This response is a modification and addition to the report from BSC and based on the UBC resolution on Climate Change

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Union of Baltic cities response to the Green Paper from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions

Adapting to climate change in Europe – options for EU action

General comment 1

The UBC welcome the green paper "Adapting to climate change in Europe - options for EU action" and the intention of the EC to reduce greenhouse gas. As stated, a swift transition to a low-carbon economy needs to be the top priority on the political agenda. The traffic and energy sectors are responsible for a large portion of the emissions. Effective procedures and initiatives should be targeted to this area since it can be of a substantial effect on the emission levels in a short time range.

General comment 2

The energy production and distribution grids in rural and sub-urban areas must be included in the action plan. New technologies for the small-scale production of heat and electricity where local bio fuel can be used must be promoted as well as district heating in urban areas.

General comment 3

There is little or no reference to what the individual could do or the need for a change in consumption patterns. UBC like to propose, that EU will support the local authorities and regions in how they can inform, educate and support their citizens to take their responsibility and to be even stronger forerunners. The UBC Commission on Environment has a long tradition in this field and would like to take a strong role in this field together with other Commisions within the UBC, other city networks, institutions and the European Commission. UBC is willing to participate in sharing its knowledge and experience and develop it further. UBC has also experience and cooperation from Africa there UBC is developing environment pedagogic centre in order to raise awareness about environment issues. One other very concrete suggestion by UBC is that new LED lamps should be tested and introduced for all public lightning. This will save huge quantities of electricity and suppress the coal-based production of electricity. This should also be emphasised for the “enlighten consumer” and is totally underestimated as a mean of reaching swift changes, despite excising good examples on how households could change policy towards greener products by just making `a green choice´.

General comment 4

There is one reference to Scandinavia, regarding how Europe should adapt to the climate change. However, there is neither a reference to the Baltic Area. The Baltic region will see dramatic changes in the climate. The projections for future climate change in the Baltic Sea basin indicate that atmospheric temperatures will continue to warm during the 21st century in every sub-region of the Baltic Sea basin.

Based on available regional modelling studies, an increase of the mean annual temperature in the order of 3ºC to 5ºC is projected for the total basin during this century — to be compared to the Commissions aim of keeping the increase below 2ºC on the average global scale as compared to pre-industrial levels.

Seasonally, the largest part of this warming would occur to the east and north of the Baltic region during winter months and to the south of the Baltic area during summer months. A warming of such a magnitude would lead to a lengthening of the growing season, by as much as 20 days to 50 days for northern areas and 30 days to 90 days for southern areas by the late 21st century, depending on the different emission scenarios used.

The mean sea surface temperature of the Baltic Sea is projected to increase, resulting in a marked decrease in the ice extent in the sea during winter. The projected decrease in ice over by the end of the 21st century is dramatic, with the Bothnia Sea, large areas of the Gulf of Finland and the Gulf of Riga, and the outer parts of the southwest archipelago of Finland becoming, on average, ice-free. The length of the ice season would decrease by 1–2 months in the northern parts of the Baltic Sea and by 2–3 months in the central parts.

Though the above-mentioned changes may be viewed as positive they have a dramatic impact on the Baltic Sea itself and its fragile ecosystem, and social and economic changes in coastal regions.

This warming is likely to change precipitation patterns, both geographically and seasonally, leading to a general increase in annual precipitation. These changes in precipitation will affect the run-off into the Baltic Sea; with potential increases in mean Annual River flow causing the average salinity of the Baltic Sea is projected to decrease.

Changes in the water temperature, water balance; circulation, and salinity associated with climate change can be expected to have impacts on the biological processes and biota affecting the species that live in the Baltic Sea, their distribution, and their interactions.

The potential decrease in salinity projected in some of the simulations would have a direct influence on the composition and distribution of species in the Baltic Sea, particularly for the plankton and zoo benthos that will influence their predators such as herring and sprat.

