Urban environmental aspects on transport and energy resources use in municipalities at the Baltic States

Survey Report

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2 Introduction

The range of tasks to be done at municipality level has increased during the last years. This is to some extent based on the principle of subsidiarity, included in the Treaty of Maastricht, which states that all matters shall be handled by the smallest authority possible. Consequently, a lot of tasks with a growing range of topics are now addressed to the municipality level.

The survey was conducted by the Baltic Environmental Forum (BEF Latvia, BEF Estonia, BEF Lithuania) in order to take a closer look on the recent state of addressing urban environmental problems, especially concerning traffic and energy use.

According the figures by the LPS the local governments spent in 2002 approximately 4.0 per cent of the expenditures for traffic, 16.51 per cent for housing and maintenance of buildings (including also measures to increase energy efficiency) and 0.66 per cent on fuel and heating.[1] Altogether these expenditures make up about 21 per cent - that means that the survey is dealing with issues that constitute roughly one fifth of the spending of the Latvian municipalities.

3 Methodology

The survey was carried out with the help of a questionnaire (see annex). The main goal of this questionnaire was to determine to what extent municipalities have addressed these problems already, have set up strategies to deal with these issues and have developed instruments or taken actions to approach the problems in this sector.
The question repertory is mainly based on problems and issues expressed by municipal representatives at previous seminaries. As the questionnaire should focus on two issues – energy and traffic related problems – it was split in two parts whereas the first part will deal with the energy questions and the second part contains the traffic related questions.
The questionnaire was usually filled out during a telephone interview with the responsible officials and the answers were ticked by the interviewer during the telephone conversation.
The municipalities that answered the questionnaires differ considerably in size of their population. This will be taken into consideration when evaluating the questions as we expect that bigger cities are likely to have different foci on problems compared to smaller municipalities. Figure 1 will provide a map where all the municipalities interviewed will be shown by size and location. Table 1 will illustrate the distribution of the size of the municipalities that answered the questionnaire.

[1] Source: Latvijas Pašvaldību savienība: http://www.lps.lv/faili/Dokumenti/LPS%20brosura%202004%20gads.pdf (accessed March 2006)

Figure 1: Map with all the interviewed municipalities shown

Table 1: Distribution of the interviewed cities by size

	Latvia	Lithuania	Estonia	All
More than 100.000 inhabitants	2	4	2	8
50.000 - 100.000 inhabitants	3	2	1	6
15.000 – 50.000 inhabitants	8	4	4	16
Less than 15.000 inhabitants	37	6	10	53
Valid cases	n=50	n=16	n=17	n=83

The target group of our study was towns and cities in the Baltic States with a focus on Latvia. We interviewed 50 municipalities in Latvia, 16 in Lithuania and 17 in Estonia (see also table 1). In terms of the population being covered by the interviewed municipalities, the quota is quite satisfying. This was in accordance with our aim to interview most of the big cities in the Baltic States. As focus of the survey was Latvia, only a small share of cities in Lithuania and Estonia was asked to answer the questionnaire. However, the number of inhabitants that live in these interviewed municipalities in Estonia and Lithuania is quite high (see table 2). Therefore the survey might be more significant in terms of the share of the population represented by the interviewed municipalities. The differences between Lithuania and Estonia can be explained with the geographical structure of the country. Lithuania has more towns with a higher number of population living in those towns.
Table 2 will give a more detailed overview on the share of the population which was covered by the survey in each country.

Table 2: Share of population covered by the survey

	Latvia[2]	Lithuania[3]	Estonia[4]
Population (2005)	2 306 400	3 425 324	1 347 510
Sum of population in the interviewed municipalities	1 502 334	1 494 401	756 238
Percentage of the whole population	65.1	43.6	56.1

After the interviews were held, the questionnaires were translated into the English language. Those translated and standardized survey forms were evaluated with quantitative and qualitative methods. The questions with qualitative answers were reduced to core statements and main patterns as the range of answers was often quite diverse.

[2] In accordance to the electronic database of CSB (Central statistical bureau of Latvia): http://data.csb.lv/EN (Visited 06.04.2006)
[3] In accordance to the electronic database of the Statistical Department Lithuania: (http://db.stat.gov.lt/sips/Database/sipsen/databasetree.asp, visited last 11.04.2006) for the 5 biggest cities. Missing values for the 11 remaining towns were calculated on the basis of the data from the Statistical yearbook of Lithuanian 2003, with a correction factor of 0.9860 according to the general population development in urban areas from 2003-2005 which can found on the above mentioned electronic database
[4] In accordance to the electronic database of Statistics Estonia: http://pub.stat.ee/px-web.2001/dialog/statfileri.asp (Visited 06.04.2006)

4 Questions on energy

The EU member states were bound to comply with the directive from the European Community on energy performance of buildings (2000/91/EC) by the 4th of January, 2006. This directive obliges the member states to implement regulations on energy efficiency at buildings such as general requirements for construction and renovation, requirements for maintenance and the obligation to introduce energy performance certificates. In the light of these new regulations and of course in the light of the contemporary debate about energy and its links to environmental and climate protection, questions on energy and heat supply will surely gain even more importance in the near future.

The following part will evaluate the answers which were given on the issues of energy use and actions taken to improve the local energy consumption. The first part will contain the analysis of the current situation. Thereafter a review shall be presented which will show, what the municipalities have done on an administrative level, e.g. whether they developed special strategies or plans for this thematic field. The last part of the energy section will deal with the question, what has been done so far and what can be done. We shall finish with a small conclusion.

4.1 Analysis of the current situation

One of the introductory questions was to ask for the importance of certain measures. The participants were asked to rate certain topics with high, medium or low importance. Table 3 will show the weighting of municipalities what is important to them at the moment. The percentage in brackets will show the percentage of the frequencies based on the number of valid questionnaires.

Table 3: Which importance do these measures enjoy at your municipality? (Number in parenthesis is the percentage compared to all municipalities that answered the questions, n)

	High	Medium	Low	n
Increasing energy-efficiency at buildings	**60 (73.2%)**	18 (22.0%)	4 (4.9%)	82
Increase use of renewable energy sources	21 (27.6%)	26 (34.2%)	**29 (34.6%)**	76
Switching from coal/oil to gas	25 (36.2%)	10 (14.5%)	**34 (49.3%)**	69

With regard to the last item in table 3 ("Switching from coal..."), it must be mentioned, that quite many municipalities already performed the change to gas and therefore ticked low importance at the this question.
However, if we sum up high and medium importance, it is visible that increasing energy-efficiency at buildings has currently the highest priority (95.2 per cent), followed by the increase of renewable sources (61.8 per cent). But with 50.7 per cent at high and medium importance, switching to gas is still an important issue to approximately half of the municipalities.

If we anticipate to the later chapter of actions taken, we will see that many municipalities have already implemented programmes in order to enhance the energy efficiency at - mostly public - buildings. 40 out of 83 municipalities confirm that they have implemented programmes or just a few measures to increase energy efficiency either at public buildings or at local apartment houses.

