

# **STOA long distance transport**

*- Report from Danish interview meeting*

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## Preface

Tuesday the 17<sup>th</sup> of June 2008, the Danish Board of Technology hosted a so-called *interview meeting* at the meeting facilities of DSB Conference Centre Østerport, Copenhagen.

24 participants heard a presentation, filled out a questionnaire and debated issues of long distance transport and global warming. Similar meetings were held in Hungary and Greece.

### Purpose of the report

Interview meetings are one of the central elements in the STOA project: *The future of European long distance transport*.

The Danish Board of Technology (together with ITAS) is conducting the project on behalf of the European Parliaments Panel for Science and Technology Options Assessment (STOA), which fund the project. The objective is to contribute to policy clarification by providing scenarios for 2047 that will meet targets for reducing oil dependency by 80% and CO2 emission by 60% in European long distance transport, both passenger and freight, without reducing accessibility. Citizen consultations in the form of interview meetings are part of the project. The result of the project will be recommendations of policy options for future development of long distance transportation in the European Union. The viewpoints presented at the meetings are an important element in the project.

For more information about the project and the STOA panel please visit the projects homepage at <http://www.tekno.dk/subpage.php3?article=1386&toppic=kategori11&language=uk&category=11>

This report sums up the attitudes and arguments presented at the Danish interview meeting.

### Choosing participants for the meeting

The participants were recruited with the purpose of having a differentiated group of participants. The purpose is not having a representative selection of the Danish population, since that would require a far larger selection of participants. The participants were selected on the background of sex, age and educational level. 2000 invitations were sent out to randomly selected people aged 18-75 in the greater Copenhagen area. Out of the positive responses, a group of 40 people were selected. Not everybody showed up at the meeting, so even though the final group had the expected composition of age and sex, there was a lack of people with shorter educational background, which resulted in an overrepresentation of medium and long educational backgrounds – for more details on the selection process, please refer to Annex 1.

## Executive Summary

The participants of the interview meeting see global warming and CO<sub>2</sub> emissions from long distance transport as a global issue. They find it difficult to reduce it to a European problem. They point to the close link between economic growth and transport and stress the need for solutions that will not be damaging for developing countries with weak economies, and for the new member states in EU. They find it difficult, thus, to decide whether economic growth and mobility should be prioritized to the fight against global warming or vice versa. A small majority prefer to give priority to fighting global warming.

Many participants find that everyone has a personal responsibility and could alter their consumption and transport habits if they wish. Better information would support the change of behaviour, but it should be carefully laid out and not confusing. The participants are in general conscious about environmental issues, but they are not used to consider the transport history of the goods they buy. Therefore there is a strong call for information and especially they find that a carbon footprint label would be helpful. They feel a big personal responsibility, and a common responsibility of the western societies, having over-consumed for many years. This responsibility make them call for action, both in solving own problems, but also in helping the developing countries to avoid the mistakes of the developed world.

The participants have big confidence in technological solutions; however, the general impression is that they think change of behaviour and technological development should go hand-in-hand. Change in behaviour can be the necessary push to initiate the development of cleaner technologies. Intelligent transport systems to increase efficiency and capacity use, and the use of ICT to replace some travelling are technological solutions that the participants see big potentials in. They would also like to see new fuel and propulsion technologies for cars being used – and they wonder why this is not all ready happening.

All agree that “polluter pays principle” should be used. Higher taxes on polluting transport should go hand in hand with lowering taxes/prices in other areas – most obviously in transport, which is environmentally friendly, e.g. hybrid cars or train/public transport. Both stick and carrot must be used to induce modal shift. If aviation and car transport becomes more expensive due to higher taxes, the alternative must be well established. Public transport must be improved.

Rail is an alternative if some conditions are in place: It must be efficient and punctual, low-price and easy to combine with other modes of transport. But according to the participants experience of the comodality of the European rail network there is a long road to achieve that. Reducing travelling speed in aviation was another acceptable solution for the participants, while a speed limit on motorways was not as popular.

The politicians must take a lead. Strong and coherent governance in the field of transport policies with regards to CO<sub>2</sub> emissions is needed. People feel individual responsibility, but leaving the initiative to the individual will include the risk of chaotic response to global warming. Citizens need support from politicians. EU has to act – this is a European issue, not national – and therefore more power should be given to EU in the transport policy area.

## Chapter 2      General attitude

### 2.1    Participants travel long distance a lot

The questionnaire reveals that the participants in the interview meeting travel long distance quite often. One third of the participants travel long distance at least once a month and another 50 percent travel long distance at least once every half a year.

When travelling long distance the participants mostly use car or airplane, while less than half of the participants take the train long distance more than once a year. The purpose of travelling is most often to visit friends or family; or they state that it is a mix of visits, work related and vacation when travelling long distance.

