Enhancing Environmental Performance and Climate Proofing of Infrastructure Investments in the Western Balkan Region from an EU integration perspective

The ClimaProof Strategy

Component 1
Understanding
Understanding the future climate and weather patterns in the target region

Component 2
Planning
Planning for the future climate and weather patterns in the target region

Component 3
Building
Building infrastructure adapted to the future climate and weather patterns

Climate indicators

CLIMATE EVENT

Extreme Rainfall events (local or regional)
- Flooding of road surfaces
- Erosion of road embankments
- Weakening of the road embankments and road foundation due to standing water
- Landslides and mudflows
- Loss of road structure integrity
- Overloading of drainage systems
- Damage to energy supply and communication
- Traffic hindrance and safety (sloping)

Seasonal or annual rainfall (sum)
- Structural integrity of roads, bridges and tunnels (soil moisture levels)
- Damage of the road base due to standing water
- Risk of floods, landslides and slope failures (inadequate drainage system)

Max Temperature/Heatdays
- Pavement integrity (flattening, cracking and blow-ups of asphalt; migration of liquid bitumen)
- Thermal expansion in bridge expansion joints and pavements

Drought
- Increased risk of wildfires threatening transport infrastructure
- Threats from areas deforested by wildfires (decreased soil integrity)
- Increased generation of arcing

Thaw/Post Thaw Cycle
- Cracking due to weakening of the road base
- Increased demand for reconstruction
- Increased risk of stone chipping

Extreme wind speed (storm surge, wave gales and wind gusts)
- Threat to stability of bridges
- Damage to signs, lighting etc
- Trees, semi-drill, noise barriers and trucks falling on the road
- Reduced vehicle comfort

Green Infrastructure: What are the benefits?

- Mitigation of urban heat island effects
- Carbon storage and sequestration
- Flood attenuation
- Disaster prevention
- Water retention
- Pollutant enhancement
- Protection against soil erosion
- Mitigation of flood risk and soil washing
- Improved soil control
- Environmental
- Climate change adaptation and mitigation
- Biodiversity
- Social and economic
- Landscape permeability
- Ecological corridors
- Improved habitats for wildlife
- Multifunctionality