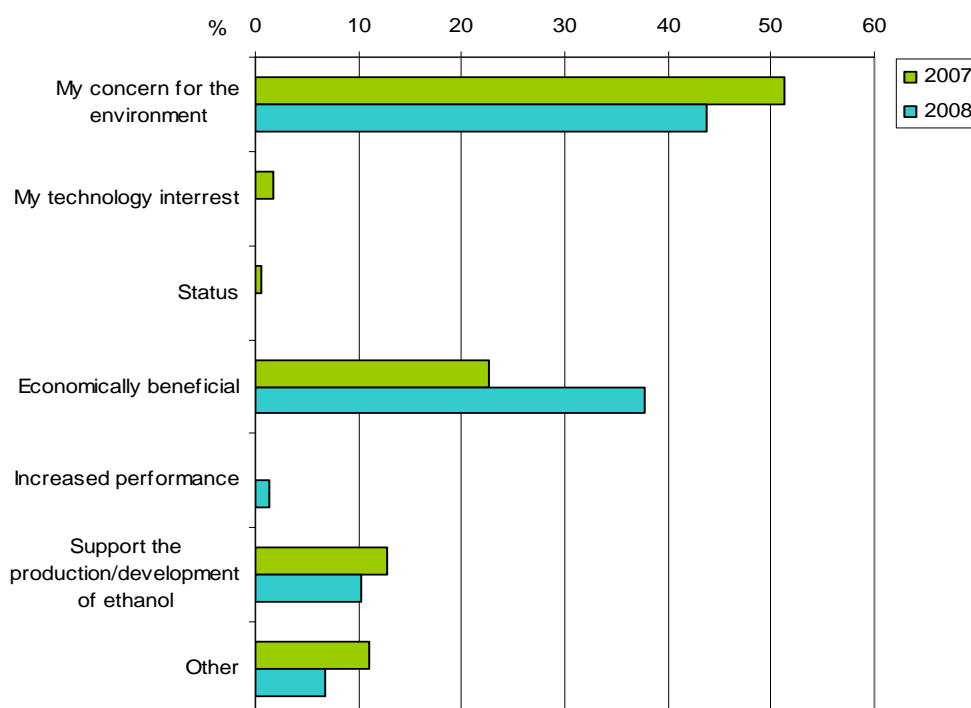
Distance in km per week	2007						2008					
	No of responses	0 - 100, %	100 - 200, %	200 - 400, %	400 - 500, %	500-, %	No of responses	0 - 100, %	100 - 200, %	200 - 400, %	400 - 500, %	500-, %
Brandenburg	27	0	15	15	30	41	11	45	0	45	0	9
Rotterdam	37	81	5	5	0	8	55	91	5	2	2	0
Madrid	11	45	9	36	9	0	33	3	24	70	0	3
Basque	10	70	20	0	10	0	15	87	13	0	0	0
Somerset	33	82	9	0	3	6	38	97	0	0	0	3
BFR	25	32	28	32	8	0	29	41	24	14	10	10
City of Sthlm	80	40	23	30	8	0	125	34	32	27	6	1
Sthlm priv	150	23	26	34	6	11	142	23	29	32	7	9
Sthlm comp	145	10	23	30	14	23	113	15	24	38	4	19
La Spezia							7	14	29	57	0	0
Nanyang							12	0	8	67	8	17
Total	518	31	21	26	9	13	580	37	23	29	5	7

Table 5 Distances covered - per site

## Reasons for purchasing an ethanol car

This question was answered only by the respondents driving their private cars, which applies for the sites Brandenburg, Basque Country, BFR and Stockholm private. When reading and comparing the results of this question, it must be taken into account that the numbers of responses are very small in some of the sites!

The diagram below shows that the main reason for purchasing an ethanol car is the respondents' concern for the environment. However, over time the importance of this reason has weakened from 51 percent in 2007 to 44 percent in 2008. The reason of economic advantage has become more important instead with 23 percent in 2007 and 38 percent in 2008. Economic advantage is now almost as important as the environment. The differences between the responses of 2007 and 2008 in both the diagram and the table are significant.



**Figure 6 Reasons for purchasing an ethanol car - total**

The comparison of the sites shows that the reason of economic advantage is important in all sites with between 22 and 40 percent in 2008, which means an increase in all of these sites since 2007. The Swedish sites BFR and Stockholm priv have the highest share when it comes to the environment. In the Basque Country, none of the respondents considers the environment as a reason at all in 2008; there is supporting ethanol as a fuel most important with 67 percent, instead.

	2007								2008							
	No of responses	Concern for the environment %	Technology interest %	Status %	Economically beneficial %	Increased performance %	Support ethanol as fuel %	Other %	No of responses	Concern for the environment %	Technology interest %	Status %	Economically beneficial %	Increased performance %	Support ethanol as fuel %	Other %
<b>Brandenburg</b>	9	44	11	0	0	0	33	11	5	20	0	0	40	0	40	0
<b>Basque</b>	4	25	50	0	25	0	0	0	3	0	0	0	33	0	67	0
<b>BFR</b>	7	71	0	0	0	0	29	0	9	56	0	0	22	0	22	0
<b>Sthlm priv</b>	146	51	0	1	25	0	11	12	130	45	0	0	39	2	7	8
<b>Total</b>	<b>166</b>	<b>51</b>	<b>2</b>	<b>1</b>	<b>23</b>	<b>0</b>	<b>13</b>	<b>11</b>	<b>147</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>1</b>	<b>10</b>	<b>7</b>

**Table 6 Reason for purchasing an ethanol car - per site**

## Reasons for driving an ethanol car

This question was answered only by respondents driving a company car; see table 3 for reference. The most important reason for driving an ethanol car is the company's policy. This result must be seen in relation to the fact that about 70 percent of the ethanol cars driven by the respondents are owned by their employer. The second important reason is the respondents' concern for the environment with more than 20 percent in 2007, but this has become somewhat less important in 2008; also the importance of the reasons economically beneficial and support for ethanol as a fuel has decreased since the first survey.

Tables with the detailed figures for every site are to be found in Annex 2 (Table 16). The differences between the responses of 2007 and 2008 in the diagram are significant.

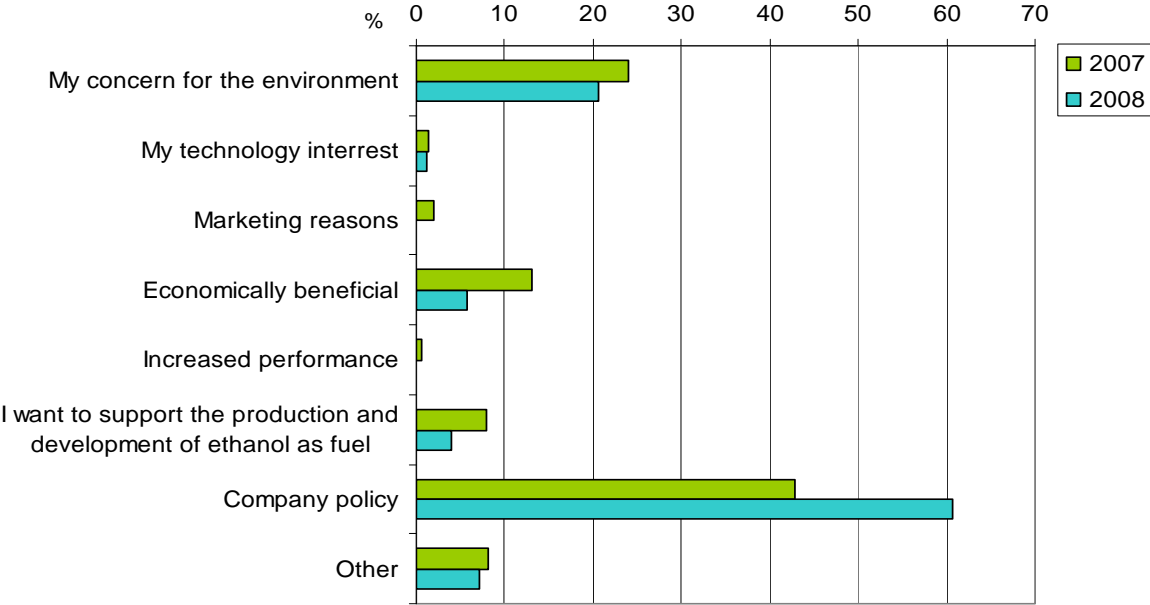


Figure 7 Reasons for driving an ethanol car - total

## Comparison ethanol car – “conventional” car

Regarding most of the aspects, the respondents find an ethanol vehicle equal to a “conventional” car. Concerning emissions, an ethanol vehicle is considered to be even better and concerning range it is considered to be worse. Regarding smell, the respondents’ views stretch from “equally” to “worse”. There are slight changes over time.