### 2.2    Globalisation and global warming

In the group debates the influence of globalisation to long distance transport of goods and consumer habits was often mentioned to describe and explain the current development in transport growth. The rationale is that globalisation goes hand in hand with economic growth and therefore it can't be stopped. Buying goods from Russia, India, Africa, South America or China can be to the benefit of their economies and will – the arguments are - hopefully support a development that is positive for the environment.

*“If we stop buying goods from Russia because we don't want to have to deal with their pollution, they will not earn money and be able to develop their society in a better direction.”*

*“The poor parts of the world can't exist without the trade they have with the rich part of the world if they should have any chance to gain economic growth.”*

Globalisation also has the effect that consumption in other parts of the world will affect our possibilities for consumption. Most obvious is the price of oil. There were several discussions among participants pointing to the improved welfare in China and India that makes it possible for larger parts of their populations to have a car. Therefore prices in gasoline have risen, to our disadvantage, the reasoning was.

*“There is a reason for the dramatic rise in gasoline prices, it is because all those people over there can afford to have a car and also want to buy gasoline.”*

To limit global warming and CO<sub>2</sub> emissions from transport, some participants argued that the new economies in Asia and Eastern Europe should learn from the mistakes of the Western countries. Many participants hope that it will be possible for developing countries to reach Western standards of living without making the same mistakes regarding to oil consumption and CO<sub>2</sub> emission.

*“I don't think that the Eastern European countries should do as we did first, and then do differently afterwards.”*

Some participants point to the problem that less developed countries need economic growth and development, and that can cause a lot of pollution. We could help them by developing more energy efficient and cleaner transport technologies.

*“We have used a lot of energy and fossil fuel to reach the level of welfare we have here in the West. I guess there is also a responsibility towards the developing countries. You cannot say that they should not pollute. Well, you can say it, but then you have to give them some means, technologies to develop on other conditions.”*

### **2.3 Economic growth or limiting global warming**

The vast majority of the participants find mobility and economic growth to be highly important. But they are more split when it comes to how important they find it to be easily transported across EU and they are much more reluctant about the importance of being able to buy goods from all over Europe and from all over the world. And when they are forced to choose what is most important there is a clear tendency to prioritize the fight against global warming and the protection of nature resorts over economic growth and mobility.

Some participants focus on the need to change the transport patterns, but others emphasize the need for economic growth, e.g. in Eastern Europe:

*“Transport is economy and not just travelling, so that part of transport should not be stopped. For example Eastern Europe need roads and development and they need more transport and mobility...”*

Others question the need for economic growth:

*“Maybe economic growth is not always the most rational, maybe you could get a better quality of life with less costs of time by having less growth.”*

### **2.4 Overspending of goods and travelling**

Some participants express that they find that consumption today is characterized by overspending. Both when it comes to travelling and the mode of travelling and when it comes to consumption of goods. We have gotten into some habits that are not good for the environment and we must change these habits:

*“It has become quit cheap e.g. to fly and we have gotten into some habits both personally and work related, and I think that we should think about how we can change our habits and only use it (airplane) when necessary.”*

The inhabitants of Denmark and other Western European countries are spoiled, some argued:

*“We have much more expensive habits compared to e.g. the Eastern European countries, they don’t have the same economical means as we, so talking about who is travelling and flying most, it will be people from the old western European countries.”*

They also emphasize that demands are created by the availability of new technologies, in particular relatively cheap electronic devices such as the mobile phone, which we tend to shift each time a new model enters the market. Some argue that we are governed by the technological development, rather than the opposite – it is difficult to resist buying a new

mobile phone if all your friends have one, or if it is the policy of the place where you work to be upgraded with the latest technologies. It seems difficult to act in opposition to existing consumption patterns.

## 2.5 Limited awareness of goods' transport history

When it comes to the travel distance of food and non-food goods only a minority of the participants state in the questionnaire that they are aware of how far the goods have travelled and that it affects their choice of goods. The majority of the participants are either not aware or aware but not influenced by the travel distance of the goods they consume. The same goes for the country of production.

*“ When shopping, I have never been thinking: I wonder how far this sweater has been transported? No, I have been thinking: This looks good on me, I buy it.”*

When it comes to how the products have been transported the vast majority don't think about it at all. Also the CO<sub>2</sub> emission during the manufacturing of commodities is something that only a minority are aware of and even less is influenced by when consuming.

*“But of course we should become more and more aware of that pollution.”*

The participants generally seem to be more affected by the quality than the price when consuming. No matter whether it is food or non-food products the vast majority of the participants is highly influenced by the quality of the product, while only about half of the participants are highly influenced by the price of the product.