The following paragraph will focus upon the problems municipalities have to face within the energy sector. Furthermore a more detailed analysis will show what the main reasons are behind that.
Being asked what the biggest problems are related to the energy sector, the respondents answered as follows:

Table 4: What are the biggest problems related to energy sector in your municipality? ("yes"-ticks counted, more than one answer allowed)

	Frequency of affirmation	Per cent of all 83 municipalities
Environmental (air) pollution	14	16,9
Technical solution	47	56,6
Others	40	48,2
Valid questionnaires	n=83	

In case of ticking "Others" the participants were asked to specify their answers. These answers match, generally spoken, with the answers to the following question; therefore there will be no detailed outline here. The problems that were mentioned were once again mostly related to financing and budget restrictions.
The main problem in the energy sector seems to be the lack of technical solutions. To more than half of the interviewed municipalities this was problematic. If we combine these 47 affirmative answers for problems with technical solutions with the following question that asked for the reason for this, it becomes clearly visible that most of the problems are of monetary nature (see table 5).

Table 5: Reasons for naming technical solution as a major problem (More than one answer allowed)

Weak legislation	Low capacities at municipalities	Lack of technical solutions	Low interest of stakeholders	Lack of financial sources
10	8	15	10	**41**

Table 6 will give a more exact picture of the reasons behind the all problems in the energy sector. There will be no differentiation between the main problems that were mentioned above. We assume that the following reasons exist independently from the main problems that have been identified before.

Table 6: What are the main reasons for identified problems in this sector? (More than one answer allowed)

	Frequency of affirmation	Per cent of 82 valid questionnaires
Weak legislation	18	22.0
Low capacity of municipalities	14	17.1
Lack of technical solutions	19	23.2
Low interest of stakeholders	17	20.7
Lack of financial sources	**71**	86.6
Valid questionnaires	n=82	

The problem of lacking financial sources is affecting almost all municipalities. This explanation can be found across all questions in the questionnaire, but it becomes most obvious in the question shown in table 6.
The lack of technical solution as well as the weak legislation play a minor role but affect still more than one fifth of the interviewed municipalities. Concerning the low interest of stakeholders it must be said, that this is basically a very broad issue, as a lot of people can be a stakeholder by definition. In the case of our survey, this answer was intended to cover such problems as communication deficits or unwillingness of stakeholders to cooperate.
Low capacity of municipalities is with 14 answers the reason with the lowest affirmation; nonetheless it is an important issue, as the best legislation coupled with good technical solutions cannot be put into practice if the municipality is lacking sufficient capacity. This demonstrates that further capacity building is still needed in order to fulfil the requirements of a good environmental practice.

In a further step, it would be interesting to compare the answers on the main reasons for the problems in the energy sector between the Baltic States. Table 7 will illustrate the figures for each Baltic State.

Table 7: Comparison of the main identified problems between the Baltic States (More than one answer possible, Percentage in parenthesis is based on the number of questionnaires of the country)

	Latvia		Lithuania		Estonia	
	Freq.	%	Freq.	%	Freq	%
Weak legislation	7	14.3	8	50.0	3	17.6
Low capacity of municipalities	3	6.1	7	46.7	4	23.5
Lack of technical solutions	10	20.4	5	31.3	4	23.5
Low interest of stakeholders	10	20.4	3	18.6	4	23.5
Lack of financial sources	**42**	85.7	**16**	100.0	**14**	82.4
Valid cases	n=49		n=16		n=17	

When comparing the three Baltic States it becomes clear that lacking financial sources are a widespread problem in all of the Baltic States. While in Latvia and Estonia the importance of the other problems are more or less evenly distributed (except for low capacities in municipalities in Latvia), in Lithuania there seems to be a tendency towards administrative problems, such as low capacities at municipalities or weak legislation. In order to confirm these tendencies for Estonia and Lithuania further studies would be required to increase the statistical

significance of these results and might give some more interesting details on this very important question.

4.2 Recent planning approaches

The following section wants to present to what extend the municipalities already have developed a strategy or a plan related to energy. The answers were divided into several groups in order to reduce the variety of answers and to facilitate a quick overview. Broken down by countries, we will receive following results presented in table 8.

Table 8: How are energy plans or strategies integrated into local documents? (Percentage in parenthesis is based on all valid cases, number indicated below)

	Latvia		Lithuania		Estonia		All	
	Freq.	Valid %	Freq.	Valid %	Freq.	Valid %	Freq.	Valid %
Have a separate energy/ heating plan or strategy	9	19.6	1	6.3	4	25.0	14	17.9
Have a separate environmental plan or plan for sustainable development	-	-	1	6.3	-	-	1	1.3
Integrated in the urban development plan	**18**	39.1	**11**	68.8	**8**	50.0	**37**	47.4
Integrated in the regional development plan	5	10.9	1	6.3	1	6.3	7	9.0
Integrated in any other doc.	5	10.9	1	6.3	-	-	6	7.7
No plan or strategy at all	9	19.6	1	6.3	3	18.8	13	16.7
Invalid or not answered	*4*		-		*1*		*5*	
Valid cases	n=46		n=16		n=16		n=78	
Missing cases	4		-		1		5	
Sum of valid per cent	~ 100%		~ 100 %		~ 100 %		100%	

The typical, most applied method is to include a section on energy or heating issues into an urban development plan. The mode of integrating such issues into official document is, however, just the planning side. The final implementation of measures will bring the results that, last but not least, will have a protective effect on the environment. Protective measures and actions can be taken, of course, without the existence of a strategy, but we are convinced that - in the long run - only a special strategy can ensure sustainable effects. There are several reasons for that. First of all, a written strategy - wherever it may be included - is a statement that proves that the problem itself has been realized. It reflects a political intention to guarantee long term safety on energy and heat supply. Secondly it represents not only a document but in most cases also a basis on which further coordinated and planned action can be taken. Thus, it is not very favourable in our opinion, that 13 towns (16.7 per cent) still have no strategy or no plan at all. Of these 13 towns, that have no strategy, 10 do not intend to develop such in the foreseeable future.
Table 9 will split up the answers about the installation of strategies by town size of the interviewed cities. We will find the following results:

Table 9: How are energy plans or strategies integrated into local documents? (analysed by town size)

	<15,000	15,000-50,000	50,000–100,000	>100,000
Have a special heating/ energy plan or strategy	9	2	1	2
Have a separate environmental plan or plan for sustainable development	-	-	-	1
Integrated in the urban development plan	**23**	**8**	1	**5**
Integrated in the regional development plan	6	1		-
Integrated in any other doc.	3	2	1	-
No plan or strategy at all	9	3	1	-
Invalid or not answered	*3*	-	*2*	-
Valid cases	n=50	n=16	n=4	n=8
Missing cases	3	-	2	-

Altogether a weak tendency is visible that rather small municipalities tend to lack a strategy. But at least at a regional planning level the majority of municipalities have integrated energy or heat supply issues into long term plans or strategies

The main topics that are tackled in the strategies or plans differ as expected, since the issues have to be adjusted to the existing local problems and needs. But despite local characteristics, common ideas and goals can be found throughout all the questionnaires. The following table will provide a summary about the main issues that were named.