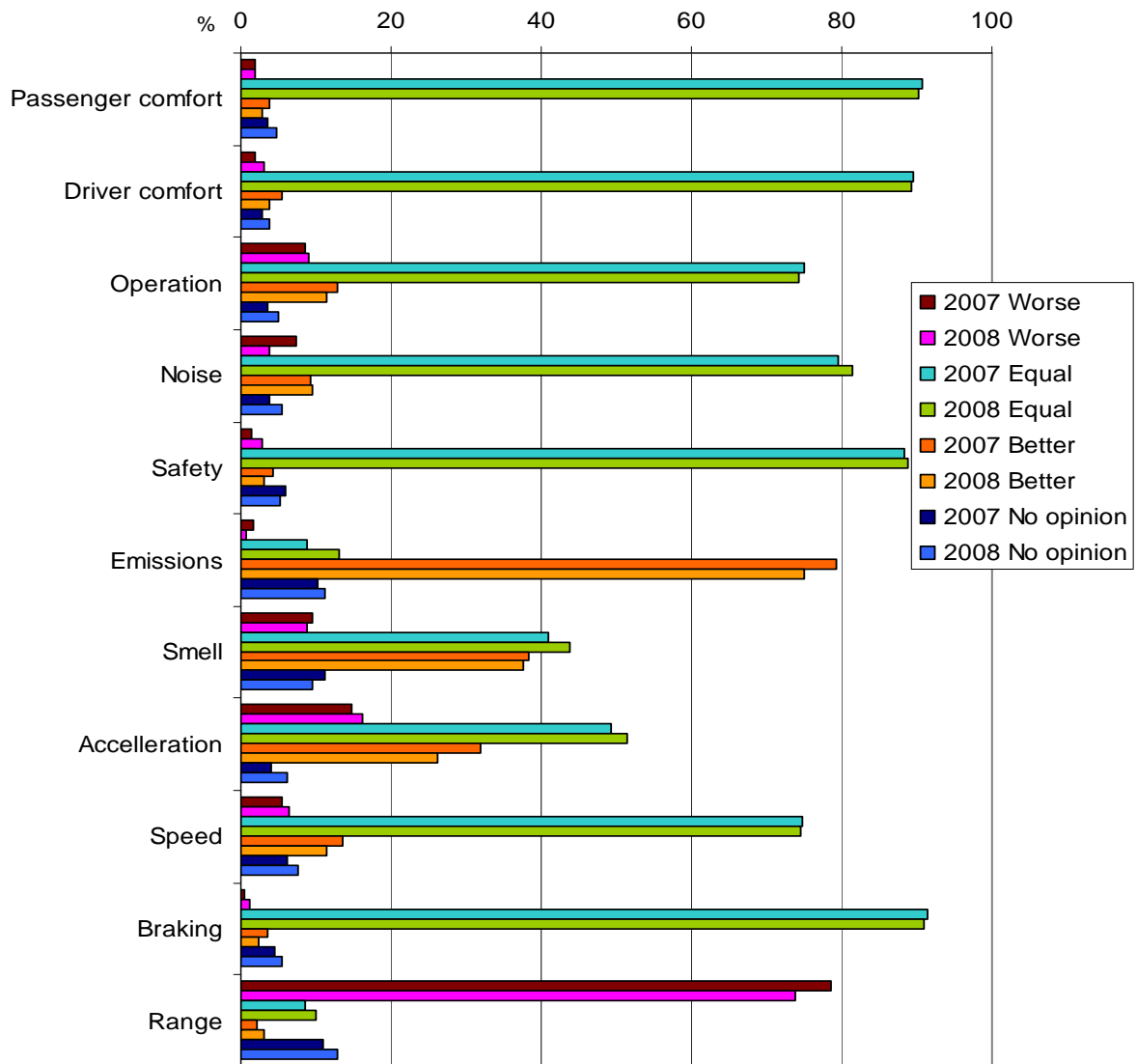
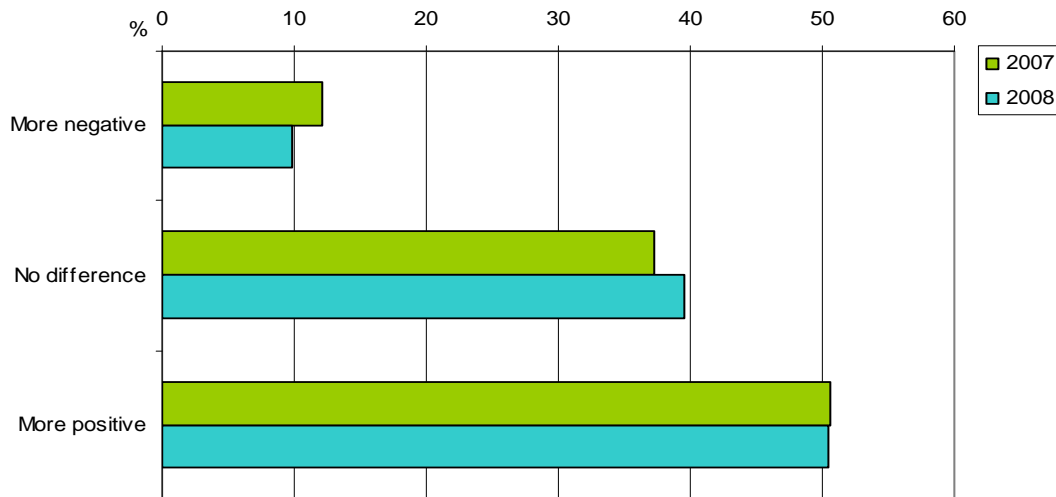


Figure 8 Comparison ethanol car – “conventional” car - total

## Change of attitude towards ethanol cars

The exact phrasing of the question was: *Comparing your attitude towards ethanol cars before you began driving them, what is your attitude towards ethanol cars now?* Around 50 percent of the respondents have changed their attitude towards ethanol cars in a positive way since they began driving one. This applies both for the survey in 2007 and in 2008. More than 30 percent of the respondents have not changed their attitude at all (37 percent in 2007 and 40 percent in 2008). In 2007, 12 percent had become more negative and 10 percent according to the survey in 2008.



**Figure 9 Attitude towards ethanol cars – total**

The highest share of respondents who changed to a more positive attitude was found in Madrid with 92 percent in 2007 and La Spezia with 71 percent.

	2007						2008					
	No of responses	Much more negative %	Some -what more negative, %	No difference, %	Some -what more positive, %	Much more positive %	No of responses	Much more negative %	Some -what more negative, %	No difference %	Some -what more positive, %	Much more positive %
Brandenburg	27	0	15	50	35	0	11	0	0	30	60	10
Rotterdam	47	0	0	47	27	27	65	0	0	62	15	24
Madrid	13	0	0	8	69	23	33	3	9	31	44	13
Basque	14	0	0	36	43	21	19	0	0	37	42	21
Somerset	41	3	5	23	43	28	46	0	7	33	46	15
BFR	25	0	8	24	36	32	29	0	3	52	17	28
City of Sthlm	83	1	7	42	37	12	131	0	13	38	33	16
Sthlm priv	153	3	18	37	26	16	146	1	13	37	36	14
Sthlm comp	144	1	13	39	33	15	115	2	11	39	28	19
La Spezia							8	0	0	29	57	14
Nanyang							12	0	0	33	58	8
<b>Total</b>	<b>547</b>	<b>1</b>	<b>11</b>	<b>37</b>	<b>33</b>	<b>17</b>	<b>615</b>	<b>1</b>	<b>9</b>	<b>40</b>	<b>33</b>	<b>17</b>

**Table 7 Attitudes towards ethanol cars – per site**

## Satisfaction with ethanol car

With 75 percent in both 2007 and 2008 a majority of the respondents are satisfied with their ethanol car.

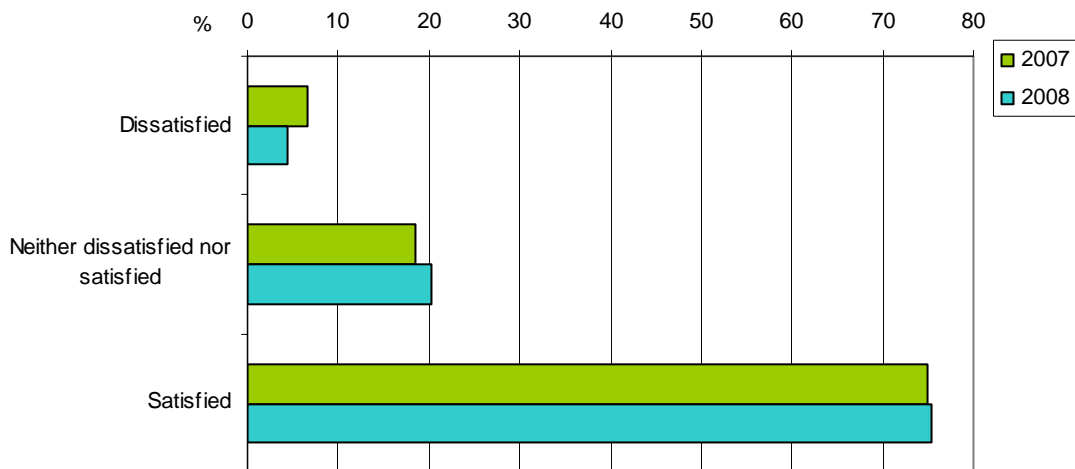


Figure 10 Satisfaction with ethanol car – total

The most satisfied drivers of ethanol vehicles are to be found in Brandenburg, Stockholm priv and BFR, followed by Stockholm company and the Basque Country in 2008 (both rather satisfied and very satisfied). In all of these sites, the drivers are more satisfied in 2008 compared to 2007. In Rotterdam, Madrid and Somerset the share of persons who are neither satisfied nor dissatisfied has increased instead.

