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Europe's environment in an age of change

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Action	Slide	Content	Text
	1	Title page	<p>Good morning Ladies and Gentlemen,</p> <p>Let me first thank you, Mrs. President, for giving me the opportunity to draw your attention to the work of the European Environment Agency on agriculture, climate change and Europe's environmental future.</p> <p>Mr. Parry has just given an excellent overview of how climate change may affect crop growth conditions and thus influence future agricultural land use. I will try to expand on that by putting climate change and land use in a wider societal perspective.</p> <p>In day-to-day policy making we usually address immediate needs of society. Our time horizon is pretty much determined by – at most - a 6-year budget cycle. Clearly, climate change manifests itself over far longer periods. It is one of the factors that in the long run will change the context of policy making profoundly, on par with for example demographic changes and globalisation. Any policy discussion on future land use should address the complex mix of these changes and societal responses. A long view requires a broad mind.</p> <p>Before I take you on a fast-forward journey into Europe's environmental future, let us look back 35 years:</p>
NEXT			
	2	Hair Moonwalker Punch card	I don't know what you looked like in the sixties, but many people had interesting hairstyles...

		Breznjev/ Carter Energy crisis Limits to Growth	And things were moving fast....
NEXT			
	3	Hair Moonwalker Punch card Breznjev/ Carter Energy crisis Limits to Growth	The Cold War. Nuclear missiles, disarmament negotiations. A thriller in the 70's, now a rapidly fading memory.
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	4	Hair Moonwalker Punch card Breznjev/ Carter Energy crisis Limits to Growth	Neill Armstrong, the first man to set foot on the moon. A giant leap for mankind....
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	5	Hair Moonwalker Punch card Breznjev/ Carter Energy crisis Limits to Growth and a small step for technology, measured by today's standards. How many gigabyte do you think would fit on this punchcard?
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	6	Hair Moonwalker	Oil crisis. Car-free Sundays. A temporary nuisance for some.....

		Punch card Breznjew/ Carter Energy crisis Limits to Growth	
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	7	Hair Moonwalker Punch card Breznjew/ Carter Energy crisis Limits to Growth and an omen to others.
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	8	Hair Moonwalker Punch card Breznjew/ Carter Energy crisis Limits to Growth	It was back in the 70's, that people really began to get worried about the limits to growth and the future of the environment. And there is no reason to suspect that things are changing at a slower pace today. On the contrary, I would say, though being more connected, changes percolate and diffuse far more quickly. The policy challenge is thus even greater.
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	9	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	First we have to address climate change. How should we best mitigate its consequences?
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	10	Flooding Tractor/Boy	Second we need to address Europe's agriculture. Has it got a future?

		Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	
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	11	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	Can we reconcile competitiveness with non-trade concerns? Will we be able to maintain the traditional agricultural landscapes for which Europe is rightly known?
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	12	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	Third, what will be the effects of population change? Will we be able to keep the countryside alive?
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	13	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	And fourth, will we be able to halt biodiversity decline....
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	14	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland and use opportunities to create new valuable ecosystems?

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	15	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	<p>The European Environment Agency is working on all these issues, bringing them together in the context of landscape change and resource pressures on Member States and regions.</p> <p>The key to a clean, healthy and attractive environment will be in coherent spatial development. The future, however, may bring big surprises that could easily disrupt any preconceived ideas about spatial planning without some due care being taken.</p>
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	16	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland World Trade centre attack	<p>The impact of the atrocious attack on the World Trade Centre needs no explanation. It shook the entire world in 2001 and will probably continue to dominate the political agenda for a long time to come. The implications for society, and indirectly the environment, are vast. Social cohesion, mobility, economic growth, trade and energy production are but a few of the environmentally relevant aspects that have been profoundly affected.</p>
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	17	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland World Trade centre attack Fall of Berlin wall 1989	<p>There is no doubt that the fall of the Berlin wall was another major event in world politics with surprising consequences for the environment. The sudden collapse caused a severe crisis in the industrial and agricultural sectors in Eastern Europe. As a result greenhouse gas production and the use of pesticides and fertilisers dropped substantially.</p> <p>Prediction is apparently very difficult, especially of the future.</p> <p>At the Agency, we do not pretend to have a crystal ball, but instead we explore what society <i>might</i> look like by imagining alternative futures and analysing the consequences.</p>

