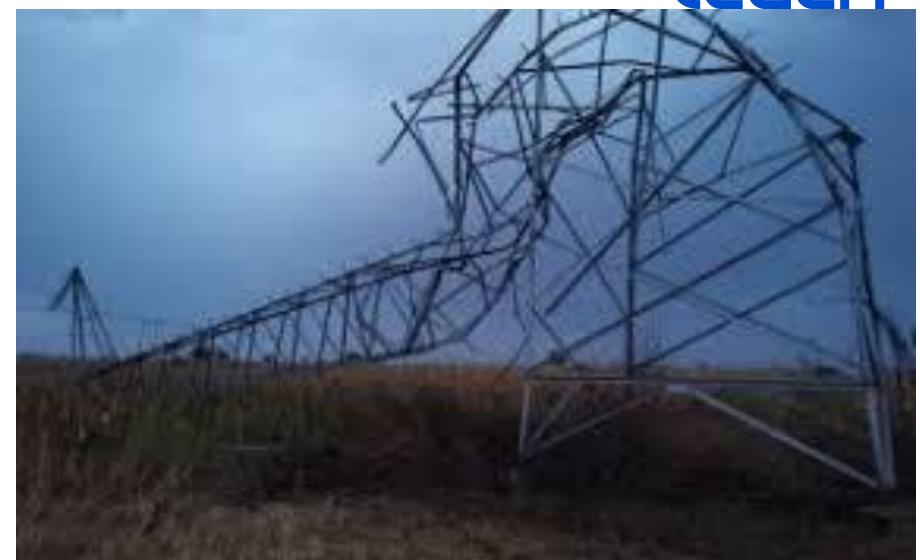


Miljenko Sedlar Head of climate msedlar@regea.org +385 91 154 83 99

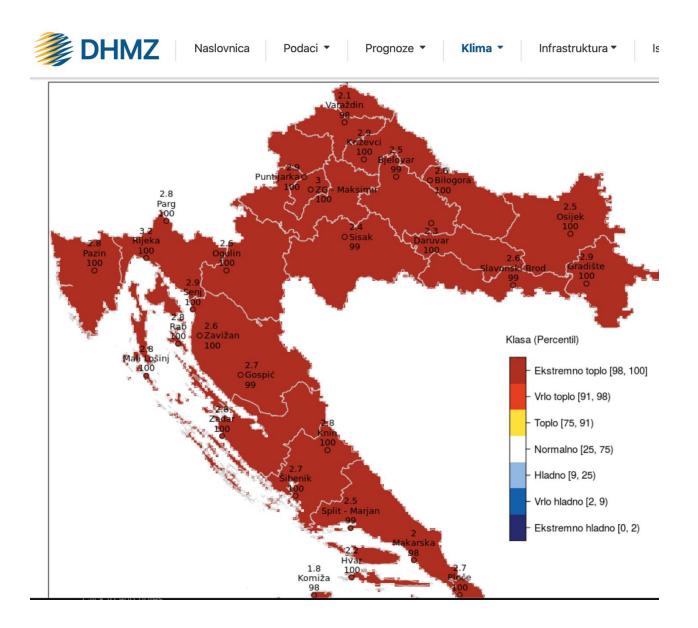
RETHINKING ENERGY







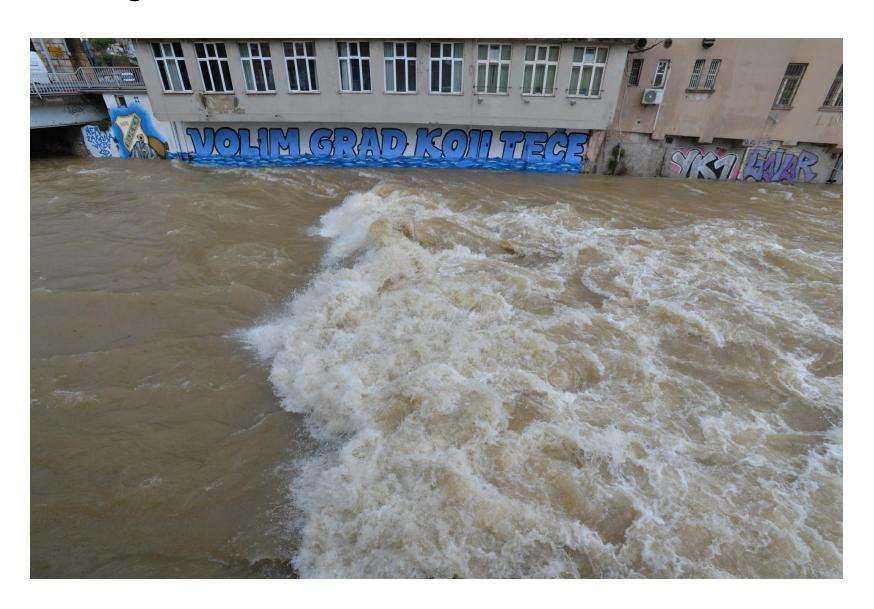




Drought damage Croatia 2022 – 800 mil EUR



City of Rijeka, 29.9.2022. – 288 I rain/single day

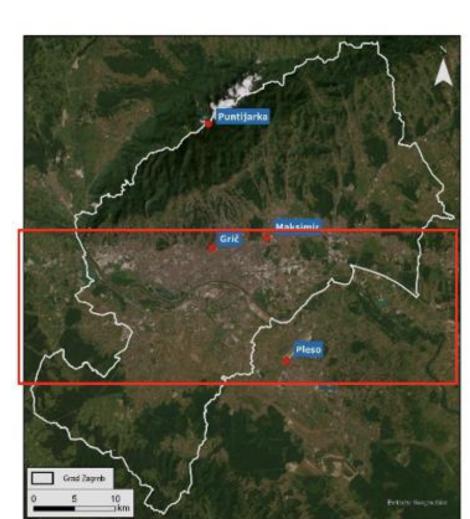


February 2022: Eunice storm Belgium, Germany, Ireland, Netherlands, Poland, Great Britain, 4,3 billion USD;

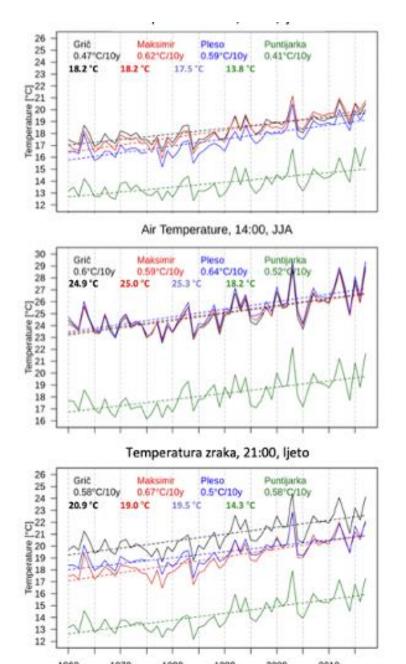
June – September 2022: EU Drought, 20 billion USD;