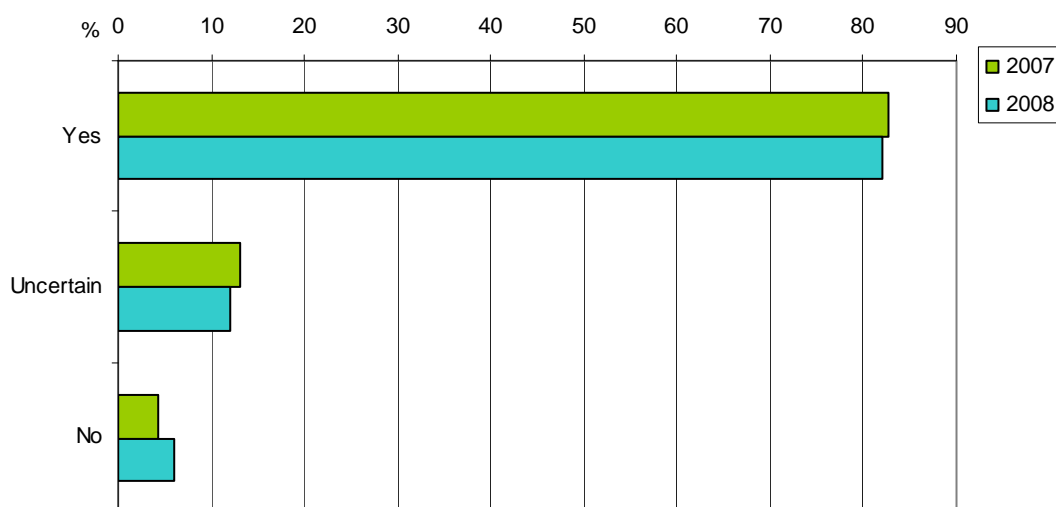
	2007						2008					
	No of responses	Very dissatisfied %	Rather dissatisfied %	Neither dissatisfied nor satisfied, %	Rather satisfied %	Very satisfied %	No of responses	Very dissatisfied %	Rather dissatisfied %	Neither dissatisfied nor satisfied, %	Rather satisfied %	Very satisfied %
Brandenburg	27	0	8	23	50	19	11	9	0	0	82	9
Rotterdam	47	0	0	14	37	49	65	3	2	35	18	42
Madrid	13	0	15	8	62	15	33	0	9	44	34	13
Basque	14	7	0	21	50	21	19	0	0	21	32	47
Somerset	41	2	5	17	24	51	46	9	7	30	22	33
BFR	25	0	20	24	24	32	30	0	0	13	33	53
City of Sthlm	83	2	2	30	45	20	130	0	4	25	44	27
Sthlm priv	153	1	8	14	36	40	145	1	1	7	42	49
Sthlm comp	145	1	3	17	44	35	115	3	1	14	42	40
La Spezia							8	0	13	25	50	13
Nanyang							12	0	0	33	58	8
<b>Total</b>	<b>548</b>	<b>1</b>	<b>5</b>	<b>18</b>	<b>40</b>	<b>35</b>	<b>614</b>	<b>2</b>	<b>3</b>	<b>20</b>	<b>38</b>	<b>37</b>

Table 8 Satisfaction with ethanol car – per site

## Willingness to recommend ethanol car

Over 80 percent of the respondents would recommend others to drive ethanol cars.

Only the differences between the responses of 2007 and 2008 in the table are statistically significant.



**Figure 11 Willingness to recommend ethanol car – total**

At the sites Brandenburg, City of Stockholm, Stockholm priv the shares of respondents who would recommend ethanol cars have clearly increased. The most positive results are to be found in 2008 in Brandenburg with 100 percent and BFR with 97 percent (both absolutely and probably). Since the survey of 2007, the shares of respondents who would **not** recommend others to drive ethanol cars have risen remarkably in Rotterdam, Madrid and Somerset. Similarly, in La Spezia this share is high.

	2007						2008					
	No of responses	Yes, absolutely %	Yes, probably %	Uncertain %	No, probably not %	No, absolutely not %	No of responses	Yes, absolutely %	Yes, probably %	Uncertain %	No, probably not %	No, absolutely not %
Brandenburg	27	38	23	23	15	0	11	91	9	0	0	0
Rotterdam	47	44	40	7	9	0	66	23	38	27	6	6
Madrid	13	46	54	0	0	0	32	17	50	7	27	0
Basque	14	36	36	29	0	0	19	32	58	11	0	0
Somerset	41	46	37	12	5	0	46	35	35	11	13	7
BFR	25	33	33	21	13	0	30	70	27	3	0	0
City of Sthlm	83	40	38	18	4	1	131	31	49	15	5	0
Sthlm priv	153	54	31	11	3	0	145	53	40	6	1	1
Sthlm comp	145	50	39	10	1	0	115	47	40	12	1	1
La Spezia							8	50	25	13	13	0
Nanyang							12	42	33	25	0	0
<b>Total</b>	<b>548</b>	<b>47</b>	<b>36</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>615</b>	<b>41</b>	<b>41</b>	<b>12</b>	<b>5</b>	<b>1</b>

**Table 9 Willingness to recommend ethanol car – per site**

## Filling stations

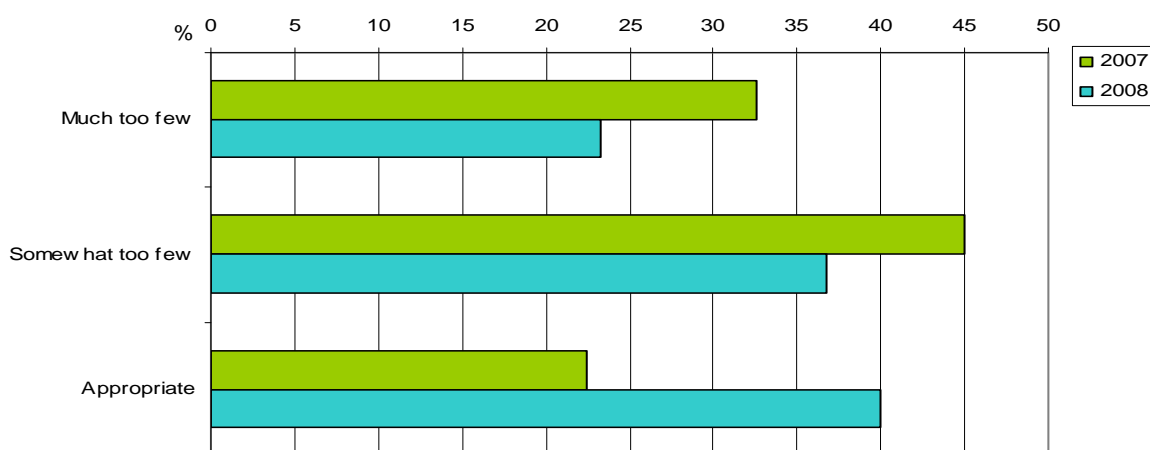
### Number of filling stations

This section shows how the respondents think about the filling stations at the different sites. As background information the number of E85-pumps per site, reported within the BEST-project, is accounted for below; for December 2006 (relevant for the first survey) and June 2008 (relevant for the second survey).

Number of E85-filling pumps	December 2006	June 2008
Brandenburg	0	4
Rotterdam	3	5
Madrid	1	2
Basque	0	4
Somerset	5	5
BFR	20	65
Stockholm	85	170
La Spezia	0	1
Nanyang	0	1
<b>Total</b>	<b>114</b>	<b>257</b>

**Table 10 Reported number of E85-pumps per site**

As shown in the figure below, the respondents' view about the number of refuelling stations with ethanol has changed over time. In 2007, not even a quarter of the respondents found that there was an appropriate number of refuelling stations (22 percent). In 2008, twice as many found the number of stations appropriate (40 percent). The differences between the responses of 2007 and 2008 in both the diagram and the table are significant.



**Figure 12 Opinion on number of ethanol refueling stations – total**

The table below reveals that there are differences between the sites and over time concerning the view on the number of filling stations. In Nanyang and Sweden (BFR and Stockholm) the respondents are most satisfied with the number of filling stations. When comparing 2007 and 2008, in BFR the figures are quite unchanged. The respondents within the three Stockholm-samples are much more content with the number of stations in 2008 than they were in 2007. In Somerset, the situation is vice versa, as 92 percent answer that there are too few stations (somewhat and much) in 2008 – compared to 78 percent in 2007. In Brandenburg, Rotterdam, Madrid and the Basque Country the quite negative view

prevailed over time even though it has improved a little bit since 2007 as the share of positive responses has increased.

	2007				2008			
	No of responses	Much too few, %	Somewhat too few, %	Appropriate, %	No of responses	Much too few, %	Somewhat too few, %	Appropriate, %
Brandenburg	27	52	44	4	11	18	73	9
Rotterdam	47	88	13	0	66	86	10	3
Madrid	12	42	58	0	33	45	48	6
Basque	14	92	8	0	19	89	5	5
Somerset	41	43	38	19	46	60	25	15
BFR	25	9	45	45	30	11	46	43
City of Sthlm	84	30	43	27	132	14	37	49
Sthlm priv	153	24	46	30	146	9	35	57
Sthlm comp	143	24	55	21	114	7	47	46
La Spezia					8	63	25	13
Nanyang					12	0	45	55
<b>Total</b>	<b>546</b>	<b>33</b>	<b>45</b>	<b>22</b>	<b>617</b>	<b>23</b>	<b>37</b>	<b>40</b>

Table 11 Opinion on number of ethanol refueling stations – per site

### Functioning of filling stations

According to the respondents, existing filling stations work well and in both 2008 and 2007.