Table 10: Issues tackled in the municipal energy strategies

	Frequency	Per cent
Improvement and maintenance of the energy or heat supply infrastructure	**28**	**59.6**
Enhancement of energy efficiency of public buildings or/and apartment houses	20	42.6
Switching to gas, promotion of gas	8	17.0
Increase the use of alternative, renewable sources of energy	7	14.9
Planning and prognoses of the energy and heat consumption, installation of management systems	6	12.8
Increase the energy efficiency of the street illumination	**3**	6.4
Valid questionnaires	n=47	

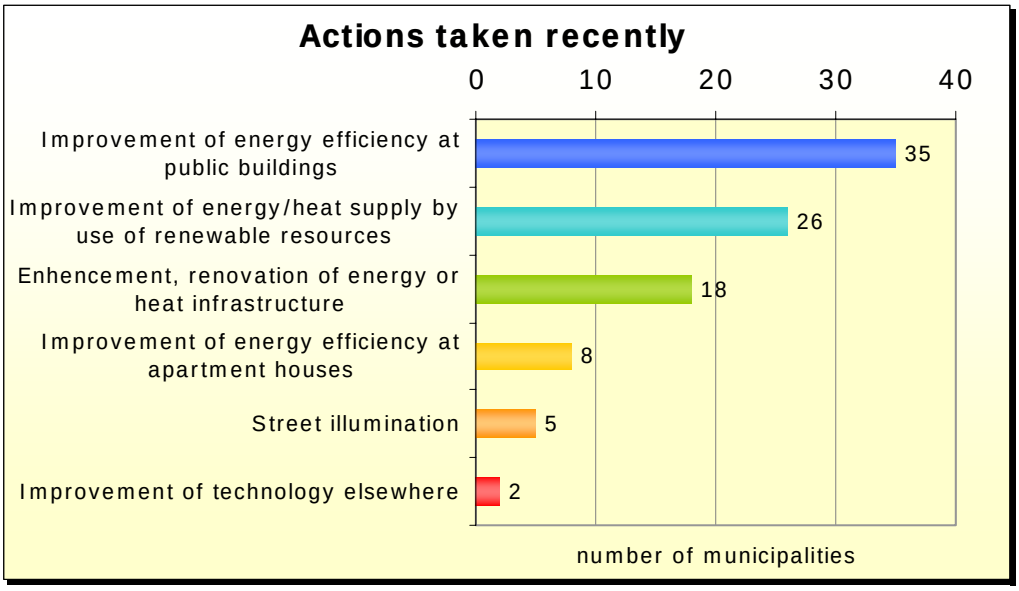
The improvement and maintenance of the energy and heat supply infrastructure is the most named issue that is tackled by strategies and plans. This is often done in order to increase and maintain the capacity of the network and to reduce losses due to the bad condition of the network. The last mentioned point has not only environmental consequences but also financial ones. This becomes understandable when we take into consideration that the bad pipe conditions can account for up to

30 per cent of the loss of heat compared to the input (the figure was mentioned in one questionnaire). Increasing the network conditions may therefore not only lead to an environmentally better performance but also to financial savings for the municipality in the long run.
Switching and promotion of using gas is tackled in just a few municipal strategies, as this is already done in a lot of cases. In at least 16 of 81 cases, it was declared that switching to gas was already done. Another reason for the relatively low percentage of this measure is the fact, that some municipalities have no access to gas as the next pipeline is far away and the use of constructing of a pipeline would be in no relation to the emerging costs. However, some municipalities are currently using a mix of natural gas and wood products, such as wood chips or pellets.
Developing long-term plans and prognoses and organising management strategies as well as improvement of the street illumination form rather second-rate issues.

4.3 Implementation of actions

The positive effect for environment will come with the implementation of efficiency oriented programmes or certain actions that a municipality or a company takes. Therefore we asked all the municipalities to name activities that were implemented or that are currently going on in the energy sector. Answers about planned initiatives were not included.
The answers were divided into the main categories of answers given. It is to stress in advance once again, that due to a lack of financial means some municipalities are not able to undertake certain measures. Thus the percentage of actions found in the chart below is often restricted by money and not by deficient political performance. The quota would probably be higher if more grants, funds or loans would be available to subsidise projects on increasing energy efficiency. Figure 2 will illustrate these main tendencies.

Figure 2: Recent actions or programmes implemented by municipalities (more than one category per municipality possible)



As we see, the number of improving the energy efficiency at public buildings has been the priority among the initiatives taken at the municipalities recently. This correlates to the question where municipalities were asked for topics tackled in the set-up strategies. It was the second most frequent mentioned issue here (43.5 per cent; see figure 2).

This is in accordance with the 16th recital of the directive 2002/91/EC as well, which appeals to the member states to focus the increase of energy efficiency especially at public authority buildings and buildings frequently visited by the public. Therefore the figure of about 35 municipalities can be regarded as a positive sign.
With almost 31 per cent, the improvement of the energy infrastructure and the heat supply network has been the second important measure in the municipalities. This issue was mentioned much more often in the questions concerning the issues dealt with in the written strategies (58.7 per cent). Thus we can expect that the municipal efforts are likely to increase here during the next years. An explanation for the current gap between planning and implementing might be a lack of funds.

The number of municipalities using renewable energy sources (~30.9 per cent) is mostly based on the usage of wood and wood based materials as heating fuels. According to a study carried out at BEF Latvia earlier, 28.6 per cent of the primary energy production in Latvia is based on wood and its products (in comparison: Estonia 10.9 per cent, Lithuania 8.0 per cent).[5] Being a local product, wood is an easily available, renewable source of energy. Switching to gas was not counted as an improvement towards renewable energy resources because, although the combustion is cleaner compared to other fuels, it cannot be regarded as renewable in terms of using it for energy supply.

4.4 Conclusion

It is positive to see, that the overwhelming majority of the interviewed municipalities have taken the initiative to implement first measures on energy efficiency at their municipality during the last years. Although those actions often remain restricted to small measures, they are a sign that energy and heat supply issues have been set on the local political agenda. As well, a majority of the municipalities developed strategies or schemes for further progress which we generally approve as a favourable development.
This positive trends stand vis-à-vis with structural problems, mainly the lack of funding measures, but also the lack of technical solutions and problems at the administrative level play a certain role.
Thus it is important to strengthen the administrative level according to the possibilities that seem feasible on the one hand and to promote an information exchange among the municipalities about technical solutions and funding possibilities on the other hand.
Furthermore, we regard it as a positive, favourable development to integrate issues concerning long-term energy and heat supply into a central strategy that tackles all relevant questions. It surely will facilitate coordinated, target-oriented development of policy tools and implementation of measures in the municipality.

[5] Baltic Evironmental Forum (2003): Renewable Energy Sources in Estonia, Latvia and Lithuania. Riga

5 Questions on traffic

Recently, in January 2006, the European Commission has adopted a thematic strategy on the urban environment. Some of the problems that the strategy envisages to tackle are poor air quality, high levels of traffic and congestion, high levels of ambient noise, and high level of greenhouse gas emissions.[6] Those issues are directly related to traffic questions in municipalities and show that traffic in cities is becoming a more important policy issue at the moment.
In order to get detailed overviews of the situation at the Baltic municipalities concerning traffic issues the second part of the survey contained questions connected with traffic organisation, problems and strategies.