## 2.6 Environmental conscience

While the awareness and importance of a products transport history does not seem to influence the consumption, being worried and feeling a big personal responsibility for the global warming is however a general concern of many participants.

*“There are many things I don't think about when I go shopping, but it would be good for me to think more about it in my everyday life, because I am very scared about the future for me, my children and grandchildren.”*

The participants are also very keen on the protection of nature resorts and limiting global warming. All participants but one are worried about the CO<sub>2</sub> emissions from transport and all but two participants worry about the oil dependency in the transport sector.

During the group debates, the issue of being worried about global warming and running out of oil were mainly discussed in relation to the global demand for fossil fuel and the higher prices, and in feeling responsible for the current situation. In general, the participants did not question if global warming should be taken seriously.

*“...I am SO worried about my future, about my children's and grandchildren's future, so I feel that I should also take a responsibility in my everyday life.”*

## Conclusion

- The group discussions show that the participants see global warming and CO<sub>2</sub> emissions from transport, as a global issue. They find it difficult to reduce it to a European problem.
- The participants point to the close links between economic growth and transport and stress the need for solutions that will not be damaging for developing countries with weak economies, and for the new member states in EU.
- They find it difficult, thus, to decide whether economic growth and mobility should be prioritized to the fight against global warming or vice versa. A small majority prefer to give priority to fighting global warming.
- The participants are in general conscious about environmental issues, but they are not used to consider the transport history of the goods they buy. The majority of the participants responded, that they do not think about the conditions of manufacturing and transportation of goods, whether it is environmentally friendly and not emitting CO<sub>2</sub>. In the debate, they added that information could change their attitude.
- They feel a big personal responsibility, and a common responsibility of the western societies, having over-consumed and being spoiled for many years. This responsibility make them call for action, both in solving own problems, but also in helping the developing countries to avoid the mistakes of the developed world.
- Oil dependency and CO<sub>2</sub> emission from LDT is a major concern of the participants.

## Chapter 3 Solutions for reducing CO2 emissions from long distance transport

### 3.1 Change of behaviour and technological development must go hand in hand

In the group debates, discussing whether reducing CO2 emission should primarily be done by change of behaviour or technological development; many participants argue that a combination of the two is necessary.

*“I think it has to be a combination because we are so far behind in developing the technology. So we have to concentrate on both, that’s what I believe. Also because I think there is coherence between our behaviour and the technological development. What can you do? Where does science funding go? And how much are things set going? That also has something to do with whether we are willing to change our behaviour because then we will push for it to happen.”*

*“(…) But at the same time the change of attitude, which was also mentioned. You have to walk on two legs.”*

### 3.2 Change of behaviour

Many of the participants find that our behaviour today is based on a culture where we have to move fast and be effective. And our consuming is based on force of habit; we have become used to consume what we like without the limits of seasons and geography.

*“We want strawberries in January, we want bananas from Chile... Everything has to go so fast we don’t want to wait. If travelling time of six hours can be done in eight we take the six because we have to get there. It all has to be fast and effective.”*

*“We should all be responsible and consider not to consume in ways that are damaging for the environment.”*

*“In the short term we almost can’t do anything but reduce our consumption, our behaviour. Because the technology we have today is in the best of my belief insufficient, not good enough.”*

Many participants stated in the group debates that they think we have a personal responsibility, and therefore we should change our behaviour if we can.

*“I believe that in the daily consumption you can change your behaviour. You can also change whether you choose to take the train or you choose to take car or airplane when you are going to a destination, and then choose by how big the CO2 emission is or how big the fuel consumption is on that mode of transport. Then I think you should distinguish between what is in reality a need and what could be changed.”*

But not all participants believe in changing behaviour and most of them think that technological solutions are very important measures as well.

### 3.3 Confidence in the technological development

In general there is a strong confidence among the participants in technological development. When asked about which three means should be emphasized if the aim is to limit CO<sub>2</sub> emission from long distance transport the biggest part of the participants point to further development of CO<sub>2</sub> lean fuel and propulsion technologies, the use of less CO<sub>2</sub> emitting transport modes and increased use of ITS (Intelligent Traffic Systems).

Some participants go as far as to say that technology is the only feasible way of limiting global warming:

*“When it comes to the point I don’t believe that anyone of us really will accept that we have to have lower living standards than today. This means to the best of my belief that we have to solve the problem technologically, so that we don’t have to do that much to solve the environmental problems.”*

Some argue that technology must be prior to change of behaviour, which they see as a potential threat to economics of the society.

*“If we could make transport environmentally friendly, energy efficient and cheap, there would be no problem in driving goods around over long distances”*

Many participants point to efficiency in transport management and use of capacity. They see the use of ITS – intelligent traffic systems – as important means to make better use of capacity and avoid congestion, both for freight and passenger transport on road and rail.

