

ANNEX TO THE STRATEGIC AGENDA ON ADAPTATION TO CLIMATE CHANGE IN THE CARPATHIAN region

MATRIX OF POTENTIAL CLIMATE CHANGE ADAPTATION MEASURES IN THE CARPATHIANS (MAY 2012)

Deleted: POLICY OPPORTUNITIES FOR

Working Group Measures	C.C. Threatened Policy Objective	Actors	National or Transnat	Policies + Funding	Links with	Timescale / Calendar	Type of Measure and other notes
<u>WG Adaptation to Climate Change</u>							
Over-Arching							
Monitoring Programme	n/a	GOV, RES	Both				
Inventory of Information Gaps	n/a	GOV, RES	Both				
Public Awareness	n/a	GOV, NGO	Nat				
Public Sector Capacity Building	n/a	GOV	Nat				Preparatory
							and
Establish Carpathian Space Adaptation Capacity/Body/Network	n/a	GOV, RES, NGO, PRIV	Transnat		Builds on VASICA initiative WG CC		„No Regrets”
<u>WG Adaptation to Climate Change</u>							
Cross-Cutting							
Cross-Compliance	Policy incoherence leading to failure to meet environment, nature, and protected area obligations e.g.	GOV	Nat	Agriculture and Rural Development, CAP, Leader, Cohesion Funds, European Social Fund			
							Preventative, Preparatory

	under Birds and Habitats Directives						and
Assess impact of climate change resilience of new project and programmes in the framework of EIA, ESPOO, SEA implementation	Ditto	GOV, RES	Both	EIA Directive, SEA Directive, Espoo Convention			„No Regrets”
Assessment of Flood Risk	Failure to meet obligations under Water Framework Directive and Floods Directives; threats to agriculture from increased soil erosion and flooding	GOV, RES	Nat with some trans	CAP, , Cohesion Policy, TEN-T, Renewable Energy Directive			 Preventative, Preparatory
Mainstreaming of climate change adaptation objectives into other policy and funding streams such as agriculture, transport, or energy	ditto	GOV	Nat and EU	Programming and monitoring of national funding programmes (Operaitonal Programmes, Rural Development Programme etc)			and „No Regrets”
Develop adaptive capacity of administration	n/a	GOV	Nat with some trans	OP „Administrative Capacity”, national vocational training programmes for governmental staff, national restructuring programmes for more effective administration			 Preparatory and „No Regrets”
WG on Sustainable Forest							

<p>Management</p> <p>"management practices that increase resilience to climate change"</p> <p>Including: Increase species and genetic diversity</p> <p>Intensify thinning practices to remove invasives</p> <p>Reduce the risk of major disturbances from fire, storm and pests</p> <p>Improve conditions for subalpine forests</p> <p>Increase connectivity of forest ecosystems</p> <p><u>Colline Belt</u> Pedunculate oak (<i>Quercus robur</i>) - hornbeam forest (<i>Carpinus betulus</i>):</p> <ul style="list-style-type: none"> - removal of invasive seedlings and saplings; - reduce rotation length in managed forests; - increase coppice rotation; - convert oak coppice to high forest; - select genetic representatives for conservation. 	<p>All measures are responses to threats to the following policy objectives related to:</p> <p>Biodiversity Conventions, national spatial planning policies, conservation and protected area frameworks and networks, EC Habitats and Birds Directives, Natura 2000, and associated economic objectives based around rural development in mountain areas</p> <p>Ditto</p>	<p>GOV, RES, NGO</p>	<p>Nat with some trans</p>	<p>National Ag/RD Plans: Axis 2 - Specific measure for restoring forest potential and introduction of prevention actions</p> <p>LIFE+</p> <p>Nature Directives</p> <p>CBD</p>	<p>Climate change policies (possible increase in use of biomass as renewable energy resource)</p>		<p>I I Preventive/ Reactive/ Recovery And „No Regrets” I I I Recovery/ Reactive/ Preparatory and „No Regrets” I</p>
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Montane Belt							
<p>Carpathian sub-montane and montane beech forest:</p> <ul style="list-style-type: none"> - Promote natural regeneration through thinning; - diversification of the age structure from even-aged to uneven aged; - group cuts of variable size to increase species diversity; - reduce rotation length to speed up genetic adaptation. 	Ditto						
<p>Beech – Silver fir – Norway spruce forests:</p> <ul style="list-style-type: none"> - Group cuts of variable size to enhance natural regeneration; - shortening of rotation length; - planting of more drought-resistant populations. 	Ditto						
<p>Montane Norway spruce:</p> <ul style="list-style-type: none"> - Increased thinning and group cuts to encourage regeneration of other species such as fir, beech and deciduous species 	Ditto						