5.1 Analysis of the current situation

5.1.1 Problem analysis

When dealing with matters related to transport in municipalities it is, of course, essential to know, what kind of issues the municipalities are dealing with. Therefore the representatives of the municipalities were asked to name five aspects that are currently the most important ones. The aspects that were listed differ from municipality to municipality, but we tried to categorize them in order to facilitate the various statements.

Table 11: Categorisation of the most important issues in traffic (up to five items per municipality)

Listed issue is connected to...	All		More than 50.000 Inh.
	Frequency	%	
Road conditions, road surfaces or/and renovation, reconstruction of roads	**48**	63.2	5
Organisation of traffic flow, number of cars and heavy duty vehicles	21	27.6	5
Parking policy and parking lots	19	25.0	2
Promotion of cycling and installation of bicycle paths	19	25.0	3
Pedestrian zones, sidewalk, safety of pedestrians	19	25.0	-
Construction of new roads, especially bypasses	15	19.7	4
Improving public transport	15	19.7	**9**
Traffic safety in general	13	17.1	1
Street lighting	12	15.8	-
Traffic signs, traffic lights, crossroads	9	11.8	-
Construction and safety at railway crossings	7	9.2	1
Quality of air and other environmental media	6	7.9	3
Construction and safety at bridges	5	6.6	1
Valid questionnaires	n=76		14

[6] further details are available at http://europa.eu.int/comm/environment/urban/home_en.htm (visited last: 10.04.2006)

As shown in table 11, issues connected to the road quality and its upgrading are the dominant issues among the municipalities. More than sixty per cent of the municipalities consider this as an important issue. Interestingly this point is rather mentioned by smaller municipalities. Out of 14 municipalities with more than 50,000 inhabitants it was mentioned just five times, which gives a percentage of 35.7 per cent. In contrast, looking at the 62 municipalities with less than 50,000 inhabitants it was mentioned 43 times – 69.4 per cent. There might be several reasons to explain these differences between smaller and bigger communes. On the one hand it could be possible that bigger cities just have to deal with more urgent problems and therefore did not put this issue on the list. On the other hand it might be imaginable, that bigger cities have already invested in the reconstruction of roads and reparation of road surfaces, so it is no actual problem anymore.

The following named problems on the list are considered as an important issue by approximately a quarter of the municipalities. Concerning the item "parking policy and parking lots" the answers are varying between bigger and smaller municipalities again. The difference is not as big here, but still there are only 14.3 per cent for the 12 bigger cities compared to 27.4 per cent from the 62 smaller communes.
Concerning "pedestrian zones, sidewalk and safety of pedestrians" this seems to be no important concern to bigger municipalities with more than 50,000 inhabitants right now. Supposedly the serious problems do not exist to such an extent in cities as they are likely to have pavements along most of the roads and pedestrian zones in the inner parts of the city.
Following issues are listed by roughly a quarter of all municipalities, "promotion of cycling and installation of bicycle paths" and "organisation of traffic flow, number of cars and heavy duty vehicles". The last item is slightly over-represented in bigger cities.

The construction of new roads, especially bypasses is important to about one fifth of the municipalities. When scanning through the questionnaire the impression was given, that bypasses were often regarded as an imperative necessity without balancing the pros and cons. But especially bypasses can become a controversial issue, as they can only ban the traffic that would run trough the town otherwise and do not mitigate the traffic flow that has its origin or destination within the city. Furthermore the generation of additional traffic is associated with the construction bypasses, also increasing the degree of sealing and lowering the chances to promote public transport. On the other hand, proponents claim that bypasses might increase traffic security and air quality within the city itself. However, we hope that in the future a more differentiated view on bypasses would move the current debate from single arguments towards a more holistic approach.

Concerning improvement public transport it has to be said that 9 of the 14 cities with more than 50,000 inhabitants put this issue on the list (64.3 per cent) - often with several different problems and measures in one questionnaire. The actual issues which affect the municipalities are quite different. Some want to extend tram or bus lines; others would like to renew the vehicle fleet. All those measures can be potentially oriented towards ecologic sustainability if, for example, the vehicle fleet complies with modern emission standards or uses environmentally friendlier fuels.

Another aim for that field, to mention a last one, is the general improvement of the quality of public transport for the passengers. In times where cars are available to a broader public, the quality of public transport becomes more and more a crucial factor in the choice for or against public transport.

An issue that is obviously related to the urban environment is the air quality. It was a bit surprising, that this problem was mentioned by only 7.9 per cent of all municipalities. Nonetheless we think that this is a very important issue as it affects the quality of life enormously for a lot of people. It would be interesting to verify, if the problem of poor air quality is indeed no problem right now or if the responsible departments are not aware of poor air quality as a problem.

The next question was aiming to add priority to the list of issues. Municipalities were asked to name the main problems and to state what the possible reasons behind that are.
Table 12 will present the most urgent problems that the municipalities are faced with according to their answers in the questionnaire. Financial difficulties will not appear in this list as they will be included in the reasons following later on.

Table 12: Categorisation of the main problems in traffic (Percentage based on all valid questionnaires)

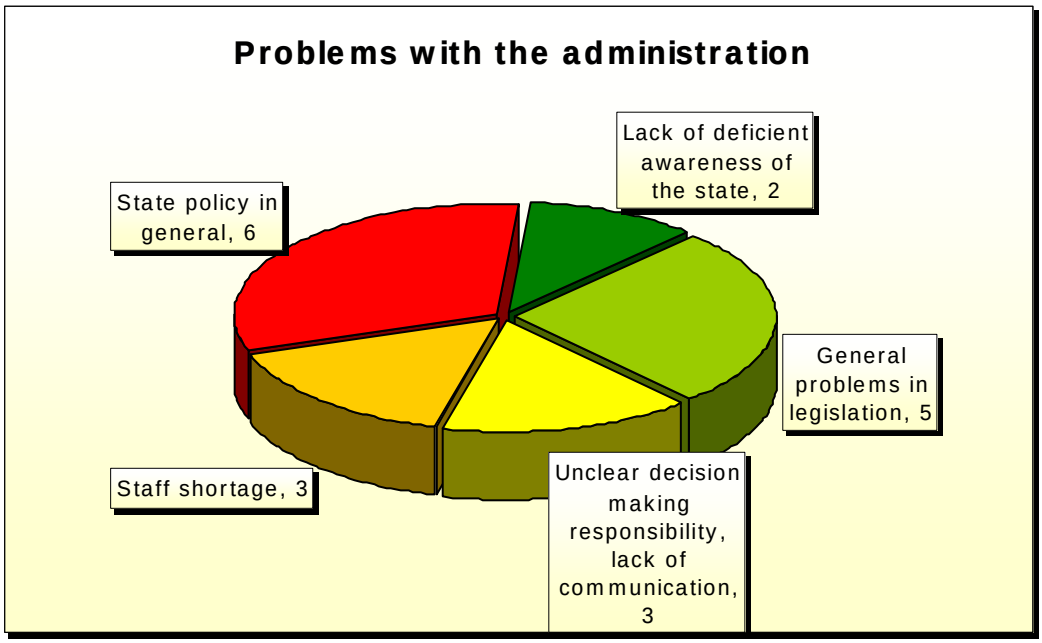
Problem is related to...	Frequency	Per cent
Road conditions, road surfaces or/and renovation, reconstruction of roads	**32**	**39.0**
Growth of mobilisation level, increasing traffic	12	14.6
Parking policy and parking lots	11	13.4
Construction of new roads, especially bypasses	10	12.2
Environmental impact of the traffic	10	12.2
Problems with public transport and improving it	10	12.2
Technical issues concerning bridges, tunnels and railroad crossings	9	11.0
Pedestrian zones, sidewalk, safety of pedestrians	8	9.8
Organisation of traffic flow in the city or at streets and crossroads	5	6.1
Promotion of cycling and installation of bicycle paths	4	7.5
Valid questionnaires	n=82	

Furthermore, traffic safety and financing of public transport were mentioned twice, all other problems are singularities, mostly connected to the local conditions.