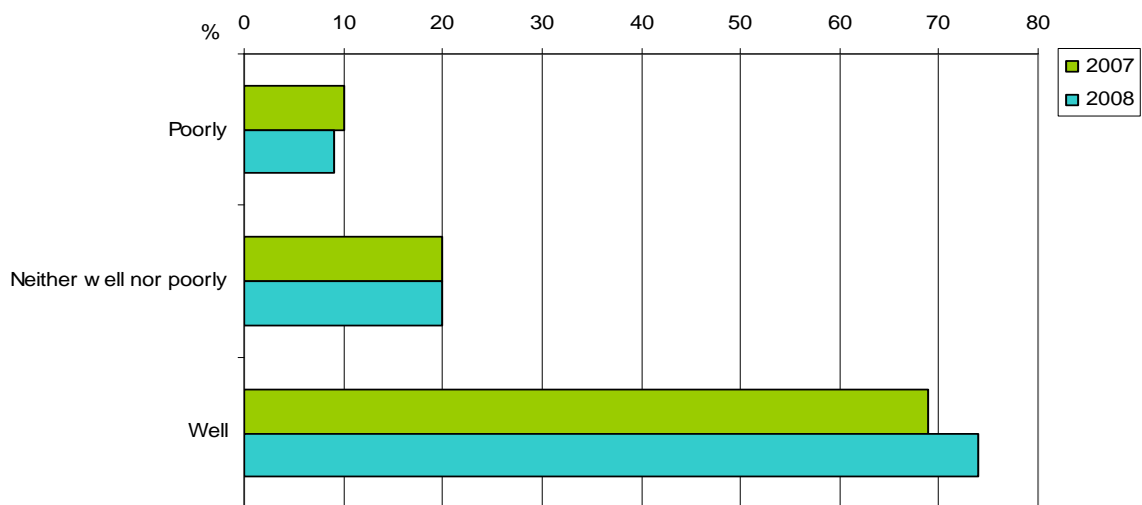


Figure 13 Functioning of filling stations - total

At most of the sites, the respondents are of the opinion that the filling stations work rather well or very well. In Madrid, La Spezia and Nanyang most of the respondents have the opinion that the stations work neither well nor poorly (2008).

	2007						2008					
	No of responses	Very poorly %	Rather poorly %	Neither well nor poorly %	Rather well %	Very well %	No of responses	Very poorly %	Rather poorly %	Neither well nor poorly %	Rather well %	Very well %
Brandenburg	27	0	8	31	42	19	11	0	9	9	73	9
Rotterdam	47	0	0	11	78	11	66	0	0	20	60	20
Madrid	12	0	0	33	67	0	32	16	16	45	13	10
Basque	13	33	0	17	17	33	19	13	6	13	44	25
Somerset	41	3	3	22	39	33	46	3	8	27	30	32
BFR	25	0	24	38	29	10	30	0	7	14	43	36
City of Sthlm	84	0	12	22	40	26	131	1	7	13	53	26
Sthlm priv	153	2	5	17	47	30	146	1	7	13	44	35
Sthlm comp	145	3	10	17	52	17	114	0	5	10	60	25
La Spezia							8	13	0	50	38	0
Nanyang							12	0	0	42	25	33
<b>Total</b>	<b>547</b>	<b>2</b>	<b>8</b>	<b>20</b>	<b>46</b>	<b>23</b>	<b>615</b>	<b>2</b>	<b>7</b>	<b>17</b>	<b>47</b>	<b>27</b>

Table 12 Functioning of filling stations – per site

## Sources of information

The respondents were asked to rate five different sources of information regarding ethanol vehicles, beginning with very unimportant and ending with very important. The most important sources of information regarding ethanol vehicles are the media, closely followed by colleagues/acquaintances and car dealers/manufacturers.

Since 2007, the forums and similar tools on the Internet have become slightly more important. Fuel companies are not amongst the most important sources of information and have become even less important in 2008 compared to 2007.

Besides the sources of information accounted for below, the sites were free to add site-specific sources of information. Stockholm, BFR, Rotterdam and La Spezia chose to do so. The results per site are to be found in tables in Annex 3.

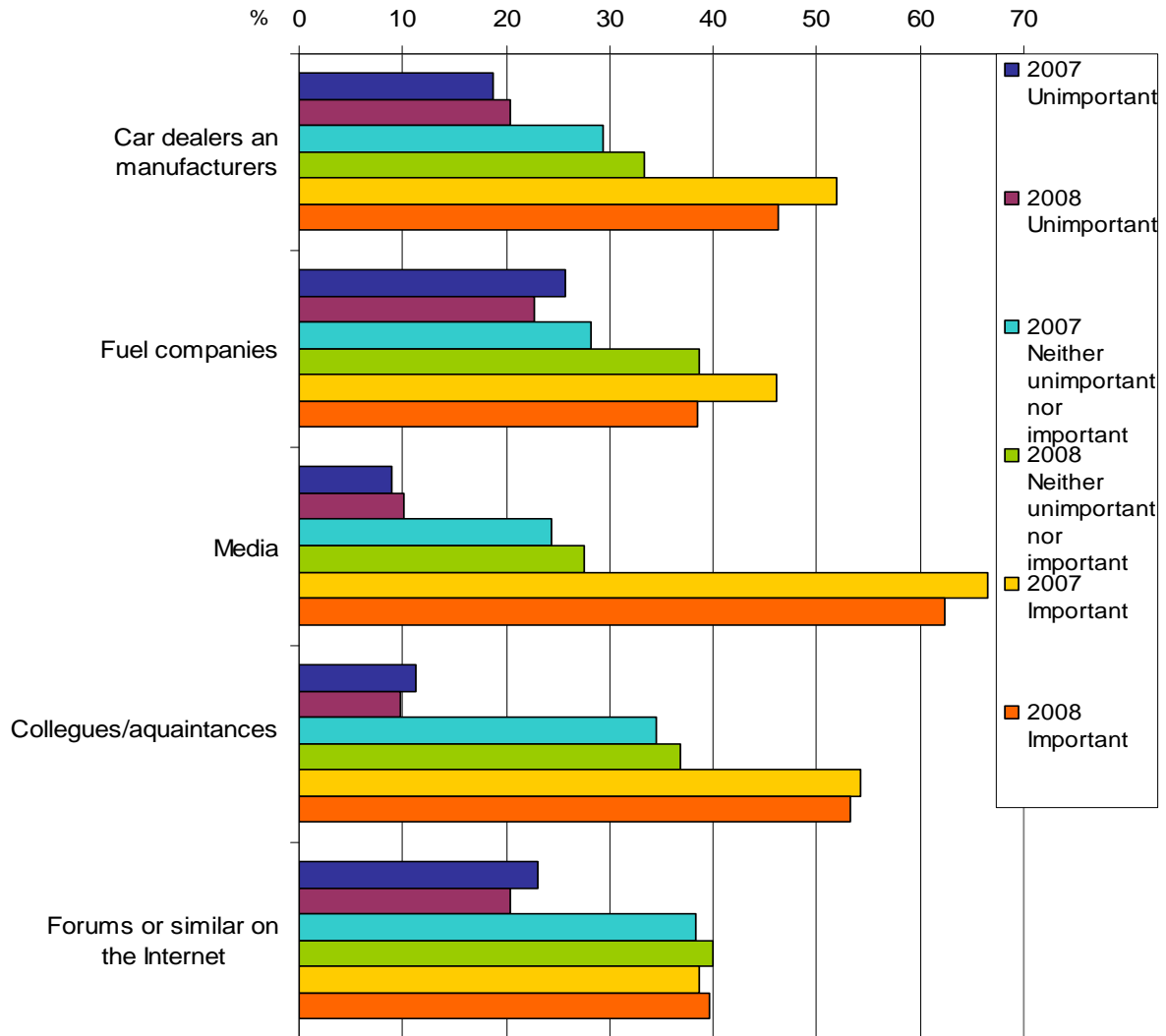
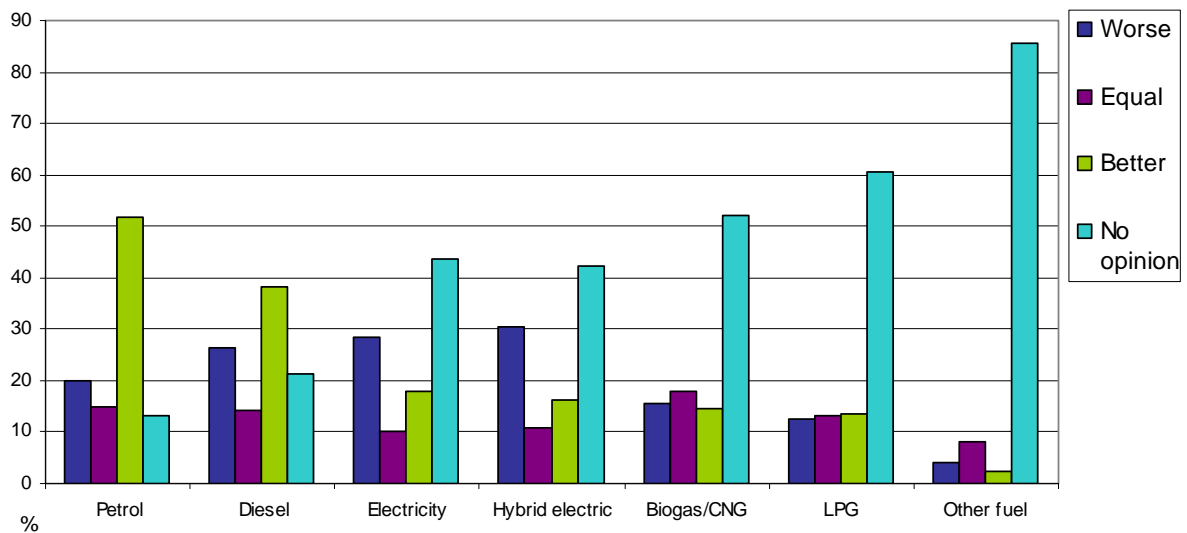


Figure 14 Sources of information – total

## Economic comparisons

The original phrasing of the following question was: *Do you think that it is economically better or worse (including purchase, subsidies, fuel costs, taxes etc) to drive an ethanol car than an equivalent car powered by ...* This question was only asked in 2008.

About half of the respondents are of the opinion that it is economically better to drive an ethanol car than a petrol car; a fifth think it is uneconomic. Almost 40 percent think that an ethanol car is better than a diesel car and about a quarter think vice versa. A third of the respondents think that it is economically worse to drive an ethanol car compared with a hybrid electric car. Regarding the comparison with cars powered by electricity, biogas, LPG and other, more than 40 percent respectively have no opinion.