*“Intelligent traffic management is worth gold for anyone driving, even if you are on your way to work or you are transporting goods to some place. To sit in your car on the highway and being informed by the signs that now you should take this or that route...suddenly traffic becomes more smooth”*

In spite of many examples of CO<sub>2</sub> lean fuel and propulsion technologies and other technological solutions, several of the participants realise that implementing these solutions will not take place without a strong push for it.

*“I don’t think that anything will come by itself. I think one should put pressure on developing and implementing technologies.”*

They also react to the impression that some technologies that are available today are not being used.

*“I have been told that they have developed a car that can run on electric batteries, that are charged by wind energy during night hours. If we have that technology, I don’t understand why we don’t see lots of these cars on the streets?”*

### 3.4 Increased prices can induce modal shift

People can be convinced to change mode of transport towards more environmentally friendly modes. Depending on the increase in prices many of them would change mode of transport from car or airplane to train if the prices were raised on air and car travelling. Only a small

minority would never exchange car or airplane travelling with train. But to make people change you have to use both stick and carrot - as one participant says:

*“My comment is that it has to be both stick and carrot because if there is taxes on cars there has to be another well-run alternative.”*

Comfort in the train is one of the things they stress as a carrot. Another is that travelling by the train has to be worthwhile – in time and/or price.

*“One of the reasons for driving more car is that it may even be cheaper than going by public transport and it is faster than public transport...”*

*“If the public transport is actually cheaper and more efficient, if the trains arrive at time – if it works, then people would probably prefer this to taking the car, if it does pay.”*

The train as a CO2 lean option was central in the discussions. Some participants had very good experiences with using normal and high-speed trains abroad; others were critical due to bad experiences with travelling by train.

*“I think that high speed rail is very smart if you can drive faster than by car, because then you can use your time for something reasonable instead of sitting behind the wheel of a car”*

*“The essential thing is that it is faster and that there are good connections. I don’t think it is the time you spend on board a train that is important. It is when you land on a station... and then you have to wait 2½ hours for the next train.”*

*“A lot could be done to make train transport more attractive ... something needs to be done at European level which makes it more efficient than today.”*

Also for freight transport, the train is seen as a good alternative to trucks. However, some participants argued that today, in many cases trucks would be the most efficient and flexible mean of transport, depending on where goods are produced and where the markets are.

*“Clearly, if we could move much more of the freight transport to rail transport instead of trucks, it would be a big advantage. The problem is flexibility, since trains can only stop at certain places...”*

*“Our train system has the problem that it needs to be reloaded several times...”*

### **3.5 Paying for polluting transport**

Paying more for long distance transport for reducing global warming is generally a solution that more than half of the participants support. More than 60 percent of the participants are willing to pay more, and on third of the participants will pay up till 50 percent more for long distance transport.

Especially travelling by airplane should be more expensive. More than two thirds of the participants find that air travelling should be more expensive with the purpose of reducing

CO2 emission, while little less than half of the participants find that travelling long distance by car should be more expensive.

*“There is something completely unnatural about that it costs 250 DKr or so to go by airplane to Amsterdam, ...it cost the same price, 250 DKr to go by train to Falster.”[150 km south of Copenhagen]*

None of the participants think that travelling long distance by train should be more expensive.

In the group debates many participants in general argued against paying higher taxes – they find the pressure of taxation is rather high in Denmark already. But they do support the idea of taxing for the benefit of the environment; only compensation in lowering taxes elsewhere should ensure the balance.

*“In principal I would like to pay more in tax if it is to the benefit of the environment. Then the tax should be lowered in other places – I mean a re-distribution (re-allocation) of taxes.”*

*“A more fair taxation system, so that when you really pollute, you also have to pay.”*

Social inequity in relation to pricing was also raised in the group debates. Some participants pointed out, that one should be allowed to live in the countryside, and policy measures directed at reducing CO2 emission from transport should not punish those people who did. Public transport should be available as an alternative to having a car for each family member. On the other hand, empty busses are not worthwhile, not even from an environmental perspective.

*“A social imbalance, some would always complain that they can only afford to live in the countryside, and how should they go to work if there is no bus, and what if they should also pay more for their car. It will always hit someone.”*

As the issue of equal accessibility and mobility seemed hard to solve, the participants hoped the future would bring the “silver bullet” by developing CO2 lean cars, so that using cars for transport in the countryside was not a problem.

Some pointed to that higher prices for air transport would mainly affect the poorest people. To compensate, so that they would also be able to travel far, the suggestion was to make rail transport faster and cheaper.