The anticipated impact of warming on marine mammals in the Baltic Sea is mainly expected in the large decrease in ice cover, affecting the seal species that breed on ice, primarily ringed seals but also grey seals. On the other hand, increased temperatures may be advantageous for harbour seals and harbour porpoises.

Thus, although the impacts of climate change during the 21st century are difficult to predict with certainty, it is clear that the projected increase in temperature, taken together with changes in other conditions associated with windiness and precipitation, will have a major influence on the conditions for biota in the Baltic Sea basin. This will affect the species composition, distributions, and interactions in ways that are only roughly understood today and this in turn will affect the precondition for the economy and society in the Baltic Sea area, and in particular in the coastal region.

The Baltic Sea Area will need a special treatment being not only an already fragile marine environment but also a region that will see some of the early and dramatic impacts of the climate change.

More firm actions to reduce the pollutants from waste water treatment plants. The basic idea that has to be tested is to integrate several measures that can be used in new plants, but also implemented at existing plants to achieve better treatment efficiency. The combination of different measures is the innovation of a method we propose. An important part is to use heat, e.g., from combined heat and power plants, in order not to only warm up the incoming water, but also to stabilize the treatment temperature. Pre-studies and calculations indicate that a stabilized process at e.g. 20 °C will improve the treatment efficiency, especially for nitrogen (N), and possibly for other specific unwanted organic compounds. Other improvements are the possibility of using the excess heat for pre-warming sludge for anaerobic digestion, and possibly to increase the carbon dioxide content in the air which will stimulate the nitrification process.
The preferred source of heat for warming the water is the back flow from district heating. Thus, the temperature is lowered even more before returning to the combined heat and power plant, allowing improving the electricity yields at the power plant by 3%. If no such heat is available, also biogas from sludge digestion can be used.

General comment 8

UBC agree with the Commissions assessment that a “one-size-fits-all” is a non-appropriate approach and that the impact of climate change will know no boundaries. The EU need to recognise the external dimension and build alliances with partners around the world is also seen as a good strategy. China and India seem to be good places to start. Technology transfer systems when in regards of the energy sector and environmental sector in general should be prioritised.

From a Baltic perspective it is still crucial that alliances, actions, and possible funding is done together with neighbouring countries. As for the Baltic Sea actions has to be take together with Russia to have an impact on the Baltic Sea environment.

General comment 9

UBC wish to stress the Commissions hope that the implementation of the new Energy and Water Framework Directive will a have very clear profile of actions towards sustainable solutions derived from the need to reduce emissions and adapt to the climate change.

UBC like to stress the importance of the impact of climate change on forestry that is already showing, and will increase in the Baltic Region due to a significantly milder climate. UBC would also like the Commission to consider initiating a reforestation program for Europe on a grand scale.

When a forest is harvested it will release much CO2 in the atmosphere. It will take 30 years for the trees to absorb the same level of CO2 before they start reducing the emissions in the atmosphere again. This long cycle that is due to the climatologically conditions in the Baltic region has to be taken in consideration.

General comment 10

Studies in Sweden at Linköping University shows that electricity consumption within the general industry can be reduced by 30-60% if proper behaviours and methods are introduced, without affecting the level of production. Programmes like this can increase the competitiveness of European industry on the global market and at the same time reduce the CO2 footprint. Such programs should be supported and implemented on a global scale trough different programmes and funding initiatives.

1 What will be the most severe impacts on Europe's natural environment, economy and society?

The UBC agrees with the Baltic Sea Commission in the assessment of the impact of climate change on physical geography and ecosystems worldwide in the Green Paper. However, it believes that equal consideration needs to be applied to the economic and social aspects of climate change adaptation as has been applied to the environmental aspects within the document.

Each area will face a variety of issues however water and its availability will be a reoccurring theme. Whether it is access to water due to lack of rainfall or quality of water from flooding and rising sea levels, the need for water will be a natural environment, societal and economic issue. This in turn has an impact on health and the economy. The lack of water will see the land susceptible to fires and a need for irrigation and even mining for water. Water may become the next 'oil' in economic and trading terms.