**Figure 15 Economic comparisons – total**

## Further comments

The respondents had the possibility to additional comments at the very end of the questionnaire. 134 of them took the opportunity to do so in 2007 and 73 in 2008.

### 2007

A remarkable number of respondents state that the price for ethanol is too high – both in comparison to petrol and considering that the radius of action on a tank with ethanol is much less than for one with petrol. The respondents want the price per litre ethanol to be lower in general and lower than petrol. In many comments, the respondents demand technical improvements which would lead to lower fuel consumption of ethanol cars.

Quite a few respondents also expressed concern for ethanol as a future and environmentally-friendly fuel. What are the total impacts of the production of ethanol? Under what conditions are the crops grown? Can increased demand for ethanol be met in a sustainable manner?

A couple of respondents expressed disappointment over the fact that using ethanol demands more frequent changes of oil filters. Others experienced problems when trying to start their ethanol car in cold temperatures; bad smells inside the car when driving at low speeds was another complaint.

### 2008

The content of the comments made by the respondents in 2008 is similar to that in 2007. The high litre price, the smaller radius of action per tank and questions about sustainability were mostly mentioned, although the problem of changing the oil-filter more often also reappeared.

However, in 2008, many more talk about the question of food versus fuel and whether a sustainable production of ethanol is possible. The respondents are concerned about the environmental damage being caused growing crops for the production of ethanol.

Some respondents write that they would choose a car propelled by a different fuel than ethanol, if they would buy a car today. Some examples for these are: diesel, bio-diesel, electricity, hydrogen, biogas.

# Analysis of trends and changes

Comparing the survey results for 2007 and 2008, there are few noticeable changes when looking at all the assembled data. However, when looking at the site level, some differences are discernable.

## Employment situation and car-ownership

The majority of the respondents, with around 70 percent in both surveys, drive an ethanol car owned by their employer. This is a direct result of the fact that most of the sites chose to distribute the questionnaires to drivers of ethanol cars belonging to public and commercial fleets.

In Rotterdam, Madrid, Basque Country, Somerset, City of Stockholm and La Spezia the questionnaires of both surveys were mainly distributed to employees within public service. This is reflected in the high share of respondents within the groups: public service, health care, education and other services.

## Coverage

A significant change has occurred regarding the distances covered per week by the ethanol cars. In the 2008 survey more respondents covered up to 400 kilometres per week compared to 2007.

Regarding the kilometre coverage with ethanol cars, most respondents drive up to 100 km per week (31 percent in 2007 and 37 percent in 2008). A noticeable break can be seen at coverage over 400 kilometres: in 2007, more than three quarters of the respondents (78 percent) drove an ethanol car up to 400 km/week and in 2008 this share had expanded to 89 percent.

A great change occurred in Brandenburg, where in 2007 there were no drivers driving up to 100 km/week, by 2008, 45 percent drove up to 100 km/week. This could be connected to and be a result of changes in car-ownership: the shares of privately owned cars / cars owned by the employer in 2007 were 22 percent / 78 percent; in 2008 the situation was almost reversed into 91 percent / 9 percent.

Stockholm company is the group with the greatest share of respondents who drive more than 500 km per week with an ethanol car, even if the share is lower in 2008 (23 percent in 2007 and 19 percent in 2008), followed by Nanyang (17 percent).

## Change of attitudes

A majority of the respondents have changed opinion on ethanol cars since they started driving them and this has changed only slightly over time. In both 2007 and 2008, around half of the respondents had become more positive and around 11 percent had become more negative.

The highest shares of respondents who had become more positive were in Madrid in 2007, with 92 percent in 2007. This share dropped, however, to 57 percent in 2008. The highest share in 2008 had La Spezia with 71 percent. In Rotterdam, Madrid, Somerset and BFR the number of respondents who had become more positive has become smaller since 2007.

For going more closely into that matter the site-manager for Madrid was asked to provide some information which could bring some light into this question.

*According to the **Madrid** site the questionnaire was exclusively sent to municipal drivers. 2007 was the first year for FFV in the municipal fleet. The conditions were, as a result, very special: Brand-new cars and great expectations, as the interviewees were the first drivers of FFV in the city (and in almost all Spain). There were also a lot of doubts about how the FFV would work. According to this, in the first survey there was no background regarding FFVs in Spain and that might be the reason that the question "Comparing your attitude towards ethanol cars before you began driving them, what is your attitude towards ethanol cars now?", was answered as positively as it was in the first survey.*

In both surveys three quarters of the drivers were generally satisfied with their experience driving an ethanol car. The most satisfied drivers of ethanol vehicles are to be found in Brandenburg, Stockholm priv and BFR, followed by Stockholm comp and the Basque Country in 2008. In all of these sites, the drivers were more satisfied in 2008 compared to 2007.

In Rotterdam, Madrid and Somerset instead the share of persons who were neither satisfied nor dissatisfied has increased. According to the view of the **Rotterdam** site this could be explained in this way:

*One explanation could be that using FFV's is not new anymore. This could result in a less enthusiastic or less negative reaction. Another explanation is the overload of negative media attention towards biofuels. But lately there are also some positive remarks from the media, so this could cause the indifference (not knowing what to believe) of respondents.*

*For **Madrid** a possible explanation could be (the sites' own comment): Both in 2007 and 2008 the questionnaires were distributed to municipal drivers, but in 2008 the situation was different. Many of the drivers had been told about FFVs by other colleagues or they had even driven one occasionally. Therefore one can say that FFVs were not so "special" anymore and the expectations had decreased, which can have lead to more "indifference". Therefore the results of the second survey could be interpreted as the consequence of a more normalized situation and are not necessarily negative results. Comparing the results of Madrid in 2008 they match pretty well with the ones corresponding to a mature situation (like Stockholm), where the FFVs are seen just like another option. Once more it must be pointed out that the first survey was made over a very small sample (only 13 persons), so that every statement has a great impact for the final result.*

*In the opinion of the **Somerset** site the increase in the percentage of persons who are neither satisfied nor dissatisfied could be attributed to the increase in concerns raised in the media over the sustainability and the food vs fuel issues that arose over the period. This would have contributed to public uncertainty over the benefits of using biofuels which in turn would affect satisfaction with ethanol cars.*

Regarding the respondents' comparison of an ethanol car with an equivalent "conventional" car, there are small changes over time. In both surveys, the respondents think that an ethanol car is equal to a "conventional" car regarding most of the assessed aspects. Concerning emissions, the ethanol car is considered to be better and concerning range it is considered to be worse. When questioned about smell, the respondents' views range from "equally" to "worse".

About half of the respondents are of the opinion that it is economically better to drive an ethanol car compared to a petrol car and almost 40 percent think that it is cheaper to drive an ethanol car compared to a diesel car. On the other hand, 31 percent think that it is economically worse to drive an ethanol car compared to a hybrid electric car. Regarding the comparison with cars powered by electricity, biogas, LPG and other, more than 40 percent have no opinion. (This question was asked in 2008 only.)

In both surveys most respondents, over 80 percent, would recommend others to drive ethanol cars. At the sites Brandenburg, City of Stockholm, Stockholm priv the shares of respondents who would recommend ethanol cars have clearly increased. The most positive results are to be found in 2008 in Brandenburg with 100 percent and BFR with 97 percent (both absolutely and probably). Since the survey of 2007, the shares of respondents who would **not** recommend others to drive ethanol cars have risen remarkably in Rotterdam, Madrid and Somerset. Similarly, in La Spezia this share is high.

### **Reasons for purchasing and driving an ethanol car**

In 2007, for half of the owners of a private ethanol car the reason for purchasing an ethanol car was their concern for the environment. The importance of this reason has weakened over time to 44 percent in 2008. Instead, the reason of economic advantage has become more important, from 23 percent in 2007 to 38 percent in 2008.

Due to very small numbers of responses to this question, it is hard to make any conclusions for Brandenburg, the Basque country and BFR. The group Stockholm private has similar results as the assembled data.

The primary reason for driving an ethanol car is, for drivers of company-owned cars, the company's policy, a factor which increased in importance during 2008 (43 percent in 2007, 61 percent in 2008). At the same time, the reasons environment, economical benefits and support for ethanol as a fuel was less important in 2008 compared to 2007.

### **Refuelling stations**

The share of respondents who found the number of fuelling stations for ethanol appropriate has almost doubled from 22 percent in 2007 to 40 percent in 2008. There are differences between the sites and over time concerning the view on the number of filling stations. In Nanyang and Sweden (BFR and Stockholm) the respondents are the most satisfied with the number of filling stations. When comparing 2007 and 2008, in BFR the figures are quite unchanged. The respondents within the three Stockholm-samples are much more content with the number of stations in 2008 than they were in 2007.

In Somerset, the situation is vice versa, as 92 percent answer that there are too few stations (somewhat and much) in 2008 – compared to 78 percent in 2007. In Brandenburg, Rotterdam, Madrid and the Basque Country the quite negative view prevailed over time even though it has improved a little bit since 2007 as the share of positive responses has increased.

According to the respondents, the existing filling stations worked well in 2007 and even more were of that opinion in 2008. In Madrid, La Spezia and Nanyang, most of the respondents think that the stations work neither well nor poorly (2008).

### **Sources of information**

To find out what the most relevant sources of information are for drivers of ethanol cars, the respondents were asked to rate five different sources. The most important sources of information are the media, closely followed by colleagues/acquaintances and car dealers/manufacturers. Since 2007, forums and similar on the Internet have become slightly more important. Fuel companies are not amongst the most important sources and have become even less important in 2008 in comparison to 2007.