### **3.6 Polluter pays principle**

All participants agree that the tax system should be regulated in such a way that it is cheaper to buy and run an environmental-friendly car and more expensive to drive a car that pollutes a lot.

*“Well the polluter pays principle I like very much.”*

*“That’s is why you should lower the taxes on the cars that doesn’t pollute as much. It doesn’t make sense, that buying an environmentally friendly car is just as expensive as buying a big car...which pollutes 20 times as much.”*

The participants also discussed the possibility of making it cheaper in general to buy a car and then more expensive to drive it. Many participants support this idea.

### 3.7 Paying more for goods

The participants are a bit more reluctant when it comes to increased prices on food for reducing global warming, but still more than half of them support increased prices on goods as a solution. Little more than half of the participants are willing to pay more for food, but the price increase should not be too high. The pattern is the same for non-food products however the willingness of paying more is a little higher. And while only one out of six can accept increased prices on everyday commodities in general more than two thirds can accept increased prices on goods with a large carbon footprint.

Reducing freight transport could also mean smaller variety of goods, and a majority can accept a smaller variety of goods from abroad. Many participants also find that it ought to be profitable to buy local goods instead of imported goods.

*“It must pay to buy Danish goods instead of buying goods from far away (...) but you can always take the Danish strawberries instead of the Spanish that is right next to them, and maybe not buy potatoes when it is not the season.”*

Asked directly about a general reduction of freight transport the vast majority says no to that. And some participants emphasize that not all goods can be produced locally and that some countries can produce specific goods very cheap and they should still do that. But then again they want these goods to be transported with the least CO2 emitting means, and they think it should be more expensive to use the most CO2 emitting means of transport:

*I would like if the most polluting modes of transport were most heavily taxed. Meaning that if you drive a tomato in a truck from Spain then it has to be more expensive than if you drive them from Spain to Denmark in train. Solely because you put more CO2 into the air... They simply have to pay for it!”*

When discussing the pricing of polluting transport some participants feared that this would be at the expense of the consumers – in the end, they would be billed for the pollution.

### 3.8 Reduce travelling (trips)

When it comes to reducing the personal travelling the vast majority don't think that there should be a reduction in passenger transport. But when they are asked if they personally can accept fewer holiday trips and fewer business trips almost half of them say yes. So while they don't want a general reduction, many of them are willing to take personal consequences in terms of reducing travelling.

An argument that can make a small majority of them travel less is that it will reduce global warming, while longer travel time will make a third of them consider travelling less. Virtual meetings getting easier (e.g. by video conference) will make a good third of the participants consider travelling less. In the group debate ICT is mentioned as a technology that can reduce the need for travelling. A participant gave a personal example:

*“Yesterday I had my first Skype call ever with web cam and all – and suddenly I could see my colleague in USA and I kept talking with her for 45 minutes...it was fantastic!”*

### 3.9 Reducing speed

Many participants can accept prolonged travelling time for reducing CO2 emission. Reducing the average travel speed by 20 percent for airplanes for reducing CO2 emission is an acceptable solution for a majority of the participants, while the participants are equally split when it comes to reducing the average speed limit on motorways to 80 km/h.

*“It appeals a lot to me, partly of course because it can reduce some of the emission, but I also think that we can get some spin off, at least if it is the cars (...) we may reduce many of the traffic accidents there is.”*

However, not everyone accepted the argument of increasing traffic safety by reducing speed.

If the transport is reliable and on time more than 80 percent can accept longer travelling time, while the acceptance of longer travelling time for about a third of the participants is increased by better comfort, better security and that it is easier to combine different modes of transport.

On the other hand time can be a factor when choosing means of transport:

*“Time has become such an important factor in our everyday life, so often you are not willing to spend more time in order to save the environment.”*

### 3.10 Better information

The participants call for more and better information about CO2 emission from long distance transport to help them in their daily doings. Long distance transport and CO2 emission is not an issue they go around thinking about daily, but if the information was there when they are shopping or travelling, many of them say they would act on it.

*“There are many things that I really don’t think about when I go shopping.”*

A good example of this kind of information is the CO2 footprint that many of them would like to see on everyday commodities as for example foods.

*“I’m not thinking about how many kilometres some product have travelled before it reaches the supermarket shelf. I think it is an on-going process towards people getting more informed and aware of the significance of long distance transport.”*

*“It is important to make us all aware what risk we are taking.”*

Some participants also pointed to how difficult it could be as a consumer to act based on a lot of confusing information, and therefore the choice of behavioural change based on information is not that simple.

*“It is very difficult to navigate, as a consumer...you think you do the right thing, and then you learn, that this turned out to be wrong.”*

### Conclusion

- The participants have big confidence in technological solutions; however, the general impression is that they think change of behaviour and technological developments

should go hand-in-hand. Change in behaviour can make the necessary push to initiate the development of cleaner technologies.