One other very big impact on the societies can be so called "climate refugees" with impact on our societies. It is difficult to foresee what influence it will have on the Baltic Sea Region but it is one of the regions in the world there the climate is going to be better. This impact is so far mostly neglected and must be studied much more seriously.

2 Which of the adverse effects of climate change identified in the Green Paper and its Annex concerns you most?

Water is a major concern for the UBC in terms of flooding and drought due to changes in climate and increased rainfall as well as to the geological processes, which are causing a slow sinking of the region. The rising sea level and increased storminess, is placing individuals and communities at greater risk of both tidal and fluvial flooding, with an associated increased cost of appropriate flood defences.

Migration, both from external countries into the EU, between Member States and also between and within regions will bring increased demand on water supplies, as well as land. This pressures compounded by the reduction in availability of safe drinking water and food production capacity. The latter could result from diminished fish stocks in warmer waters and a lack of viable agricultural land where water is scarce.

Increased temperatures in the summer months will have an impact on energy supply (Using air con units, fans etc) and health. Adaptation needs to be addressed with relation to older housing stock. The effects of hotter summers needs to be accounted for in new build, to keep energy demand lower and reduce health risks.

Increased rainfall will also generate more electricity from hydro powered electricity plants. The costs are less since they do not have to pay for CO2 certificates. These companies, mostly Swedish and Norwegian producers must be allowed to suppress the production of coal based electricity in Europe. If we save 30% of the Swedish electricity consumption over the next 15 years and export hydro and nuclear generated electricity that alone would cut the CO2 emissions in whole Europe with 20-30%. This, if that increased export of carbon free electricity suppressed coal based energy production to an equivalent amount.

New standards for construction of new houses and renovation of old have to be enforced according to the principle of "passive houses" that need no or very little energy.

3 Should further important impacts be added? If yes, which ones?

The energy production of small hydropower stations should be encouraged and supported in order to facilitate CO2 free generation of electricity that can suppress coal based production.

In addition increased temperatures and precipitation and its effects on housing raises the question whether there are enough drivers in the form of policy and legislation to ensure that existing dwellings cope or

be adapted and are new dwellings designed to be climate proof and at the same time not generate CO2 emissions via local or individual heating and cooling systems.

4 Does the green paper place the right urgency and emphasis on the matter of adaptation in Europe?

The urgency of adaptation strategies will differ and is dependent on geographical location. Of concern must be the harmonisation of sectors like energy, general industry, agriculture, horticulture, government, small medium sized enterprise etc. While EU common policy is desirable, flexibility is also required to meet local, regional national needs. Adaptation strategies and knowledge must be shared and fully integrated into policies and plans.

The UBC supports the Commission in its call for early action, particularly in areas where the known impact has greater certainty or where failure to act or adopt a precautionary principle would pose a significant risk to society, the economy and the environment of Member States. Adaptation to climate change will be costly but the Stern Report shows that to do nothing is the most expensive option. We have enough information to start acting now.

The UBC has already presented a tentative method for adaptation planning for its member cities on the UBC General Conference in Pärnu Estonia, September 2007. It is necessary that the cities have an intersectorial approach in the planning for different measures. We have developed a ten step process for the cities. We are willing to participate in EU project to further follow the adaptation planning in cities and to support the cities. Based on discussion within the UBC a General Conference resolution was taken and decided on the conference (see attachment).

Regarding energy: The paper refers to 'development of renewable energy' and that the Commission is working towards a Strategic Energy Technology Plan, which will aim to accelerate innovation of energy technologies', however in agreement with the comments made already the time to act is now. There is existing technology within the market that already can make a significant contribution to the reduction of CO2. Need to encourage all sectors to start using more existing technology as well as innovative newer technology.

Adaptation and mitigation should go hand in hand.