The reasons that were listed for these problems are again in most of the cases financial ones - 55.5 per cent of all interviewed municipalities are affected by the shortage of monetary means. Although most questionnaires state, that there is at least some money available, it is usually not enough to solve the most urgent problems within a short period of time. Some questionnaires mentioned that it is difficult to get money from European funds, others that the whole process is too slow.

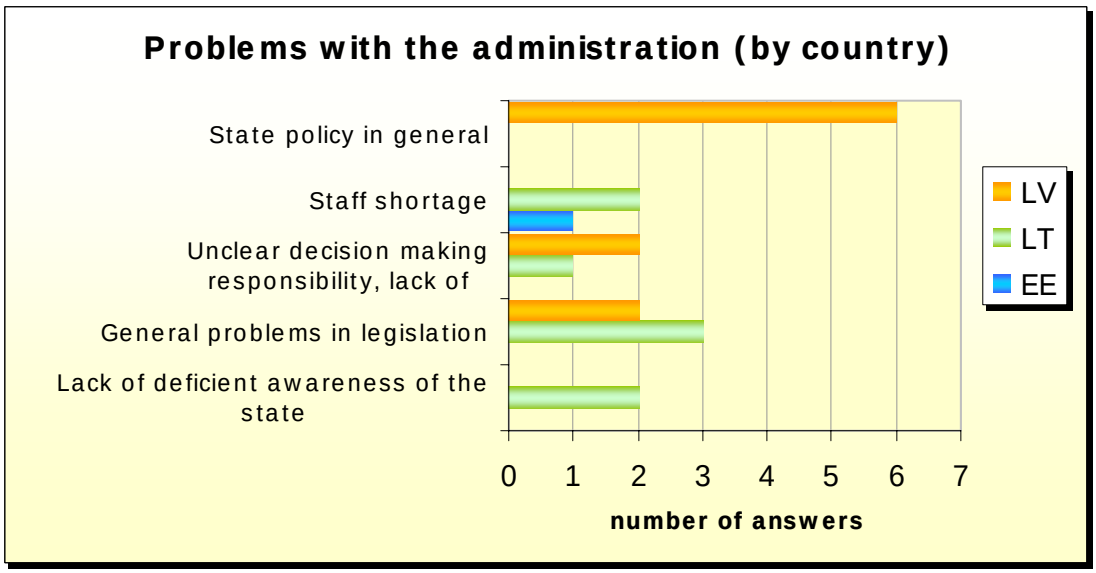
A noticeable frequent issue was also problems with the legislation. 19 out of 81 (23.4 per cent) municipalities do have a problem here. Figure 3 will demonstrate the distribution of various problems in connection with the administration.

Figure 3: Types of problems related to administration (Numbers at the pie are the numbers of answers given in total for that issue)



The pie chart from figure 3 represents the problems faced in all municipalities, regardless in which country they are located. But there are actually some remarkable differences among the countries which figure 4 will present in detail.

Figure 4: Types of problems related to administration by country (Numbers at the pie indicate the answers given in total for that issue by that country)



Looking at figure 4, it becomes clear, that the lack of awareness by state authorities has been listed as a problem only in Lithuania, whereas the state policy seems to be a problem only in Latvia. In Estonia occurred just one case of staff shortage, so

problems with the administration seem to be a less frequent problem in Estonia at the first glance.
The most interesting number is probably the 6 answers from Latvia that are not satisfied with the state policy in general. Based on the 50 questionnaire from Latvia this item makes up 12 per cent. It would have been interesting if the communes would have outlined their discontent a bit more detailed. The same goes for legislation (general problems in legislation), as this catchphrase is rather general and does not reveal were the problems are located exactly.

5.1.2 Attitude towards stakeholders

The attitude towards the various stakeholders is determined by previous experiences and by future expectations. Thus the attitude might serve as an indicator for the politics of the countries (role of the various stakeholder groups, communication between different stakeholders).
When evaluating the questions we will divide between the three Baltic States, since the roles and thus the attitudes towards the several stakeholders vary among the different states.

At first an overview of the attitudes towards the ministries (environment, transport) shall be given. In Estonia the ministries are considered to play generally an important role, especially when it comes to financing of roads. In Lithuania the expectations are generally directed towards more financial means from the ministries. Some municipalities would like to see the ministries to develop certain strategies or plan, e.g. for a stimulation of the public transport development in the cities. In Latvia the expectations towards the ministries are concentrated on allocation of financial means as well, whereas it is often stressed, that the existing funding possibilities are not sufficient. The relation towards the ministries is ambivalent – some confirm that they have a good cooperation with the ministries; others claim that the cooperation is weak or that the involvement of the ministries is meagre. The Ministry of Transport is often expected to take care of the road construction of transit roads or other roads of a higher road category. Just a few questionnaires mention the role of legislation, provision of knowledge and the role of the Ministry of Transport to arrange the passenger traffic. Interestingly, the question asking for the role of the ministries was answered by most of the municipalities whereas the quota of answers for the other stakeholders was smaller.

The next authority level that the municipalities were asked to assess was the local one. In Estonia this administrational level was in all answered questionnaires assessed as very important, if not crucial, and is expected to take the leading role in terms of planning and organising the implementation of development plans. The impression from the Lithuanian questionnaires differs from the Estonian ones. Although the role of the local authorities was rated important in general, it was expressed that the role could be even stronger, especially when it comes to finances but also with regard to other issues such as development and organisation of infrastructure and inner city traffic. In Latvia, almost all questionnaires confirm, that the local authorities are a very important level of administration. They are usually considered as a competent and responsible level. The tasks that are expected to be solved on the local level are mainly the maintenance and reconstruction of local roads. Other tasks that were listed were the organisation of

the transport of school children, planning strategies or finding external funding possibilities. In general the attitude towards the local level is positive in Latvia.