- Many participants find that everyone has a personal responsibility and could alter their consumption and transport habits if they wish. Better information would support the change of behaviour, but it should be carefully laid out and not confusing
- Intelligent transport systems to increase efficiency and capacity use, and the use of ICT to replace some travelling are technological solutions that the participants see big potentials in. Also new fuel and propulsion technologies for cars they would like to see being used – and they wonder why this is not all ready happening.
- All agree that “polluter pays principle” should be used. Higher taxes on polluting transport should go hand in hand with lowering taxes/prices in other areas – most obviously in transport which is environmentally friendly, e.g. hybrid cars or train/public transport
- Stick and carrot must be used to induce modal shift. If aviation and car transport becomes more expensive due to higher taxes, the alternative must be well established. Public transport must be improved.
- Rail is an alternative if some conditions are in place: It must be efficient and punctual, low-price and easy to combine with other modes. But according to the participants’ experience of the comodality of the European rail network, there is a long road to achieve that.
- Reducing travelling speed in aviation was an acceptable solution for the participants, while a speed limit on motorways was not as popular.

## Chapter 4 Policy measures and responsibility

### 4.1 Overall attitudes towards different policy measures

The participants were also asked to assess different policy measures. Road pricing is the most popular taxation tool, while carbon footprint label is the most popular tool of all. The vast majority of the participants find it to be a good tool.

### 4.2 Road pricing

Two thirds of the participants find road pricing to be a good policy measure for reducing CO<sub>2</sub> emission from long distance transport. But they also emphasize that road pricing should be accompanied by a reduction in taxation when buying a car.

*“For me, road pricing is OK, but then we need to get rid of vehicle excise duty.”*

*“I wouldn’t mind road pricing if I didn’t have to pay the car three times first. We come a lot in France and there you pay for driving on the roads. But the difference between a Frenchman and me is that I have paid three times as much or twice as much as he has for his car. So he has in a way lower costs, but he pays for what he uses and I find that reasonable.”*

In the group debates, some point to the purpose of road pricing as not only a measure for reducing CO<sub>2</sub> emissions, but also to reduce congestion – and perhaps it is more efficient for that.

*“I think that it solves the problem in the neighbourhood but I don’t believe in it on long distance. But it is a good idea in the heavy traffic.”*

### 4.3 Individual carbon allowances

A little less than half of the participants find individual carbon allowances to be a good policy measure. Some participants find it good because it counteracts the social inequality that they see as a side effect of carbon tax in general.

*“An individual CO<sub>2</sub> allowance to distribute it. Because if you only do it by tax, then the people with most money... then it will have an unequal effect.”*

### 4.4 Carbon tax

Only a third of the participants find Carbon tax to be a good political tool.

From the group debates it seems that some participants find it difficult to understand Carbon taxation, and whether it could have a different impact on CO<sub>2</sub> emission than road pricing. They pointed out that they could accept carbon tax from a polluter-pays-principle, meaning that transport with a high CO<sub>2</sub> emission could be taxed, while there should be compensation/benefits for less CO<sub>2</sub> emitting transport. This would leave the passengers with a choice. The argument is in line with their opinion of pricing (tax and charges) in general; from the debate there is a clear impression that money will make the difference and make people change their behaviour.

#### 4.5 Carbon footprint label

The most popular tool among the participants is the carbon footprint label. The vast majority of the participants find it to be a good tool.

*“Maybe you could have these carbon footprint labels on goods. At least I’m not aware of how far a product has travelled. Some things which have travelled far you have to buy, but other things you might be able to prioritize a little different if you are aware of it.”*

In the group debates, the need for information on the carbon footprint and the transport history was widely discussed. On the one hand, participants pointed to that the information of country origin mostly is available. But this does not necessarily make consumers aware of the carbon footprint. Some participants compared to the Danish energy label, which is easy to interpret. If a carbon footprint label were like this, it would work.

*“It would make us think, it would force us to react and consider what we are actually buying.”*

#### 4.6 Political responsibility

The majority of the participants indicate that the challenge of reducing CO<sub>2</sub> emission from long distance transport should be handled on a European level.

*“You could say that it is a great challenge for us who live in Europe and under Europe it is 25 countries, so that is quite a big area and the problem must be solved by joint efforts.”*

Two thirds of the participants believe that the European Union should have the main responsibility for reducing CO<sub>2</sub> emission from long distance transport through regulation.