### **Most interesting findings**

Even if the assembled data only shows small changes between the two surveys and even if there are some risks due to small samples and low response rates, some trends can be discerned.

Concerning the reason for purchasing an ethanol car the importance of economic advantage has increased in all sites and the concern for the environment has decreased. At the Swedish sites BFR and Stockholm priv, however, this share is still quite high.

The different results show that most of the drivers of ethanol cars are satisfied with their experience of driving an ethanol car and have become even more satisfied over time. The most content drivers and those who would recommend others to drive an ethanol car, are to be found in the Swedish sites and in Brandenburg. In Sweden and Nanyang the respondents are the most satisfied with the number of filling stations and in Sweden they have become even more satisfied over time.

A quite different picture can be seen at the sites Rotterdam, Madrid and Somerset where the attitudes towards ethanol cars are less positive in 2008 compared to 2007. At these sites the view on the number of fuelling stations is very or quite negative, too. The same applies for the view on filling stations in Brandenburg and the Basque Country.

The most important sources of information regarding ethanol vehicles are the media, closely followed by colleagues/acquaintances and car dealers/manufacturers. Since 2007, the forums and similar tools

on the Internet have become slightly more important. Fuel companies are not amongst the most important sources of information and have become even less important in 2008 compared to 2007.

In 2008 a greater number of the respondents who chose to write a personal comment, wrote about the question food versus fuel and whether a sustainable production of ethanol is possible. Quite a few also mentioned that, if they had to choose a new car today, they wouldn't take an ethanol car anymore, they would choose a car propelled by another renewable energy source or by diesel.

## Short historical comparison

Similar surveys have been carried out in Stockholm for several years. Stockholm focuses on a couple of recurring questions: “In general, how satisfied are you with driving an ethanol vehicle?” and “Would you recommend others to drive ethanol vehicles?” The last time ethanol car drivers were asked these questions was in a survey carried out in 2005. It was aimed at ethanol car drivers within the City fleet. Therefore, we can compare the responses from the group referred to as “Stockholm city fleet” in this report with the results from 2005.

In 2005, 82 percent of drivers within the city fleet responded that they would (probably or absolutely) recommend others to drive ethanol vehicles. The share was smaller in 2007 - but not significantly- at 78 percent. Based on these results, we can't tell whether the total investigated population (all the drivers of the City's ethanol cars) have or have not become more reluctant to recommend ethanol cars to others. In 2008 the share was again at a level of 80 percent (change is not significant).

In 2005, 87 percent of drivers within the city fleet were (rather or very) satisfied with their experience driving an ethanol car. In 2007, the share was significantly smaller, 65 percent. This means, with 95 percent certainty, that the total investigated population was less satisfied with their experience than in 2005. In 2008 we see a more positive attitude again with a share of 71 percent, even though the change is not significant.

## Related surveys

Another partner within the BEST-project, Imperial College, conducted a survey of public attitudes towards bio-ethanol blends in Somerset County in 2008.

Somerset County Council and Imperial College London have in partnership developed and delivered a survey to investigate consumer preferences and acceptability for ethanol blends. The survey measures public preferences for bio-ethanol and identifies the determinants of choice between low and high ethanol. In addition, this project is to help policy formation in the UK and Europe, in view of UK targets of producing 5 percent transportation fuels from renewable energy sources by 2010-2011 and the EU targets of increasing bio-fuels' share of the market to 5.75 percent by energy content by year 2010.

The deliverable no D9.22 with the title Survey of public attitudes towards bioethanol blends in Somerset County, investigated public acceptability of and preferences for the use of bioethanol fuel blends (E10, E85 and E-diesel), with the use of the choice experiment technique.

Compared to the present study there is one question which is similar to a question included in Somerset's/Imperial's survey. As the two studies differ considerably regarding the chosen sample and the used methodology and also the question itself is put differently, the results of the questions may be seen as complementary to each other.

In the Somerset study the respondents were asked about the sources of information about biofuels (where ethanol had a large share). The respondents' sources of information were mostly newspapers/magazines (72.4 percent), television programmes (68 percent), radio (39 percent), the internet (19.6 percent) and friends/colleagues (24 percent). Only 5 percent stated acquiring their knowledge from the Somerset Biofuels Project and 4 percent from other local community activities. Finally, 10 percent said that they acquired their knowledge from brochures available at local refuelling stations and exhibitions.

In the present study the respondents were asked to rate five different sources of information regarding ethanol vehicles, beginning with very unimportant and ending with very important (see table below). The results for the respondents in Somerset are in 2007: The most important sources of information (both rather and very) are colleagues/acquaintances (62 percent), fuel companies (66 percent), Car dealers and manufacturers (64 percent), media (58 percent) and Forums or similar on the Internet (33 percent). In 2008 the situation is different: the most important sources of information (both rather and very) are Car dealers and manufacturers (87 percent), colleagues/acquaintances (62 percent), Forums or similar on the Internet (53 percent), fuel companies (52 percent), media (44 percent).

45-46 observations	2007					2008				
	Very unimportant	Rather unimportant	Neither unimportant nor important, %	Rather important	Very important, %	Very unimportant	Rather unimportant	Neither unimportant nor important, %	Rather important	Very important
	%	%	%	%	%	%	%	%	%	%
Car dealers and manufacturers	3	0	33	31	33	2	0	35	52	11
Fuel companies	3	5	28	33	33	2	2	43	39	13
Media	5	3	35	23	35	2	2	51	33	11
Colleagues / acquaintances	3	0	36	44	18	2	0	44	44	9
Forums or similar on the internet	11	14	43	22	11	9	11	56	24	0

**Table 13 How important or unimportant to you are the following sources of information regarding ethanol vehicles? - Somerset**

# Annex 1: Questionnaire

**1. Your gender?**

- <sub>1</sub> Female
- <sub>2</sub> Male

**2. Your age?**

- <sub>1</sub> 18-25 years
- <sub>2</sub> 26-45 years
- <sub>3</sub> 46-65 years
- <sub>4</sub> 66 years or older

**3. Is the ethanol car you drive your private or is it owned by your employer?**

- <sub>1</sub> My private car - Answer question 4
- <sub>2</sub> My employers car - Answer question 5 and 6

**To drivers of privately owned ethanol cars:**

**4. What was your main reason for purchasing an ethanol car? (one alternative)**

- <sub>1</sub> My concern for the environment
- <sub>2</sub> My technology interest
- <sub>3</sub> Status
- <sub>4</sub> Economically beneficial
- <sub>5</sub> Increased performance
- <sub>6</sub> I want to support the production and development of ethanol as fuel
- <sub>7</sub> Other, please specify:  
.....
- <sub>8</sub> I don't know

**To drivers of company owned ethanol cars:**

**5. What is your primary reason for driving an ethanol car? (one alternative)**

- <sub>1</sub> My concern for the environment
- <sub>2</sub> My technology interest
- <sub>3</sub> Marketing reasons
- <sub>4</sub> Economically beneficial
- <sub>5</sub> Increased performance
- <sub>6</sub> I want to support the production and development of ethanol as fuel
- <sub>7</sub> Company policy
- <sub>8</sub> Other, please specify:  
.....
- <sub>9</sub> I don't know

**6. In what type of organization are you employed? (one alternative)**

- <sub>1</sub> Manufacturing (industry)
- <sub>2</sub> Construction
- <sub>3</sub> Waste management
- <sub>4</sub> Transport
- <sub>5</sub> Hotel & restaurant
- <sub>6</sub> Retail & commerce
- <sub>7</sub> Other services
- <sub>8</sub> Education
- <sub>9</sub> Health care
- <sub>10</sub> Public service
- <sub>11</sub> Self employed
- <sub>12</sub> Other

**To all ethanol car drivers:**

**7. How much (km/week) on average do you drive an ethanol car?**

- <sub>1</sub> 0-100 km/week
- <sub>2</sub> 100-200 km/week
- <sub>3</sub> 200-400 km/week
- <sub>4</sub> 400-500 km/week
- <sub>5</sub> 500- km/week
- <sub>6</sub> I don't know

**8. What is your opinion on the number of ethanol refuelling stations within your city in relation to your needs?**

- <sub>1</sub> Much too few
- <sub>2</sub> Somewhat too few
- <sub>3</sub> Appropriate
- <sub>4</sub> I don't know

**9. How well or poorly do the refuelling stations currently work?**

- <sub>1</sub> Very poorly
- <sub>2</sub> Rather poorly
- <sub>3</sub> Neither well nor poorly
- <sub>4</sub> Rather well
- <sub>5</sub> Very well
- <sub>6</sub> I don't know

**10. In your opinion, is an ethanol car worse or better than a conventional car in the following aspects:**

	Much worse	Somewhat worse	Equal	Somewhat better	Much better	No opinion
Passenger comfort	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Driver comfort	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Operation	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Noise	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Safety	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Emissions	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Smell	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Acceleration	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Speed	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Braking	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Range (distance between each refueling)	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>

**11. Comparing your attitude to ethanol cars before you began driving them with your current attitude – you are now:**

- <sub>1</sub> Much more negative
- <sub>2</sub> Somewhat more negative
- <sub>3</sub> No difference
- <sub>4</sub> Somewhat more positive
- <sub>5</sub> Much more positive
- <sub>6</sub> I don't know

**12. In general, how satisfied or dissatisfied are you with your experience driving an ethanol car?**

- <sub>1</sub> Very dissatisfied
- <sub>2</sub> Rather dissatisfied
- <sub>3</sub> Neither satisfied nor dissatisfied
- <sub>4</sub> Rather satisfied
- <sub>5</sub> Very satisfied
- <sub>6</sub> I don't know

**13. Would you recommend others to drive ethanol cars?**

- <sub>1</sub> Yes, absolutely
- <sub>2</sub> Yes, probably
- <sub>3</sub> Uncertain
- <sub>4</sub> No, probably not
- <sub>5</sub> No, absolutely not
- <sub>6</sub> I don't know

**14. How important or unimportant to you are the following sources of information regarding ethanol vehicles?**

	Very un- important	Rather un- important	Neither un- important nor important	Rather important	Very important	I don't know
Car dealers and manufacturers	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Fuel companies	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Media	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Colleagues/acquaintances	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Forums or similar on the internet	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
XXX	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
XXX	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
XXX	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Other, please specify below:	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>

Other sources of information:

.....