CLICK Go to Prelude			
	TOOL	PRELUDE logo	Our PRELUDE land use scenario project that I would like to introduce to you now is a good example of this approach to policy support.
CLICK Logo			
		PRELUDE entry page	<p>A panel of stakeholders from across Europe has developed five stories about how society might change. Because of the relatively short time span of 30 years, their basic assumptions on climate change are similar for all scenarios. In some, however, climate change causes major disasters, whereas in others it is more of a background phenomenon. Societal responses are consequently very different.</p> <p>The implications of the stories in terms of land use and the environment were analysed using state of the art simulation models. The stories and corresponding land use maps literally provide a PRELUDE to the future. You will find a demo version on your memory stick. Let me now give you a small flavour of what you will find.</p> <p>Let us first enter a Europe of Contrast.</p>
CLICK Great Escape		TEASER Great Escape	<p>VOICE-OVER</p> <p><i>You work hard all day. Then you battle your way home through all the riff-raff and squalor of the city.</i></p> <p><i>Don't you deserve something better? Say, a spacious, secure house in this beautiful, tranquil community?</i></p>

			<p><i>Here in Parkville Carpathia properties start from <u>only</u> 2 million GCUs.</i></p> <p><i>Can you afford not to move?</i></p> <p>WAIT FOR TEASER TO END</p> <p>This scenario is driven by globalisation, decreasing solidarity and passive government. Climate change affects the growing conditions for agriculture. The agricultural market is liberalised and only large-scale farms with intensive management survive the pressure from the world market.</p> <p>Alternatively we may see a Europe of Harmony developing.</p>
<p>CLICK Evolved Society</p>			
		<p>TEASER Evolved Society</p>	<p>VOICE-OVER</p> <p><i>A peaceful country village. People quietly going about their business. Making their own produce. Taking an active part in the community.</i></p> <p><i>A timeless scene, wouldn't you say? Is it our vanished past? Or could it be the future?</i></p> <p>WAIT FOR TEASER TO END</p> <p>Main ingredients in this scenario are an energy crisis, growing environmental awareness and active rural development. Serious flooding occurs and people leave the most vulnerable areas. They rediscover the countryside where small-scale organic farming, supported by policy measures, increases.</p>

			An alternative pathway leads to a Europe of Structure.
CLICK Cluster Netw.			
		TEASER Clustered Networks	<p>VOICE-OVER</p> <p><i>Already more and more young people are moving to towns and cities. Older people are finding it hard to stay in the country as local shops and services close down.'</i></p> <p><i>Supposing this trend continues? What will happen to the land? And where will the older generation end up?</i></p> <p>WAIT FOR TEASER TO END</p> <p>This scenario is all about optimization of land use and strong spatial planning in response to ageing and a declining agricultural sector. Climate change is a less prominent driver in this scenario.</p> <p>The development of a Europe of Innovation is more bottom-up.</p>
CLICK Lettuce Surpr.			
		TEASER Lettuce Surprise U	<p>VOICE-OVER</p> <p><i>With New Liquid Bungi I can grow all the fruit and vegetables I need, right here in my tiny city garden!</i></p>

			<p><i>I can grow succulent cucumbers and courgettes! Juicy raspberries and plums! Mouthwatering tomatoes and beans!</i></p> <p><i>Isn't it about time <u>you</u> got digging, with New Liquid Bungi?</i></p> <p>WAIT FOR TEASER TO END</p> <p>The essential drivers here are growing environmental awareness, technological innovation and decentralisation. Agriculture revolutionises, facilitated by open source mentality and propagation of knowledge. Production becomes small-scale and less intensive. Climate change again is a background phenomenon rather than a main trigger.</p> <p>And, finally, we can also envisage a Europe of Cohesion.</p>
<p>CLICK Big Crisis</p>			
		<p>TEASER Big Crisis</p>	<p>VOICE-OVER</p> <p><i>If storms, floods and droughts become more common in Europe, how will we respond? Will we go on the same way we always have?</i></p> <p><i>Or will we make radical changes about how – and where – we live?</i></p> <p>WAIT FOR TEASER TO END</p> <p>In this scenario climate change related disasters and increasing solidarity are all-important. Floods and droughts affect many people and trigger strong policy</p>