*“I also think that it should be governed by the EU, that they fix it by law. There shouldn’t just be a policy with some declarations of intent of the ways they want to go to limit global warming. It must be fixed by law so that it will have an effect and we act on it in the member states.”*

Participants argue that all of Europe has to act together. It is no good that one country reduces CO<sub>2</sub> emission if another goes on polluting the same. The challenge of reducing CO<sub>2</sub> emission is cross-boarder and so should the action be.

Also two thirds state that decisions about European transport systems should be made on EU level rather than national level, and that it is necessary with EU regulation to ensure efficient land use planning and planning of building infrastructure (cross-border rail network, cross-border road network, airports).

And an even bigger majority of the participants believe that it is necessary to move more power from the states to the EU in order to enable a European-wide standardisation and regulations that will make the transport system CO<sub>2</sub> lean.

*“Without a proper and coordinated policy for all of EU I find it hard to see how we can deal with the global problems.”*

*“I would give the politicians the overall responsibility. If we are to change society, the individual citizen, the industry... then the initiative should come from the politicians. No matter if they are red, green or black. If the question is as important as we around this table think, then the parliament must understand it too and change attitude and in agreement say: We will go in the direction that will be the best for Denmark, for Europe and finally global”*

#### **4.7 Industry responsibility**

25 percent of the participants find that corporations and industry (car manufacturers, flight operators, freight companies etc.) must have the main responsibility and make and keep voluntary agreements to develop more environmentally friendly technology. But the majority of the participants don't believe that industry will live up to that responsibility:

*“It is utopia to believe that business like that can have conscience. The politicians will have to regulate it. The only ones that can change the attitudes of companies are politicians.”*

*“I am afraid that one should push very hard before industry will do something, that they will not benefit directly from.”*

Some suggested that the carbon foot print label would motivate industry to do something.

#### **4.8 Individual responsibility**

The participants are all highly aware of their personal responsibility.

*“But we also have to go down to the individual citizen in the individual country, who has to make the right choices when buying cars and everyday necessities and (...) travels.”*

And some point to the individual power of the each citizen as voters and consumers:

*“At the end of the day the responsibility can only be ours. In principle the politicians have to do what we tell them”*

*“But it is the consumers who is in charge.”*

*“Yes, if we get the opportunity to be in charge...”*

#### **4.9 Politicians as role models**

The participants thus do not leave all responsibility to the politicians. Yet they point to a need for guidance, a need for political governance in this field. In the group debates the participants talked about politicians as role models.

*“I think that it is very important with some role models and that is for example our ministers here and in EU.”*

And politicians should support changes in behaviour with legislation.

*“Each individual should do what she find is in line with her conscience. But it can seem a bit chaotic, if you think you do it as good as you can, but nothing really happens, there are no changes of legislation that support it.”*

Some participants asked for a more firm hand from the politicians and were sceptical towards their motives and why politicians are so reluctant towards strong regulation e.g. towards the car industry, to make them produce more energy efficient cars.

*“Government should say: If you produce these cars, then we will do this and that and put a tax on it, and suddenly it will pay off to produce [energy efficient] cars...”*

*“Politicians must think about what is best for the country, so I am wondering what the argument is for not doing it.”*

#### **4.10 How should future investments be prioritized**

When asked to prioritize the future investments in long distance transport the vast majority of the participants point at research and development of new CO<sub>2</sub> lean technology, improvement of European railways and Intelligent Transport Systems. While all was against new roads and new airports.

When asked more specifically what they are willing to pay more in taxes for, the pattern is the same but the willingness not as high, and one out of four state that they don't want to pay more in taxes. Confidence that the individual contributions, and not least paying taxes, would make a difference in limiting global warming was mentioned as a precondition.

*“I think we miss some information that would help us make our choices. As a starting point, I would be prepared to pay more for the goods, if I feel confident that this would actually contribute to reducing CO<sub>2</sub> emissions or pollution in general.”*

Many participants stressed, that the different modes should play together in an efficient way – and this should also be a focus for investments.

Some participants saw high-speed rail as a good alternative to travelling with airplane, but most of the participants stress the need to improve the European railway system in general.

*“... A (high speed) train that connects the bigger cities of Europe, that would be very flexible compared to air transport. I could see huge benefits in this”.*

*“We should also invest in making it attractive to travel by train and other environmental friendly initiatives.”*

*“I am disappointed that the EU has not been more far-seeing when it comes to transport on railways. It is something they should prioritize much more, rail transport.”*

In the group debates the most preferred infrastructure investment was in railways, and also many found inland waterways to be a good idea for further investments. A few suggested improvements of the road network, while others found it difficult to really assess, what modes of transport that should be promoted.

