

Check against delivery

Saint Malo Summit

Transcription of the speech by Mr André Jol, Head of Group on CC impacts, European Environment Agency

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Session on “Climate change: social perceptions & scientific knowledge”

It is an honour to be here representing the European Environment Agency. Unfortunately our Director Jacqueline McGlade could not be here so I will do the presentation. I think it is quite difficult to speak after all these previous excellent speakers. So what I will do now is I'll go back to the facts and figures as just mentioned by the Chair. But before going to my presentation, I should stress the fact that I am speaking currently about impacts in Europe, which does not mean that Europe is the only continent affected. Obviously in fact many of the developing countries are affected even more and are much more vulnerable. However, since we at the European Environment Agency focus on Europe, our intention with our report was to show what is happening in Europe, what are the observed impacts currently projected into the future, and also to show which regions are most vulnerable - I think that is very relevant for your conference - and where most likely adaptation actions would be necessary. The report we did together with the World Health Organisation Europe and the joint research centre of the European Commission. I should also stress that this is information building very much on the IPCC. We will hear more about the IPCC later on, but it adds some more latest research information from Europe. The report hopefully will be available here at the conference later.

Firstly to say that the European Environment Agency member countries are more than the EU27. We have 32 member countries, for example also including countries like Norway, Turkey and Switzerland, and we have the West Balkan countries as collaborating countries. [Slide 2]

I will just show this slide as an overview. I do not think you can read all of it, but the intention here is to show which are the vulnerable regions across Europe. We have the North, the Arctic - I'll say a bit more about it later. In the Arctic temperatures are increasing even more than anywhere else globally. We have all the coastal regions - very relevant for your discussions I think here at the conference. We have the mountainous regions all across Europe, particularly the Alps. And we have the whole Mediterranean which is also very vulnerable. [Slide 3]



Now you know these pictures, I guess. Global temperature has increased already: 0.8° ; and in Europe in fact temperature increases have been higher. If you look at the right side of this map, you see the temperature increases projected across Europe are the highest - as I said also before - in the Arctic and in the Mediterranean. But people do not experience annual temperatures of course. What they experience is temperature extremes. *[Slide 4]* I'm not sure what happened with this slide. I'm afraid it got lost. But the slide shows that temperature extremes have already increased across Europe and also the cold extremes have decreased, and especially in the Mediterranean the heat-waves are increasing. A key aspect there for example is that tropical nights with temperatures above 20° will increase substantially a number of those events. *[Slide 5]*

Precipitation is another key issue. It has already been reducing in the south of Europe, in the Mediterranean and also in other areas in Europe, and it will be decreasing further. Therefore the risk of droughts of course is much higher than it is currently. If you look for example on the right side of this map in central Europe at the number of consecutive droughts, this is projected to increase substantially. *[Slide 6]*

The glaciers, it is well known, are retreating now all across Europe and have already lost a substantial amount of their mass since the last century and could lose a very large amount of what is left in the next decades or I should say next century. *[Slide 7]*

The key issue: the Arctic sea ice, for many reasons, but in particular from our perspective, it is a very vulnerable ecosystem being threatened. The interesting aspect and the threat and concern is of course that what has been shown in reality in the observations over the last years in the extent of the summer sea ice, is that it has been decreasing even more than the models are projecting. So if you look at this graph the projections are not in line any more with the observations, and that is a very worrying signal I think. *[Slide 8]*

The Greenland ice sheets melting. A key issue for sea level rise. I will come back to that point, but if you look at what the IPCC has said, there has been an acceleration of the melting of the Greenland ice sheet. It is still very unknown how much there will be in the future, but if it accelerates, it has a major effect on sea level and is of course very relevant for all the coastal regions across the world and also Europe. *[Slide 9]*

The sea level has been rising and the rise has increased. It is not even across Europe and the projections are to have further increases and especially higher increases if the Greenland ice sheet melts faster. *[Slide 10]*

We also observe northward movement of marine species already. Some species have been moving more than 1000km northwards. This will affect fisheries for example and will certainly affect marine ecosystems. *[Slide 11]*