5 What should be the different roles of the EU, national, regional, local authorities and private sector?

We are looking at the degree of direction and relevance. EU strategy should be visionary, give direction but be less detailed and not prescriptive with regards to issues which can be effectively tackled at the national, regional or local level. Such detail and prescription gains more relevance when put into a national context. The ability to customise the response will mean different actions from different communities, sectors and areas to meet the national, regional and local goals. The private sector and communities are vital to this.

- National – create a legislator and financial framework for adaptation
- Regional – ensure co-ordination of response/action
- Local – delivery, planning location of infrastructure, housing, industry, to adapt and reduce contribution to GHG, education, information and supporting the citizens
- Private – act to reduce exposure to risk

The UBC feels that it is incumbent on local, regional and national politicians to assume the responsibility for taking the lead in making climate change adaptation a priority. Local government can set an example for others

The UBC believes that an integrated approach with other EU Member States is essential. This will reduce costs through the sharing of experience and expertise to enable best practice to be developed and adopted across Member States. The EU could have a coordinating role in this respect, particularly when looking at transboundary issues such as the co-ordination of research.

The UBC believes local authorities and more explicitly the different municipalities are key delivery agents in managing the effects of climate change and its impact on citizens' lives.

6 Which economic, social and environmental impacts of climate change should be addressed at EU level as a matter of priority?

The economic, social and environmental impacts of climate change that should be addressed are the security of current levels of the necessities of life being food, water, air and shelter.
With ageing populations in most EU Member States, the social effects of climate change need to be seriously considered;
The UBC considers that another of the key challenges is likely to be large-scale population migration, both from external countries into the EU, and between Member States.

In addition, the impacts on the energy market and implications to the coal based production should be addressed at an EU level as a matter of priority. The price for coal based production has to increase in order to support CO2 free production.

7 Apart from the main priority areas identified in the four-action approach are the there other areas that have been missed out? If yes, which?

We are happy with the main priority areas, but like to emphasize following issues; energy production and the local perspective on small scale energy production of both heat and electricity can be instrumental to reduce the emissions of CO2. Also a strong emphasis on transport related issues is needed including Transport Management issues, reducing the amount of transport and focus/support on clean transport systems and technology.

8. Does section 5.1 correctly and comprehensively identify the needs and policy priorities for early adaptation actions that should either be taken or coordinated at the EU level?

The overview and high-level action should be at an EU level, but the actual action must be at a local level. The municipalities and cities should be supported and coordinated in this respect.

There is a need for stronger links to the planning system between Industry and Services, Energy, Transport, Water and Ecosystems and biodiversity in order to reduce future liability. ICZM should be made statutory, given that spatial planning needs priority in order to lessen the economic costs of disruption to business and insurance.

More emphasis could be placed on reducing the reliance on carbon-based fuels sources. Adaptation must address this to aid the reduction of $CO_{2;}$ otherwise there is little point in undertaking adaptations.

9. How do policy priorities need to change for different sectors? Which policy approaches should be taken at national, regional or local level? Where is European action needed?

The UBC considers that adaptation must be mainstreamed into all existing EU policy frameworks and funding programmes in order to support CO2 neutral energy production. It is important that the traffic sector is supported to decrease the emission of CO2 and to support less traffic. Several sectors need to meet more efficiently, cooperate and plan better together in order to reach more sustainable spatial planning and sustainable urban and rural plans.

Structural Funds and the Cohesion Fund should be used so that they are able to change to be more in line with the adaptation needs of local and regional authorities. Their continuing flexibility is important because adaptation will be an ongoing process and local and regional needs will continue to change as time goes by. A broad range of existing legislation will need to be revised in light of climate change;

10. How can EU agriculture and fisheries policy be adapted to help these sectors adjust to the impacts of climate change? What will be the likely consequences of climate change for trade in agricultural products?

There needs to be consideration of current pollution mitigation needs to address the future health of our Coastline and marine ways. Consideration is also required in regards to conservation methods and defence of marine life. Concern is that targeting species and if there is accidental fishing of prohibited species that such species are brought to shore rather than dumped. This is to ensure the health of the waterways and marine life.

If Climate Change adaptation is left unchecked, there is the potential of little choice and availability of seafood as well as a gap in the eco-system.