Before we take a closer look on the results for the regional authorities, it can be stated in advance, that the regional administration seem to play a much more important role in Estonia than in Lithuania or Latvia. Except two negative statements, the regional authorities were regarded to fulfil some important tasks in Estonia mainly on an organisational level, such as organising the public transport off the towns and regional planning. In Lithuania the feedback to this question was very meagre and most of the answers attest the regional level a minor role. Most of the municipalities do not tie bigger hopes to the work of the regional authorities, just a few with for more financial means. The most critical attitude towards the regional authorities can be found in Latvia. Approximately a third of the questionnaires describe the regional level with harsh criticism as a rather passive level that hardly fulfils any purposes. Those answers, that ascribe some importance to the regional level name mainly organisation of public transport and distribution of financial means. A few others mention regional planning or coordination as well – but these remain exception.

Towards private companies, the expectations and role in Estonia is seen as neutral till positive. The positive statements mention the companies' influence on finances and awareness raising in terms of renewable sources. In Lithuania the expectations towards the private companies are quite small and mostly reduced to certain measures, as for example the renovation of the bus fleet. Finally, in Latvia the opinions are very mixed - they range from no expectations and involvement at all to good cooperation and important partner. Private companies are mostly involved as partners in certain local tasks, as e.g. road construction or provision of parking lots. But these very different answers leave hardly any possibility for a more general statement.

Concerning the role of NGOs[7] the opinion among the Estonian municipalities is different, but a slight majority has positive expectations towards NGOs. The NGOs' role is seen to forward information, to cooperate with the municipalities and to promote green thinking. In Lithuania there was hardly any feedback on that question, but the expectations that were mentioned aimed at informing and educating the public. However, there were also two pessimistic answers that did not ascribe a particular important function to the NGOs. The NGOs in Latvia play almost no role according to most of the interviews. Some municipalities said that NGOs provide information to the public or participate in the discussion about public transport, air quality and road safety. It is noteworthy, that among the 7 big Latvian cities[8], 5 mentioned some of the aspects above, 2 had no opinion. The negative attitude towards the NGOs can thus be found only in smaller municipalities, maybe just due to non-existence of NGOs that deal with traffic and transport issues.

The last stakeholder, that we asked the municipalities to describe their attitude towards to, was the inhabitants. In Estonia the inhabitants were rated as important stakeholders in two ways. One is to point out problems and solutions and the other

[7] NGO = non-governmental organisation
[8] Those 7 towns are Rīga, Daugavpils, Jelgava, Liepāja, Jūrmala, Ventspils, Rēzekne

point is the inhabitants' behaviour and acting, which the municipalities hope will change further towards environmental awareness. The last mentioned issue is practically valid for the Lithuanian questionnaires as well. Most of the representatives that answered the questionnaire hoped for more own activity and initiative from the inhabitants. In Latvia the inhabitants are usually involved through complains and proposals concerning traffic and transport. A few municipalities state that the inhabitants participate in projects or contribute their points of view to a certain problems. But some describe, that the inhabitants become active only when the issue is related to the protection of their own interests. There are no specific expectations towards the inhabitants in Latvia.

5.1.3 Organisation of the municipal transportation system

A few questions were dealing with simple evaluations of certain aspects in the local traffic system. These questions are intended to give a short outline of the current state of public transport, bike roads and pedestrian streets. Following table will present the results.

Table 13: Organisation of the municipal transportation system

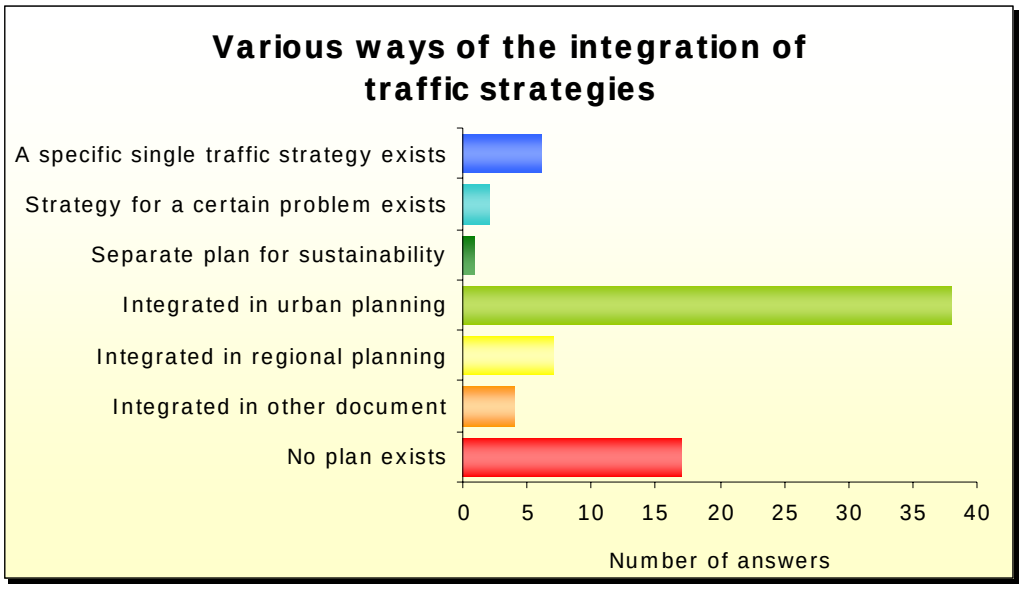
	Frequency of affirmation	Valid answers	Valid per cent
Is public transport scheme well organised?	51	70	72.9
Do you have bike roads in the city?	24	79	30.4
Do you have pedestrian streets?	37	80	46.3
Are there particular bypass roads for heavy duty vehicles?	37	79	46.8

This analysis is quite interesting compared to the problems the municipalities were asked to list. Seeing the list in table 13, it is visible that only 30.4 per cent of the municipalities have bike roads but just 7.5 per cent of the municipalities regard the installation of cycle paths as a problematic point. At least 25 per cent put this issue at the top five issue list concerning important traffic issues (see table 11). 72.9 per cent of the municipalities stated, that their public transport scheme is well organised. That might be a reason that it appears not until the middle of the top five list (table 11): 19.7 per cent. Furthermore, it is to mention, that smaller towns will often not provide public transport service, as these towns are so small that everything is well reachable within walking distance.

5.2 Recent planning approaches

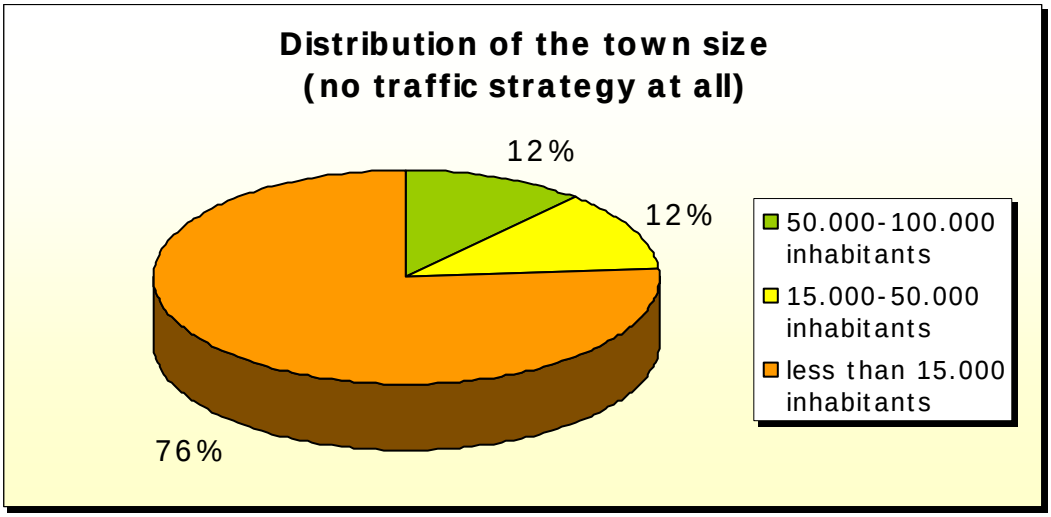
As already mentioned in the energy section, we think that only a special strategy can ensure sustainable effects as it facilitates further coordinated and planned action.
Figure 5 will demonstrate the various ways how issues on transport and transportation can be developed into a strategy or integrated into other policy documents.