Develop Agriculture Adaptation Strategy	development goals as mapped in	Ditto all	NAT	agriculture/rural development	Farm Advisory Services		Preparatory
Incorporation of Adaptation into Farm Extension Services, training and awareness raising	<ul style="list-style-type: none"> - National development Strategies - Rural Development Plans (RDPs) 		NAT	As above and National Ag/RD Plans Axis 1, Axis 3			Reactive
Adapt agricultural practices such as time of sowing or crop variety to changing climate conditions	<ul style="list-style-type: none"> - LEADER business plans 		NAT	National Ag/RD Plans Axis 1			Recovery
Adaptation of planting dates and cultivation practices	And potentially also impacts on :		NAT and RBM	National Ag/RD Plans Axis 1			
Winter water storage reservoirs for future use (summer period)	<ul style="list-style-type: none"> - floods management and planning (Floods Directive, WFD); 		NAT	National Ag/RD Plans Axis 1			
Plant drought and frost tolerant crops and early producing crops	<ul style="list-style-type: none"> - river basin management good ecological status objectives (through e.g. increased soil erosion, sedimentation etc), and overarching ICPDR commitments; 		NAT and RBM				
Improve current drainage system (sustainable drainage systems)			NAT				
Insurance for agricultural production							
Increase water retention capacity of soil, e.g. through switch to organic agriculture	<ul style="list-style-type: none"> - biodiversity targets as specified by Habitats and Birds 						

	Directives					
<p><u>WG on Conservation and Sustainable Use of Biological and Landscape Diversity</u></p> <p>Grasslands</p> <p>Increase connectivity</p> <p>Protect, maintain and manage existing high conservation value grasslands</p> <p>Increase the number of grassland protected areas, including buffer zones</p> <p>Improve the information base on species dispersal, gene flow, seed migration dynamics, species translocation, and re-introduction</p> <p>Design and establish a network of future reugia sites</p> <p>Locate new protected areas at northern boundary of species' ranges</p> <p>Locate new protected areas in areas of high heterogeneity and endemism</p> <p>Protected areas</p>	<p>All: failure threatens biodiversity objectives as outlined in:</p> <ul style="list-style-type: none"> - Biodiversity planning, Birds and Habitats Directives, Natura 2000, protected areas, ecological networks etc.; - Floods mitigation as per Floods Directive; - Achievement of Good Ecological status as demanded by WFD; - ICPDR, - Other RBM objectives in national and transboundary RBM plans 	<p>All:</p> <p>GOV, NGO, RES</p>	<p>All:</p> <p>NAT and TRANS</p>	<p>All:</p> <p>CAP (RD/Agri-environment)</p> <p>Nature Directives</p> <p>EU Biodiversity Strategy, Roadmap for a Resource Efficient Europe (objective to build Green Infrastructure)</p> <p>CBD</p>	<p>Agri-environment Designation of N2000 areas</p> <p>Rural Development measures for e.g. extensive grazing, meat processing, marketing from Pillar 1 (or new post-2014 policies)</p>	<p>Preventive</p> <p>Preparatory</p> <p>Reactive</p> <p>Recovery</p>