Within the fisheries sector, the improvement of knowledge of marine ecosystems should be prioritised through Fisheries Science Partnerships. Warming and changing acidity of the seas are likely to have significant impacts on indigenous fish species. It may prove impractical to maintain the current marine ecosystem, necessitating strategies and funding to take account of changing species populations and to ensure that the socio-economics of fisheries-dependent communities are protected.

Within the agricultural sector, there will be both positive and negative impacts. These range from longer growing seasons in some parts of Europe to reduced yields in more arid areas. The desire to produce bio fuels to help reduce CO_2 emissions could also put pressure on food production; hence careful consideration must be given to achieving a balance between agricultural food and fuel production. But the agricultural sector should be encouraged to be self sufficient when it comes to energy production and consumption. Oil should not be a factor in within the sector.

11. How should the EU express its solidarity with regions suffering most heavily from the consequences of climate change?

Efficient Technology transfer systems have to be implemented and there is a need for the EU to do this, together with financial assistance through the Structural Funds.

UBC has a long tradition and knowledge in transferring knowledge in the field of local work for Agenda 21 and Sustainable cities and towns in Europe. It is important that EU use this experience and knowledge of multisector and multilevel stakeholders like UBC and many other organisations have build up and use it in transferring knowledge from EU cities to cities in other part of the world.

12. How could a collective European response help coastal Europe to tackle the effects of rising sea levels?

Greater support of current and future initiatives as per carbon reduction within the energy and transport sector, practical marine pollution initiatives, continued investment in practical projects as well as strategies to reduce the impacts.

The UBC believes that local authorities are at the forefront when dealing with the consequences of climate change. There is a fast rising awareness among the local politicians that something must be done and can be done. Already, Nacka as well as many other Swedish municipalities work on information on better travelling habits, they are expanding the public transport network, they support a change to the more efficient use of energy for heating purposes and other measures. The municipalities work at the same time to adapt to the inevitable changes that will come and their consequences. To a large extent is about increased precipitation and the risks of flooding which follows. But it also involves spatial planning, grids, building construction etc. One must at the same time keep in mind that actions that lead to less CO2 emissions in one area, can have a negative effect elsewhere, i.e. where coastal defences and flood barriers result in moving the problem to neighbouring or cross border areas. Therefore there is a need for co-ordination of strategies and policies between local and regional authorities to adapt to the consequences of climate change. This could take a multitude of forms such as river basin groupings etc. In addition the EU could invest into research for tools (practical, fiscal and legal) to facilitate adaptation.

With regards to the co-ordination of strategies and policies, ICZM should be implemented throughout the EU. ICZM should provide a tool kit to local and regional agencies to enable difficult spatial planning decisions on coastal protection and managed retreat to be made. Common ICZM techniques and tool kits would facilitate comparisons between coastal zones in different countries, assisting in the targeting of EU resources to the appropriate areas.

13. How should EU policy on public health take the impact of climate change into account?

While there needs to be improved boarder control to combat new species that could spread disease, e.g. Ross River virus via mosquitoes, some current practice in production of food for animal and human consumption will need to be considered. Temperature changes will encourage different species- flora and fauna that could either cause detriment or improvement of health. Each needs to be considered case by case.

New EU health policies needs to consider simple approaches as in 'Sun smart' campaigns e.g. usage of sun blocks, polarised windows and other methods to combat increased risk to skin cancer, boarder control of insects that can lead to vector born viruses, increased vigilance of water quality and water security.

The EU public health strategy should also take account of the effects of the reduced availability of clean water on sanitation and the issues faced by healthcare providers during extreme weather events. During storms, for example, the need for medical care can be greater but much more difficult to provide.

It is also necessary to have a strategy to handle with all uncertainty, anxious and depression among citizens we already see as a consequent of the global warming.

14. What will be the consequences of climate change for Members States' potential energy mix and for European energy policy?