***Thank you for your cooperation!***

**Please feel free to make additional comments here**

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## Added questions for 2008's survey

In the second survey the same questionnaire was used as in the first survey. However two questions were added at the end of the survey. One question is about the differences in the level of costs comparing different types of the vehicles. The other question was for finding out whether the respondent had participated in the first survey. See below

### 15. Do you think that it is economically better or worse (including purchase, subsidies, fuel costs, taxes etc) to drive an ethanol car than an equivalent car powered by:

	Much worse	Somewhat worse	Equal	Somewh at better	Much better	I don't know
Petrol	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Diesel	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Hybrid electric	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Biogas/CNG	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
LPG ("Autogas")	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Electricity	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
Other fuel, please specify below:	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>

Other fuel: .....

### 16. Have you answered this BEST questionnaire before (in spring 2007)?

- <sub>1</sub> Yes  
<sub>2</sub> No

## Annex 2: Complementary figures

Table 14 Employment per site 2007 (see also diagram on page 19)

	2007												
	Total no of responses	Manufacturing (industry), %	Construction, %	Waste management, %	Transport, %	Hotel & restaurant, %	Retail & commerce, %	Other services, %	Education, %	Health care, %	Public service, %	Self empl., %	Other, %
Brandenburg	21	10	0	0	0	0	10	0	0	0	76	5	0
Rotterdam	48	2	0	0	0	0	2	0	0	0	96	0	0
Madrid	13	0	0	0	0	0	0	0	0	0	100	0	0
Basque	13	0	0	0	0	0	8	15	0	0	54	0	23
Somerset	41	5	0	0	0	0	0	0	0	0	95	0	0
BFR	18	0	0	0	22	0	11	0	17	0	33	0	17
City of Sthlm	83	0	1	2	1	0	0	4	0	23	64	0	5
Sthlm priv	74	5	4	0	11	1	1	16	9	8	14	9	20
Sthlm comp	142	5	10	0	3	1	11	27	2	4	4	23	10
La Spezia													
China													
<b>Total</b>	<b>453</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>12</b>	<b>3</b>	<b>7</b>	<b>43</b>	<b>9</b>	<b>9</b>

Table 15 Employment per site 2008 (see also diagram on page 19)

	2008												
	Total no of responses	Manufacturing (industry), %	Construction, %	Waste management, %	Transport, %	Hotel & restaurant, %	Retail & commerce, %	Other services, %	Education, %	Health care, %	Public service, %	Self empl., %	Other, %
Brandenburg	4	25	0	0	0	0	0	75	0	0	0	0	0
Rotterdam	66	0	5	0	0	0	0	11	0	0	83	0	2
Madrid	32	0	0	0	3	0	0	6	0	3	75	0	13
Basque	19	0	0	0	0	0	0	11	0	0	84	0	5
Somerset	46	0	0	0	0	0	0	0	7	0	91	0	2
BFR	21	24	0	5	0	0	14	10	0	0	14	24	10
City of Sthlm	127	0	2	1	4	0	0	4	0	18	60	0	12
Sthlm priv	56	2	4	0	5	2	4	18	11	5	5	20	25
Sthlm comp	112	4	3	0	11	2	4	14	3	7	1	42	9
La Spezia	8	0	0	0	0	0	0	0	0	0	88	0	13
China	12	100	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>503</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>7</b>	<b>45</b>	<b>13</b>	<b>10</b>

**Table 16 Reasons for driving an ethanol car (see also diagram on p 23)**

	2007								
	No of responses	My concern for the environment, %	My technology interest, %	Marketing reasons, %	Economically beneficial, %	Increased performance, %	Support ethanol as fuel, %	Company policy, %	Other, %
<b>Brandenburg</b>	19	26	5	0	0	0	16	42	11
<b>Rotterdam</b>	47	16	2	7	2	2	20	25	25
<b>Madrid</b>	13	0	0	0	0	0	0	100	0
<b>Basque</b>	13	31	0	15	0	0	15	38	0
<b>Somerset</b>	41	20	0	0	3	0	8	63	8
<b>BFR</b>	18	28	0	6	11	0	0	56	0
<b>City of Sthlm</b>	80	15	0	0	4	0	1	70	10
<b>Sthlm comp</b>	139	34	2	1	29	1	8	21	4
<b>La Spezia</b>									
<b>Nanyang</b>									
<b>Total</b>	<b>370</b>	<b>24</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>1</b>	<b>8</b>	<b>43</b>	<b>8</b>
	2008								
<b>Brandenburg*</b>	0	0	0	0	0	0	0	0	0
<b>Rotterdam</b>	61	5	3	0	0	0	7	71	14
<b>Madrid</b>	33	13	0	3	0	0	3	81	0
<b>Basque</b>	16	31	0	0	6	0	31	31	0
<b>Somerset</b>	46	15	0	0	0	2	7	54	22
<b>BFR</b>	16	50	0	0	0	0	0	50	0
<b>City of Sthlm</b>	117	8	0	0	1	0	0	87	4
<b>Sthlm comp</b>	94	46	2	0	23	0	2	22	5
<b>La Spezia</b>	7	43	14	0	0	0	0	43	0
<b>Nanyang</b>	12	0	0	0	0	0	8	92	0
<b>Total</b>	<b>402</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>61</b>	<b>7</b>

\*No valid answers

## Annex 3: Sources of information

In this section the site-results are presented for question 14: How important or unimportant to you are the following sources of information regarding ethanol vehicles?

**Table 17** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Brandenburg

11 observations	2007						2008					
Figures in %	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Car dealers and manufacturers	0	12	8	40	40	100	0	0	0	64	36	100
Fuel companies	16	28	4	20	32	100	0	18	36	27	18	100
Media	8	0	15	23	54	100	0	0	9	64	27	100
Colleagues / acquaintances	0	4	8	56	32	100	9	0	18	18	55	100
Forums or similar on the internet	4	13	13	46	25	100	0	9	9	55	27	100

**Table 18** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Rotterdam

81-65 observations	2007						2008					
Figures in %	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Car dealers and manufacturers	2	7	33	24	33	100	14	7	48	18	13	100
Fuel companies	2	15	32	20	32	100	18	7	53	11	12	100
Media	5	0	19	33	43	100	5	2	37	24	32	100
Colleagues / acquaintances	0	2	40	38	19	100	5	2	49	26	18	100
Forums or similar on the internet	0	3	35	35	28	100	5	2	45	26	22	100
Automagazines	5	5	30	38	23	100	7	2	27	19	46	100
Overheid	0	2	26	26	45	100	9	2	49	14	26	100
Stadsregio Rotterdam	0	0	45	19	36	100	9	0	42	18	32	100
Gemeente Rotterdam	0	0	33	24	43	100	20	0	40	20	20	100

**Table 19** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Madrid

31-33 observations	2007						2008					
Figures in %	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total

			important						important			
<b>Car dealers an manufacturers</b>	9	27	36	18	9	100	21	3	41	31	3	100
<b>Fuel companies</b>	36	9	45	0	9	100	17	28	34	14	7	100
<b>Media</b>	0	27	27	27	18	100	14	11	29	32	14	100
<b>Colleagues / acquaintances</b>	0	18	27	45	9	100	14	7	39	32	7	100
<b>Forums or similar on the internet</b>	0	27	27	27	18	100	17	0	45	31	7	100

**Table 20** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Basque Country

17-18 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
<b>Car dealers an manufacturers</b>	15	15	0	46	23	100	6	18	18	29	29	100
<b>Fuel companies</b>	14	14	21	7	43	100	0	12	41	12	35	100
<b>Media</b>	14	0	14	36	36	100	13	6	31	13	38	100
<b>Colleagues / acquaintances</b>	7	7	14	36	36	100	0	12	24	29	35	100
<b>Forums or similar on the internet</b>	29	7	7	43	14	100	6	12	29	29	24	100

**Table 21** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Somerset

45-46 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
<b>Car dealers an manufacturers</b>	3	0	33	31	33	100	2	0	35	52	11	100
<b>Fuel companies</b>	3	5	28	33	33	100	2	2	43	39	13	100
<b>Media</b>	5	3	35	23	35	100	2	2	51	33	11	100
<b>Colleagues / acquaintances</b>	3	0	36	44	18	100	2	0	44	44	9	100
<b>Forums or similar on the internet</b>	11	14	43	22	11	100	9	11	56	24	0	100

**Table 22 How important or unimportant to you are the following sources of information regarding ethanol vehicles? BFR**

29-30 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
Car dealers and manufacturers	13	21	17	33	17	100	0	10	33	37	20	100
Fuel companies	14	29	33	19	5	100	0	24	31	38	7	100
Media	0	8	33	42	17	100	3	10	30	33	23	100
Colleagues / acquaintances	0	12	40	36	12	100	0	0	33	47	20	100
Forums or similar on the internet	0	17	35	26	22	100	0	7	31	41	21	100
BioFuel Region	0	33	33	25	8	100	0	5	45	32	18	100
BAFF (Bio Alcohol Fuel Foundation)	0	10	10	40	40	100	4	13	38	29	17	100
Sustainable ethanol							5	0	50	25	20	100