Unfortunately this slide is also lost. There has been already an increase in river flood events across Europe. This does not mean automatically that this is all due to global climate change. There have been many other changes in land use, in the way we manage rivers, but still, climate change has had an effect. The projections certainly show that river floods are going to increase in number across Europe according to the current projections. *[Slide 12]*

River flow drought is other key indicator in the south of Europe. There have already been increases in drought. Again not all due to global climate change, but still very much a signal of what will happen more in the future. *[Slide 13]*

Plant species are moving across Europe. They are moving northwards and they are moving upwards in mountainous areas, and if they cannot move further then it is obvious there is a high risk of extinction of a number of plant species. Similarly this is happening also for animal species. *[Slides 14 & 15]*

There may be some benefits - at least some people believe there are benefits of climate change - for agriculture. This is still quite uncertain. The growing season of agricultural crops is increasing. However at the same time with these increasing extreme events it is quite uncertain if agriculture will be benefiting. Also there is a perception that in the north of Europe, agriculture could benefit. The question really is: are the soils really the right ones and there is still a question mark as to whether this is really going to be beneficial. *[Slide 16]*

Forest growth is also changing a lot. Expansion across Europe up northwards again. *[Slide 17]*

Related to the heat-waves and the increases in droughts in southern Europe, forest fire danger is increasing in the Mediterranean and is projected to further increase. *[Slide 18]*
Finally, something on health. Well known of course here in France, the events of 2003: a kind of warning signal of what might happen in the future if the health system did not adapt to climate change. *[Slide 19]*

So there are a number of challenges. I will not go through all of them. They have been mentioned extensively before. But maybe to mention a couple of things. From our perspective it is still very important to have an improved knowledge base. We still need to know more about what is the vulnerability, what are the needed actions across Europe at regional and national level, what are the costs and benefits of actions. The Green Paper has been mentioned by Commissioner Hübner of course and there will be a White Paper on adaptation in the EU in the next months. But in the meantime there is no need of course to wait for such a White Paper. Action could already be taken now. Also related for example in Europe is the water framework directive which is very much looking at river base and management plans; and looking at how nature is managed under the scope of the Natura 2000 Directive. There is a huge area now in Europe which is protected according to this Directive and we need to look at how this protection has to change with a changing climate. *[Slide 20]*

There are already a number of EU countries which have prepared national adaptation plans. They are listed here and if you look at those plans many of them are including let's say water-related issues, flood management, flood defence. There is a large scope for adaptation in other areas. Water scarcity and droughts linked with natural hazards, risk management - very crucial I think -, looking at infrastructure, land use management, spatial planning, ecosystem management and health actions. *[Slide 21]*

So what I said before there is still a need to have better information, better monitoring and reporting and more information on scenarios. We easily talk about climate scenarios but it is very important to link those with socio-economic scenarios and to integrate those much better than has been done before. We still need to understand better what we mean by vulnerability and what adaptation is the most effective. And we may need to think how we evolve 'mal-adaptation'. We have to find the right solutions. So we need also indicators to monitor those actions and we need exchange mechanisms. *[Slide 22]*

From our perspective what we are proposing is so-called clearing houses on climate change impacts, vulnerability and adaptation. We are discussing them with the Commission and with countries and we are very much interested to hear your views. These are the types of

contents of what a clearing house could look like, and we believe there is benefit for all potential users there. *[Slide 23]*

So lastly without going into details here, it is crucial to link existing information. There is a huge amount of information there, but it is often not easily accessible, especially for practitioners in the regions. We have the space, the programmes: Kopernikus as it is called now which used to be called the GMES; we have ESA; we have a large amount of research programmes; we have several existing information systems, for example from the EEA we manage the biodiversity clearing house; we have new approaches in the EU like the INSPIRE system looking at spatial data. So we need to connect this. I think this is possible, but we need to think clearly how we do that. And lastly, this is not only about systems of course, it is also about people, it is about you and it is about networks. From our perspective it is quite important that we better integrate networks from an environment perspective, from meteorological and climate perspectives from health, and of course your networks from the Regions. *[Slide 24]*

Thank you very much.