To mitigate climate change impacts, the EU needs to implement a low carbon economy including rapidly developing and expanding renewable energy generation. This should be seen as an opportunity to maximise expansion in the new developing sectors, business competitiveness and job creation in accordance with the Lisbon and Gothenburg agendas.

Climate change will affect Member States' potential energy mix greatly. The European energy policy will need to take in to account current scenarios of climate change and try to anticipate future scenarios. There will need to be an even greater focus on renewable energy and alternative fuels in all member

states. There will also need to be a greater focus on overall energy reduction in European energy policy and how to educate consumer on sustainable consumption. Local energy production with bio fuels for individual homes and villages must be supported as well as district heating systems in urban areas.

Where some member states will have increased sun, there is a potential to harness solar power. Increased rainfall sees the potential to utilise greater hydro-electricity. While wave power and other micro-generation is new technology, the potential is to find the more appropriate places and exploit the new opportunities.

15. Please rank the listed options under each area of the four-action approach for EU adaptation into the following three categories:

a. *Which actions are the most urgent and to be implemented by the Commission as a matter of priority.*

The UBC supports the Commission in its call for early action, particularly in areas where the known impact has greater certainty or where failure to act or adopt a precautionary principle would pose a significant risk to society, the economy and the environment of Member States. The energy production and transport sector must be prioritized. This is most urgent and to be implemented by the Commission as a matter of priority. Where current knowledge is sufficient, adaptation strategies are developed
Recognise the external dimension of impacts and adaptation

b) Which actions have a low priority for Commission implementation?

c) Which actions are irrelevant for Commission implementation?

16. What are the possible synergies between adaptation and mitigation measures? How can these synergies be strengthened?

The problem with trying to find the synergies between mitigation and adaptation is while they do exist; the risk is that one forgets about the opportunities. In addition to this there is too much thinking and no action. Mitigation is necessary and desirable and can be strengthened through a determined effort.

By putting certain adaptation measures in place now, such as having naturally cooler buildings to cope with rising temperatures, will inevitably contribute to mitigation measures, as it will reduce the need for energy from air conditioning etc. if this is achieved at a European level the contributions in the reduction of CO2 can play a significant role in mitigation. Adaptation actions must be consistent with mitigation actions and vice versa. Researching current adaptation measures and plotting them against future climate scenarios can strengthen synergies.

The many of UBC member cities are already adapting to a demand for increased housing, a demand that may increase as a consequence of climate change. However this threatens both water supply as well as flood plains. If we can learn to balance priorities now, these lessons will serve for the future. The role of spatial planning in conjunction with energy planning is of vital importance for synergy effects to take effect.

Transport is another possible area where synergies can be achieved. Reducing the requirement to travel gives protection against extreme weather events – as there is no requirement to travel long distances on affected infrastructure, for example to commute to work. Removing this reliance also reduces overall vehicle kilometers, thereby reducing CO_2 emissions.

17. In the context of EU policy, how can companies and citizens be encouraged to participate in adaptation actions?

Municipalities, Organisations and Citizens can be involved at all levels of decision making. From a local level this is Community Engagement, focus groups and then through detailed campaigns.

Companies can be encouraged by stressing the business opportunities for them in new sectors, and how reduction in energy usage through greater efficiency, minimising waste streams and pollution will make their businesses more competitive by reducing costs.

Including education and awareness rising is an important factor in EU policy, linking in climate change to all other EU policies, for example health policy, education and economic policy. The message of EU policy should be consistent across the member states, but also highlight the importance of local, regional and national government. Currently the message is not clear, and there is a general level of confusion and misinformation surrounding the whole issue of climate change. The use of the term "Global Warming" is not helpful. The use of the term "Climate Change" is more appropriate.

18. How will climate change affect the policy priorities of the EU's external policies?

The EU will be impacted by need. Much of this need will be met from many areas outside the EU. However, will these countries be prepared to trade or deal with a trading group, which are protectionist, by nature? Yet there are other countries that may face economic and environmental detriment. While the EU may wish to assist, will the Policy and priority exist to do so? The planet has interrelationships with many Policy decisions that are out of their control. How the EU Climate Proofs itself through robust policy will be a challenge.