Figure 5: Integration of traffic strategies into policy documents



Half of the municipalities decided to integrate a chapter on traffic strategies into a document on urban development or urban planning respectively. The other possibilities, such as integration into regional planning (for mostly small municipalities), integration into other documents (such as economic development scheme), integration into a plan for sustainability and having a special traffic plan are seldom used. Astonishingly 23 per cent do not have a strategy at all! At least some of them plan to have such a plan in the future.
Figure 6 will illustrate, based on the town size, which towns do not have a strategy.

Figure 6: Distribution of the town size of towns without a traffic strategy



It is clearly visible that mainly small communes did not design a special traffic strategy. As smaller towns form the biggest share among the interviewed municipalities it might be conceivable, that they will therefore have a bigger share in the pie chart in figure 6 as well. The towns which have less than 15,000 inhabitants represent 65.4 per cent of all interviews, but form the majority with 76 per cent in the chart above. The quotient of both percentages is 1.16, which means that smaller municipalities with less than 15,000 inhabitants are overrepresented

and tend to lack a strategy. The same goes for towns with 50,000 – 100,000 inhabitants, where the quotient is even 1.62. But as the number of towns in the category is very low, this number should be neglected due to insufficient statistic significance. In order to complete the picture: the calculated quotient for towns from 15,000 to 50,000 inhabitants is 0.61, which means that they are underrepresented.

5.3 Conclusion

The integration of environmental aspects into the traffic sector is crucial for a sustainable municipal development. In times of growing demands for an own car and along with it a growing lobby of car drivers, environmental measures will most likely always be a subject of discussion. It is therefore very important to sharpen the awareness of the municipal administration towards environmental matters in the traffic sector as well. As we have seen, technical problems and their solution have a high priority among the municipalities, e.g. problems with the condition of the roads – 39.5 per cent. But all technical solutions tend to be end-of-pipe technologies and will therefore not turn the development towards a more environmentally friendly direction. In order to lay the foundation for a sustainable traffic development a good traffic planning is needed and suitable measures. Unfortunately 23.0 per cent of the interviewed municipalities do not have a traffic strategy at all – this quota is much higher than in the energy sector (15.8 per cent). In addition, the discontent with the administration is quite high: 23.4 per cent. However, the majority of the municipalities are satisfied with the local administration and the ministries, whereas other stakeholders, especially NGOs seem to play a minor role.

In order to help the municipalities to set up strategies for the traffic sector, further trainings should be given to stress the importance of the integration of aspects on transport into municipal strategies and to show the municipalities how to do it e.g. with the help of best-practice examples.

Although there was no question that was aiming on taken measures directly, we asked for important issues. The questionnaires reveal that some environmentally friendly issues are already among the important matters, such as promotion of cycling or improvement of the public transport. But when it comes to issues concerning the environment directly, such as air quality, the number of problems listed remains quite small. As it seems fairly unlikely that this issue is simply non-existent, we assume that the level of awareness is quite low.

Altogether, it becomes visible, that first approaches have been taken, but in order to achieve sustainability in the long run, much more has to be done in the future.

6 Conclusion

The analysed survey was dealing with the two important issues of traffic and energy in municipalities. Both represent necessary pillars on the way to the environmentally friendly acting, sustainable municipality. The European Union has already identified these issues as important fields of action and passed a directive on energy efficiency at buildings. Furthermore, the European Commission is currently preparing a strategy on sustainable urban development where urban traffic is one of the main foci. When seeing the results of the questionnaires it can be said, that the Baltic States have made a start towards an environmentally friendly development but much needs still to be done. A large share of the interviewed municipalities has already made first experiences in projects on energy efficiency at buildings or the use of renewable sources, such as wood chips. Gas is already used in a quite remarkable number of municipalities – at least 20 per cent. Although natural gas is no renewable source it has at least a much cleaner combustion compared to, for example, coal.

Concerning the traffic sector we can state that environmentally friendly measures are among the important issues, such as cycling, public transport or the needs of the pedestrians. However, most listed issues still cover the technical question of traffic and transport organisation. As expected, the majority of municipalities have to face a permanent shortage of financial means – 55.5 per cent in the traffic sector and 87.5 per cent in the energy sector refer to missing financial means as a problem. A second difficulty which should not be underestimated is the problem with the administration. For the energy sector we find 22.5 per cent that affirm weak legislation, for the traffic sector 23.4 per cent of the interviewed municipalities name problems with the administration.

What can we conclude what is still to be done? First of all, the survey shows that there is still a need for further capacity building, especially when it comes to missing awareness or unclear responsibility. Second of all, as the financial means are always short, information on funding possibilities for measures should be spread among the municipalities. Furthermore, additional allocation of financial means by the state level or European level bound to environmental measures would be helpful. Funds should be earmarked in order to support appropriate application. Finally it is left to say that, especially concerning traffic, stakeholders should be more involved and the role of certain stakeholders should be clarified, the last mentioned point especially concerning the administration on regional level. More engagement through volunteerism on local level in NGOs or other societies should be supported and regarded as a positive development. So far, inhabitants unfortunately seem to play a rather passive role.

We hope that in the future energy efficiency and environmentally sustainable traffic will play a more important role within the municipalities as the already do. This is so significant since most environmental problems can and should be solved on a local level. Furthermore, energy use and traffic development are long-term issues. If a municipality does not deal with them today, it does not release the municipality from the necessity to handle those issues tomorrow.