**Table 23 How important or unimportant to you are the following sources of information regarding ethanol vehicles? City of Stockholm**

128-130 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
Car dealers and manufacturers	12	10	40	26	12	100	5	13	36	37	9	100
Fuel companies	12	15	31	29	13	100	7	9	40	37	7	100
Media	4	3	35	42	17	100	5	6	28	45	16	100
Colleagues / acquaintances	5	3	31	49	13	100	2	5	35	45	13	100
Forums or similar on the internet	7	10	43	30	9	100	10	14	47	23	6	100
Web-page "Miljöbilar i Stockholm"	11	8	44	33	5	100	9	14	43	19	15	100
Representatives of "Miljöbilar i Stockholm"/City of Stockholm	10	9	40	30	10	100	8	11	37	27	17	100
Newsletters, advertising etc. from the City of Stockholm	12	9	43	28	9	100	9	14	36	31	10	100

**Table 24 How important or unimportant to you are the following sources of information regarding ethanol vehicles? Stockholm private**

141-145 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
<b>Car dealers and manufacturers</b>	5	13	28	37	17	100	8	17	30	33	12	100
<b>Fuel companies</b>	8	19	28	28	17	100	12	14	36	26	11	100
<b>Media</b>	3	6	17	53	21	100	5	9	19	44	24	100
<b>Colleagues / acquaintances</b>	4	11	39	34	11	100	4	10	35	35	16	100
<b>Forums or similar on the internet</b>	9	17	38	28	8	100	12	13	33	32	10	100
<b>Web-page "Miljöbilar i Stockholm"</b>	15	15	38	23	8	100	22	11	36	23	9	100
<b>Representatives of "Miljöbilar i Stockholm"/City of Stockholm</b>	18	15	37	19	10	100	23	14	35	17	11	100
<b>Newsletters, advertising etc. from the City of Stockholm</b>	16	14	39	19	12	100	19	19	35	20	7	100

**Table 25 How important or unimportant to you are the following sources of information regarding ethanol vehicles? Stockholm company**

109-112 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
<b>Car dealers and manufacturers</b>	4	18	30	29	19	100	11	21	34	24	11	100
<b>Fuel companies</b>	12	12	29	35	13	100	14	17	36	24	9	100
<b>Media</b>	2	9	26	41	22	100	1	6	24	53	17	100
<b>Colleagues / acquaintances</b>	2	13	35	36	13	100	4	9	40	38	9	100
<b>Forums or similar on the internet</b>	11	18	45	20	6	100	11	16	43	18	13	100
<b>Web-page "Miljöbilar i Stockholm"</b>	23	16	39	17	5	100	14	16	45	17	8	100
<b>Representatives of "Miljöbilar i Stockholm"/City of Stockholm</b>	22	17	45	11	5	100	14	16	47	17	5	100
<b>Newsletters, advertising etc. from the City of Stockholm</b>	20	16	41	18	6	100	15	16	44	21	4	100

**Table 26** How important or unimportant to you are the following sources of information regarding ethanol vehicles? La Spezia

8 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
Car dealers and manufacturers							0	0	25	25	50	100
Fuel companies							0	13	0	50	38	100
Media							0	0	0	75	25	100
Colleagues / acquaintances							0	0	13	38	50	100
Forums or similar on the internet							0	0	13	63	25	100
Internet							0	0	0	63	38	100
Riviste specializzate							0	0	0	29	71	100
Libri							13	13	0	50	25	100

**Table 27** How important or unimportant to you are the following sources of information regarding ethanol vehicles? Nanyang

12 observations	2007						2008					
	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total	Very unimportant	Rather unimportant	Neither unimportant nor important	Rather important	Very important	Total
Figures in %												
Car dealers and manufacturers							0	0	0	17	83	100
Fuel companies							0	8	42	42	8	100
Media							0	0	33	58	8	100
Colleagues / acquaintances							0	0	27	18	55	100
Forums or similar on the internet							0	18	9	64	9	100

## Annex 4: Open responses

In this section open responses to question 4, 5 and 14 are presented. The responses are in both English and Swedish.

### Question 4: What was your main reason for purchasing an ethanol car?

#### 2007

1. Avgiftsbefrielse bränsleskatt + miljöintresse.
2. Bekanntmachung der FFV Technologie.
3. Biltull. Bättre andrahandsvärde.
4. Biltullar/bilskatt/parkering i Stockholm är mer förmånligt med miljöbil.
5. Biltullarna
6. Från början tjänstebil-miljöbilskrav i företaget. Eget val skulle varit "miljödiesel".
7. Fördel som taxibil.
8. Föredetta tjänstebil.
9. Företagets miljöpolicy
10. Ingen trängselskatt, fri parkering.
11. Jag vill slippa betala i biltullarna
12. Köpte min tjänstebil
13. Slippa biltullar.
14. Slippa tullavgifter. Behövde ny bil. Tillgång och priser på bensin.
15. Slumpen
16. Taxi
17. Tillfällighet. Hade bilen haft ZOL-motor hade jag köpt bilen i alla fall (ej etanol).
18. Trängselskatten
19. Valmöjligheten mellan två bränslen.

#### 2008

1. Barnens påtryckning
2. Behövde en ny bil och har alltid gillat denna modell.
3. Biltullarna
4. Bra pris
5. En markering att vi måste bort från oljeberoendet.
6. Ingen boendeparkering och trängselavgift
7. Jag vann bilen i en tävling.
8. Rätt bil till rätt pris
9. Slippa trängselskatt
10. Slumpen
11. Vägtullar

### Question 5: What is your primary reason for driving an ethanol car?

#### 2007

1. Because this is the vehicle that I was provided with!
2. Befriad från biltullar
3. Behördenentscheidung
4. Bilen fanns i företaget.
5. Bra val för framtiden
6. Car provided

7. Det är den bil som företaget har.
8. Företagets miljöpolicy
9. Företagets policy
10. Förvaltningen har bestämt detta fordon.
11. I just got the car by the fleetmanagement.
12. I just got the car by the fleetmanager. I think it is our internal policy to use clean fuels.
13. I just got the car to use for a work-trip. I did not know that this car was an FFV.
14. I think it is fine/nice to drive in clean vehicles.
15. Min mans miljöengagemang.
16. My employee chooses the car I use.
17. Stöddes av Stockholms stad
18. Säljaren valde en sådan
19. The fleetmanager gave me this car to use. I did not especially ask for it.
20. The fleetmanager gave me this car.
21. The fleetmanager gave me this car.
22. The fleetmanager gave me this car.
23. The fleetmanager gave me this car.
24. Tjänstebil
25. Tjänstebil helt enkelt
26. Vi får köra endast miljöbilar
27. Övertog bilen av tidigare anställd.

## 2008

1. 1 of 2 pool vehicles available to us
2. Availability of car
3. Beslut av förvaltningen och kommunfullmäktige
4. Company policy, but its great because of environmental concern.
5. Fri trängselskatt i Stockholm
6. Fria biltullar
7. Företagets policy
8. I do not have a car and it is the only type my employer supplies for business travel purposes.
9. Miljöpolicy inom Stockholms Stad
10. SAAB sålde den. "Den går på etanol", vilket jag var nöjd med.
11. Stockholms stads krav
12. They are the only pool cars in use!
13. Trängselskatt
14. Trängselskatt
15. Use the pool car as I do not have business insurance on my policy.
16. Use the pool cars where the overall cost of the journey is cheaper for SCC than if I look my own.
17. Vi har enbart miljöbilar.
18. You don't get to specify which pool car you drive
19. You don't get to specify which pool car you drive.

## Question 14: Other sources of information

### 2007

1. BAFF
2. DN-Motor
3. DVLA or other motoring organizations.
4. Faktastudier från olika håll.
5. Familjen
6. Forskning

7. För en transportbil - bilbackrem - mindre förbrukning - bra service. Data viktiga.
8. Government agencies, fleet operators, politicians, automobile associations, Technical Control Board.
9. Gröna Bilister? Naturskyddsföreningen tror jag den heter.
10. Gröna bilisters lista över bästa miljöbilarna.
11. Info om sanningen!
12. Internet
13. Internet
14. Internet, Google
15. Konsumentverket och Motormännen
16. Medlemstidningar i Motororganisationer
17. Miljöorganisationer/forskare
18. NGO's that develop true ecobalances.
19. Numera pensionerad Ford-handlare.
20. Politiskt obundna informationskällor.
21. Priset på Etanol
22. Regeringen.
23. Rena fakta media-forskare, inte journalister och proffstyckare.
24. Svenska Naturskyddsföreningen, TV.
25. Vetenskapliga publikationer
26. Vägverket, biltillverkare
27. Välrenomerade biltidningar, egna efterforskningar.

## 2008

1. Advertising
2. Advertising
3. Advertisting
4. Att det finns tankeställen
5. Autos
6. Dagstidningsartiklar om klimatet och olika för- och nackdelar.
7. Environment related advertising
8. EU publications
9. Facklitteratur (biltidningar)
10. Fakta från biltidningar, försäkringsbolag, statistik/undersökningar.
11. Familj, politiker/opinionsbildare
12. Forskning och miljöutvärdering
13. Föredrag av "etanoljesus"
14. Gröna bilister
15. Gröna Bilister
16. hallbaretanol.se
17. Info från BAFF och Gröna Bilister
18. Internet
19. Kunskapsprogram på TV/Radio
20. Miljöfordon.se
21. Miljöföreningar till exempel
22. Motormännen
23. Motortidningar
24. Opartisk information från samhället
25. Publications related to BioFules
26. Regeringen, regional + lokal politik
27. Skatteverket
28. Teknikens Värld (tidskriften)
29. Tidningar
30. Trängselskatt/Kunder miljöval