*“I don’t think we can give an answer to what transport mode should be prioritized – except that it should not be aviation. I think it is about developing technologies, no matter whether it is for cars, trains or whatever.”*

*“I don’t understand what is right or wrong: The Fehmern Belt Bridge. This would increase traffic, but on the other hand, traffic would flow more smoothly...but I don’t like the idea, because it costs a lot of money.”*

Finally, more information to raise awareness of the long distance transport contributions to global warming was highly emphasized by the participants in the group debates:

*“...Yes, and information, it is also an important investment.”*

#### **4.11 Money from taxes on transport should primarily be spent on technology and railways**

The participants mostly want the money from road pricing and carbon taxation to spent on technologies and railways. More specific the participants say in the questionnaire that money from Road pricing should mostly be spent on new CO<sub>2</sub> efficient car technology followed by ICT and European railways, and money from carbon taxation should be spent on CO<sub>2</sub> efficient shipping technology, ICT, European railways and efficient airplane technology.

*“So if you could move some of the tax load over to consumption, so that if you use it a lot – have big environmental impact – then you have to pay a lot. If you could redistribute the money then it would make sense to put them into research in new technology.”*

*“Then there are whole new types of airplanes and types of trains that are more energy effective, and clearly that has to be supported.”*

*“I think it is obvious that we should invest in rail because no matter what it will always be a matter of getting vehicles off the road to reduce congestion.”*

Some argue that the income from transport charging and taxation should be used to develop technologies that could help solve CO<sub>2</sub> emission problems worldwide.

*“This is why I find it very important that we develop our technologies because we as a high-tech and knowledge based society must be able to give ½ a billion Chinese an alternative to fossil fuel driven cars.”*

#### **4.12 Bio fuels could be problematic**

The majority of the participants find it problematic if bio fuels are produced at the cost of foods. But again they have faith in the technological development also when it comes to bio fuels. As one participant says:

*“(...) And then they say that it is at the expense of foods that you grow fuel on the fields, but that is first generation, if it is second generation it produced of waste and that I definitely support.”*

## Conclusion

- The politicians must take a lead. Strong and coherent governance in the field of transport policies with regards to CO2 emissions. The carrot and stick argument.
- People feel individual responsibility, but leaving the initiative to the individual will include the risk of chaotic response to global warming. Citizens need support from politicians.
- Information is needed for the individual to take action and being able to change behaviour
- Rail infrastructure is important to invest in
- Also CO2 lean fuel and propulsion technologies, and other research and development of environmentally friendly transport technologies are important investments
- Participants are willing to pay more if they are confident that it will lead to less CO2 emissions from transport
- EU has to act – this is a European issue, not national. More power to be given to EU in transport policy

## Chapter 5 Additional points

### 5.1 Change in attitude towards long distance transport

In the questionnaire the vast majority of the participants answer that they have not changes their attitudes towards long distance transport by being part of the interview meeting. But in the group discussions, several participants stressed, that they had learned a lot and that they wished more people could be engaged in this type of debate. Some said that they would have answered differently, if they were to fill out the questionnaire after the group discussion. Others said that the issue was very complex.

*“It has opened my eyes a little towards how these global problems should be tackled politically.”*

### 5.2 Transit tax

One participant suggests transit tax to limit transportation of goods.

*“As long as there is another concept too, as I talked about before with the matchboxes (example of matchboxes being transported between Finland and Denmark), as long as it is in transit they don't have to pay taxes of it, we must remember that. The day we introduce a transit tax, then things will be produced, labelled and everything more locally.”*

### 5.3 Public purchase/public demand can move the market towards more CO2 awareness

One participant point to public purchase as a place where politicians could change the rules to make purchase more CO2 limited.

*“When you work in authorities you are not even allowed to demand Danish products, it has to be goods from all areas (of Europe) (...) that is because of the free movement in the European market.”*

In general the participants very often used their own experience to illustrate a lack of what could be named “common sense” and logic. Often the examples were about rules and legislation (e.g. you are only allowed to take 4 bicycles on board a train, but your family comprise of 6 persons and you want to travel together with each your bicycle, or in freight transport, to move the goods around between several countries to avoid certain taxes), lack of planning and intermodality of transport modes, or the two above examples. Bad experiences tend to weaken the confidence in better transport policies, the possibility of improving public transport etc.

## Chapter 6      Annex

### 6.1 Annex overview

The following must be included in the annex:

- Annex 1 - Participants background
- Description of participants background in relation to the selection matrix
- Annex 2 - Program of the interview meeting
- Annex 3 - Material send to the participants  
Invitation letter, confirmation letter, scenarios etc.
- Annex 4 - Questionnaire and interview guide  
In national language
- Annex 5 - Transcript of group interviews  
In national language
- Annex 6 - Frequency tables  
Data processing of quantitative material
- Annex 7 - Comments from the questionnaire  
Comments from the last open text box in the questionnaire