			<p>interventions, aimed at a balanced social, economic and environmental development.</p> <p>Now let us have a look at the land use implications of the five scenarios.</p>
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	18	Landscape map 2005	<p>As we cycle through the scenarios, you will see the corresponding landscape patterns change, particularly in Southern and Eastern Europe.</p> <p>Focus for example on these areas ...</p>
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		Circles
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	19-25	Landscape animation	<p>..... where the landscape changes dramatically in response to the scenarios.</p> <p>Regions like these often have relatively extensive agriculture, associated with high nature and landscape value. This makes them vulnerable to processes like urbanisation, intensification and land abandonment, which vary markedly across the scenarios.</p> <p>WAIT FOR ANIMATION TO END</p> <p>Of course, current land use modelling at the European scale can only provide a rather broad-brush picture. Therefore, regional case-studies were made to show the implications of the scenarios in more detail.</p>
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	33	Animation Estonia - Evolved Society	<p>Here, we see the Europe of Harmony scenario unfolding in Estonia.</p> <p>The land cover changes stepwise with one-year intervals.</p>

			Climate change makes itself felt. Estonia experiences a net immigration from Western Europe, where serious floodings occur. People tend to settle in the countryside. This causes a diffuse urbanisation pattern....
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		Circle urban sprawlthat can be seen in this region. Note the increase of the areas in red. Society focuses increasingly on sustainability and regional self sufficiency. Extensively farmed areas increase.....
NEXT			
		Circle intensive -extensive farmland	.. at the expense of intensive cropland (the light yellow areas on the map). Nature and biodiversity benefit
NEXT			
		Circle wetlandsalso from the expansion of natural habitats, indicated in blue.
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	26	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	Now what do these scenarios actually tell us? Let me stress again that they should NOT to be interpreted as predictions. Instead they may help us to discuss the potential of policy options in a changing and uncertain societal and environmental context. Let me return to some of the challenges mentioned earlier:
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	33	Flooding Tractor/Boy AgriLandscape Old woman	Can we maintain Europe's traditional rural landscapes? Ageing of the European population will be felt particularly in rural areas. The farmers'

		Black Grouse Wetland	<p>population is already older than average and land abandonment and the vitality of the countryside are major policy concerns.</p> <p>Rural development policies may contribute to minimising loss of agricultural land and maintaining the overall landscape character. But even in the most optimistic scenarios, the agricultural area decreases and traditional agricultural landscapes disappear. On top of this, the decline in Europe's population is currently projected to accelerate after 2035. The situation may thus well aggravate after the PRELUDE time horizon.</p> <p>The PRELUDE results thus suggest that it may be wise to set stricter spatial priorities for rural development, since conserving all areas of interest seems highly unlikely.</p>
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	34	Flooding Tractor/Boy AgriLandscape Old woman Black Grouse Wetland	<p>Can we halt biodiversity loss?</p> <p>The general picture across scenarios is rather positive, primarily because of the decreasing impacts from agriculture and opportunities for large-scale nature development. Habitats and species depending on extensive traditional agriculture will decline considerably in most scenarios, though.</p> <p>There appear to be considerable opportunities for an increase in biodiversity if land use issues are solved in an integrated manner. The conservation of high nature value farmland will probably require a more concentrated effort in core areas, whereas a retreat of agriculture and targeted nature development in other areas seems promising.</p>
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Conclusion

So, let me end by saying that I realise this was a very concise introduction to what for some of you may hopefully be a different way of tackling environmental policy matters. I hope that the early results from PRELUDE have raised your interest and will stimulate you to explore with us future outlooks for land use change. You will all receive a USB stick with a demo version of the PRELUDE presentation tool, to allow you to explore the material with your colleagues.

I thank you for your attention.