The UBC supports co-operation with developing countries to assist them with adaptation strategies and suggests that EU external actions support this, and believes that local and regional authorities can play a key role in sharing good practices and knowledge with developing countries using existing links and networks.

19. Which priorities should the EU set for its cooperation programmes in the different parts of the World with respect to adaptation to climate change?

Impact analysis and Technology transfer of good practice with adaptation exchanged between industrial countries:
- Assisting developing countries
- Enhancing trade in sustainable goods
- Collaborative working with neighbouring countries

The main priorities for UBC are Health, resources (water), agriculture, education and CO2 reduction,

The UBC has already knowledge and experience in collection of good practises, education and tutoring, dissemination of information and demonstration of good practises and technology in order to transferring knowledge and change of behaviour to people in developing countries and is willing to participate in further developing of this method we so far have very good experience of.

20. What are the main opportunities and obstacles for adaptation in different parts of the World?
The main opportunities for adaptation in different parts of the world:
- Need
- Learning and knowledge
- Mutual benefit

The main barriers are;
- Lack of trust
- Belief that this is a patronising act
- Fear of the unknown

- Culture and customs

21. What are the best options to make the EU's external action more resilient to climate change?

The best options to make the EU's external actions more resilient are to find where the common benefits are and to work collaboratively on an equal footing to ensure that such actions occur.

22. What could be the value added for EU action compared to other international initiatives includes, for instance, the UNFCCC and multi-lateral funding instruments?

The EU has a large membership and covers diverse geographic area. Working collaboratively will ensure enhancement to multi-lateral initiatives and becomes part of an over all body of knowledge, while targeting and benefiting a particular population base.

23. Do the listed research areas address the most important knowledge gaps?

The UBC supports the need for further research regarding CO2 neutral energy production on both urban and rural level. Also need to look at the built environment, extreme flooding, extreme weather events and how buildings can be adapted to sustain fluctuations in weather and changes in climate

24. Which are the five most important research areas that need to be addressed as a matter of priority?

- CO2 neutral energy production and Waste water treatment by return water from district heating
- CO2 neutral transport systems
- LED-lamps in public use for street light and public lightning
- Industry energy and electricity saving schemes
- Support and transferring of knowledge and to citizens enable them to take their responsibility for the Climate.

25. How should research results be communicated and made available to decision makers and a broader public at local, national, EU-level and internationally?

Research needs to be available through the functional Technology transfer systems and best practice web, libraries and for public scrutiny and there is a need to translate research in to policy if applicable. A dedicated EU website that was up-to-date and contained the wide range of information and research available would be advantageous. Ideally such a site would actually include information and research on a global basis, although the management of such a site may be prohibitive.

There is also a number of existing organisation through which information could be disseminated, such as the UBC, Energie cites.

Some ideas could be climate awareness campaigns, need to translate research and results to the local level, giving the broader public something they can understand locally

26. Does the Green Paper foresee sufficient participation of the different stakeholders in identifying and implementing EU adaptation actions?

Yes, but the local level has to be emphasized as instrumental in order to deliver. The UBC urges the Commission to recognise the importance of local and regional authorities and existing regional groupings in developing and delivering climate change adaptation measures, and to recognise the need to provide them with the powers and support to enable them to develop adaptation strategies. More use could be

made of existing transnational networks which already have Working Groups looking at a number of these stakeholder sectors. There are a number of other such organisations already in existence that could be users to facilitate consultation and engagement.

27. Should stakeholder from the EU's neighbors and other regions be involved?

Stakeholders from EU neighbours and other regions must be involved as Climate Change is a global issue.

28. Would the establishment of a European Advisory Group on Adaptation be helpful in further exploring an EU response to the effects of climate change?

Such a group would be helpful if it has a specific purpose and is composed of practitioners. The major area to concentrate on is how the necessities of life for all can be preserved and / or adapted.