7 Annex I: Questionnaire in Latvian

Aptaujas anketa

Phare CBC Latvia projektam par „Informācijas apmaiņa un sadarbības veicināšana starp pašvaldībām pilsētvides problēmu risināšanai trīs Baltijas valstīs"

Lūdzu norādiet:

Vārds	Institūcija, nodaļa	Kontakttālrunis, e-pasts

A.ENERĢIJA

1. **Vai jūsu pašvaldībā tiek risināti ar enerģiju saistīti jautājumi:**
   - ☐ Kā palielināt energoefektivitāti ēkās
   - ☐ Kā palielināt atjaunojamo enerģijas avotu (biomasas, vēja, ūdens utt.) izmantošanu
   - ☐ Kā pāriet no oglēm/naftas uz dabasgāzes izmantošanu
   - ☐ Citi, lūdzu precizējiet
   - ☐ Netiek risināti šādi jautājumi

Ja, jā, lūdzu, paskaidrojiet, kas tieši (projekti, labi piemēri) ir bijis darīts jūsu pašvaldībā:

2. **Lūdzu, izvērtējiet sekojošo jautājumu svarīgumu:**

	Augsts	Vidējs	Zems	Piezīmes, paskaidrojumi
Palielināta energoefektivitāte ēkās				
Palielināta atjaunojamo energoresursu izmantošana				
Pāreja no oglēm/naftas uz dabas gāzi				
Citi (lūdzu precizējiet)				

3. **Vai Jūsu pašvaldībā ir izveidota stratēģija/ rīcības plāns, kas saistīts ar enerģijas jautājumiem? Ja nav, vai enerģijas jautājumi ir iekļauti kādā citā stratēģijā/ rīcības plānā?**

4. **Ja, jā, kādi ir galvenie ietvertie jautājumi? Lūdzu, nosauciet tos! Ja nav, vai Jums ir paredzēts izveidot šādu plānu?**

5. **Kas ir lielākas ar enerģiju saistītās problēmas? Tās ir saistītas ar**
   - ☐ Vides (gaisa) piesārņojumu
   - ☐ Tehniskiem risinājumiem
   - ☐ Citas, lūdzu konkretizējiet.....

6. **kas ir galvenie šo problēmu cēloņi? Lūdzu nosauciet un paskaidrojiet, kādēļ:**
   - ☐ Vāja likumdošana
   - ☐ Zema pašvaldību kvalifikācija
   - ☐ Tehnisko risinājumu trūkums
   - ☐ Maza iesaistīto pušu interese
   - ☐ Finanšu līdzekļu trūkums

7. **Kādus atvērtos/neskaidros ar enerģijas izmantošanu/ražošanu saistītos jautājumus pašvaldībās Jūs vēlētos aplūkot/ diskutēt seminārā.**

.....

B. TRANSPORTS

1. **Kā jūsu pašvaldībā tiek organizēta transporta sistēma:**
   - ☐ Vai sabiedriskā transporta shēma ir ērti organizēta?.....
   - ☐ Vai Jums pilsētā ir speciālie velosipēdu ceļi? .....
   - ☐ Vai Jums ir gājēju ielas? .....
   - ☐ Vai ir pilsētas apvedceļi smagajam transportam? .....

2. **Vai Jums Jūsu pašvaldībā ir kāda ar transporta un mobilitātes uzlabošanu saistīta stratēģija/plāns (piemēram, ilgstošas pilsētas transporta attīstības plāns)? Ja nē, vai Jums ir paredzēts šādu plānu izveidot?**

3. **Ja nē, vai transporta un mobilitātes jautājumi ir integrēti kādā citā politikas dokumentā?**

4. Kā Jūs vērtētu transporta un mobilitātes jautājuma svarīgumu Jūsu pašvaldībā? Kuri, Jūsuprāt, ir vissvarīgākie aspekti Jūsu pilsētā? Lūdzu nosauciet 5 aspektus:

1	
2	
3	
4	
5	

5. Kas ir galvenās ar transportu un mobilitāti saistītās problēmas Jūsu pašvaldībā?

6. Lūdzu paskaidrojiet, kas ir galvenie to iemesli?

7. Kāda loma un kādi pienākumi Jūsu pašvaldībā ir iesaistītajām pusēm:

Ministrijām (piem., Satiksmes, Vides)	
Vietējām institūcijām (pilsētas pašvaldībai)	
Reģionālajām institūcijām (rajona pašvaldībām)	
Privātajiem uzņēmējiem	
NVO	
Iedzīvotājiem	

8. Kādus atvērtos/neskaidros ar transportu/mobilitāti saistītos jautājumus pašvaldības Jūs vēlētos aplūkot/ diskutēt seminārā?

9.

Vai Jūs vēlētos piedalīties mūsu organizētajos semināros par:	JĀ	NĒ
Enerģiju (4.-5. aprīlis, Latvijā)		
Transportu (30.-31. maijs, Latvijā)		

Paldies par atsaucību!

8 Annex II: Questionnaire in English

Questionnaire

For the Phare CBC Latvia project on „Information exchange and promotion of cooperation among municipalities in addressing the urban environment problems at the three Baltic States"

Please indicate:

Name	Institution, department	Contact number, e-mail

A. ENERGY

1. Is there anything ongoing in your municipality related to energy sector:
   - ☐ Increasing energy efficiency at buildings
   - ☐ Increasing use of renewable energy sources (biomass, wind, water, etc.)
   - ☐ Switching from coal/oil to natural gas
   - ☐ Others, please specify

If yes, please describe what exactly (projects, good examples) have been carried out in your municipality:

.....

2. Please evaluate the importance of the following issues:

	High	Medium	Low	Notes, explanations
Increasing energy efficiency at buildings				
Increasing use of renewable energy sources				
Switching from coal/oil to natural gas				
Others (please specify)				

3. Is there any strategy, action plan related to energy issues/questions in your municipality? If not, are energy topics integrated into any other strategy/action plan?

.....

4. If yes, what are the main issues tackled? Please name them. If not, do you have any plans to develop such a plan?

.....

5. **What are the biggest problems related to energy sector in your municipality? Are they related to**
   - ☐ Environmental (air) pollution
   - ☐ Technical solutions
   - ☐ Others, please specify.....

6. **What are the main reasons for identified problems in this sector? Please specify and explain why:**
   - ☐ Weak legislation
   - ☐ Low capacity at municipalities
   - ☐ Lack of technical solutions
   - ☐ Low interest of stakeholders
   - ☐ Lack of financial sources

7. **What are the open / unclear questions related to energy use/production at municipalities you would like to clarify /discuss at the workshop.**

.....
.....

B. TRANSPORT

1. **How is the transportation system organized in your municipality;**
   - ☐ Is the public transport scheme well organized?
   - ☐ Do you have bike roads in the city?
   - ☐ Do you have pedestrian streets?
   - ☐ Are there particular by pass roads for heavy duty vehicles?

2. **Do you have any strategy/plan (e.g., sustainable urban transport plan) in your municipality related to improvement of transport and mobility? If yes, what are the benefits? Please name them. If not, do you have any plans to develop such a plan?**

.....
.....

3. **If not, are transport and mobility topics integrated into any other policy documents?**

.....
.....

4. How you would evaluate the importance of transport and mobility issue at your municipality? Which do you think are the most important aspects for your city? Please name 5 aspects:

1	.....
2	....
3	
4	
5	

5. What are the main problems related to transport and mobility in your municipality?

.....
.....

6. Please explain what are the main reasons?

.....
.....

7. What is the role and your expectations towards the stakeholders involved:

Ministries (e.g., Transport, Environment)	
Local authorities (city municipalities)	
Regional authorities (district municipalities)	
Private companies	
NGOs	
Inhabitants	

8. What are the open / unclear questions related to transport/mobility at municipalities you would like to clarify /discuss at the workshop.

.....
.....

9.

Would you like to participate in our organized workshops on:	YES	NO
Energy (3-7 April, Latvia)		
Transport (5-9 June, Latvia)		

Thank you for your response!