<p>Adaptive management</p> <p>Mitigate invasion of alien species</p> <p>Develop an Invasive/Alien Species Strategy for the region (to include early-warning system and public awareness)</p>							
<p><u>To be decided</u></p> <p>Protection of freshwater ecosystems</p> <p>Floodplain and river restoration</p> <p>Implement an adaptive management plan to mitigate climate-driven hydrological changes</p> <p>Ensuring ecological flow</p> <p>Develop programs to promote efficient use of water in order to reduce water consumption, in particular by agriculture</p>	<p>All: failure threatens water management, floods, and biodiversity objectives as outlined in:</p> <ul style="list-style-type: none"> - Biodiversity planning, Birds and Habitats Directives, Natura 2000, protected areas, ecological networks etc.; - Floods mitigation as per Floods Directive; - Achievement of Good Ecological status as demanded 	<p>All:</p> <p>GOV, NGO, RES</p>	<p>All:</p> <p>NAT and TRANS</p>	<p>Water Framework Directive; River Basin Management Plans; Nature Directives RAMSAR</p> <p>WFD; Nature Directives; Flood Directive LIFE programme</p> <p>Should come from WFD River Basin Management Plan</p> <p>Water Framework Directive; national legislation; licensing policies; criteria for feed-in tariffs and eco-labels</p> <p>Danube River</p>			<p>Preventive</p> <p>Preparatory</p> <p>Reactive</p> <p>Recovery</p>

	<ul style="list-style-type: none"> - by WFD; ICPDR, <p>Other RBM objectives in national and transboundary RBM plans</p>			Protection Convention			
<p><u>WG on Sustainable Industry, Energy, Transport and Infrastructure</u></p> <p>Establish and communicate climate risk when giving permits to new hydropower stations and power plants in need of water cooling</p> <p>Assess impact on water demand and ecosystem resilience of new energy infrastructure</p>	<p>Failure would threaten national climate change mitigation strategies</p> <p>Impacts on RBM planning, achievement of good ecological status for WFD</p>	<p>GOV, RES</p> <p>GOV, RES</p>	<p>NAT</p> <p>NAT and TRANS</p>	<p>national legislation; licensing policies; criteria for feed-in tariffs and eco-labels</p> <p>EIA, SEA Directives; WFD art 4.7</p>			<p>Preventive</p> <p>Preparatory</p> <p>Reactive</p> <p>Recovery</p>
<p><u>WG on Sustainable Industry, Energy, Transport and Infrastructure</u></p> <p>Plan new road and rail infrastructure carefully so as to minimise negative impact on ecosystem resilience and connectivity</p> <p>Integrate mitigation measures into project planning to reestablish and enhance ecosystem connectivity</p>	<p>Both: failure threatens water management, floods, and biodiversity objectives as outlined in:</p> <ul style="list-style-type: none"> - Biodiversity planning, Birds and Habitats Directives, Natura 2000, protected areas, ecological 	<p>GOV, RES</p> <p>GOV, RES</p>	<p>NAT</p> <p>NAT and TRANS</p>				<p>Preventive</p> <p>Preparatory</p> <p>Reactive</p> <p>Recovery</p>

	<p>networks etc.;</p> <ul style="list-style-type: none"> - Floods mitigation as per Floods Directive; - Achievement of Good Ecological status as demanded by WFD; - ICPDR, <p>Other RBM objectives in national and transboundary RBM plans</p>						
<p><u>WG on Sustainable Tourism</u></p> <p>Diversify tourism offers in areas with heavy reliance on winter sport income</p> <p>Assess impact of new tourism facilities on water demand / reduce water demand of new tourism infrastructure</p>	<p>Both: Failure threatens all spatial planning and rural development goals as mapped in:</p> <ul style="list-style-type: none"> - National development Strategies - Rural Development Plans (RDPs) - LEADER business plans <p>And potentially also impacts on :</p> <ul style="list-style-type: none"> - floods 	<p>GOV, PRIV, RES</p> <p>Ditto all</p>	<p>NAT, TRANS</p> <p>NAT, RBM</p>				<p>Preventive</p> <p>Preparatory</p> <p>Reactive</p> <p>Recovery</p>

	<p>management and planning (Floods Directive, WFD);</p> <ul style="list-style-type: none"> - river basin management good ecological status objectives (through e.g. increased soil erosion, sedimentation etc), and overarching ICPDR commitments; - biodiversity targets as specified by Habitats and Birds Directives 						
<p>?? Biodiversity conservation</p> <p>Shift here protected areas management</p> <p>Maintain and establish wildlife corridors</p>							