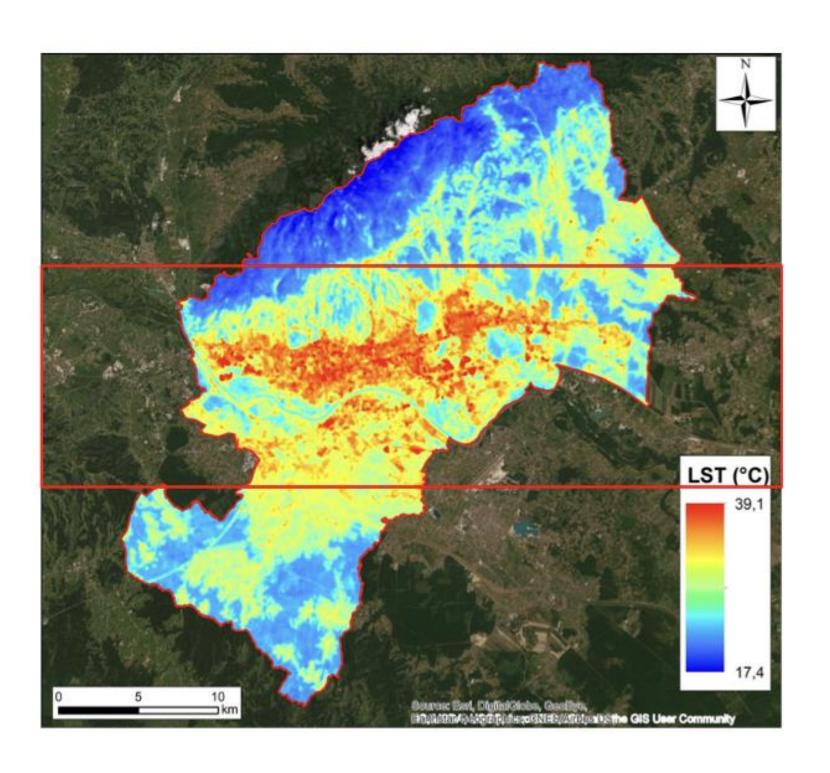


Sectorial analytics – of an extreme importance



Slika 3.1: Grad Zagreb i položaj meteoroloških postaja





City of Zagreb case – Official reclasification of climate classes – Zagreb now has climate class that is close to the Mediterannean cities



Climate proofing – what and why?

Climate proofing is a process that should contribute to the resilience of infrastructure on climate change effects

It is a process that addresses mitigation and adaptation activities in the development of the infrastructure projects



Cost vs benefit

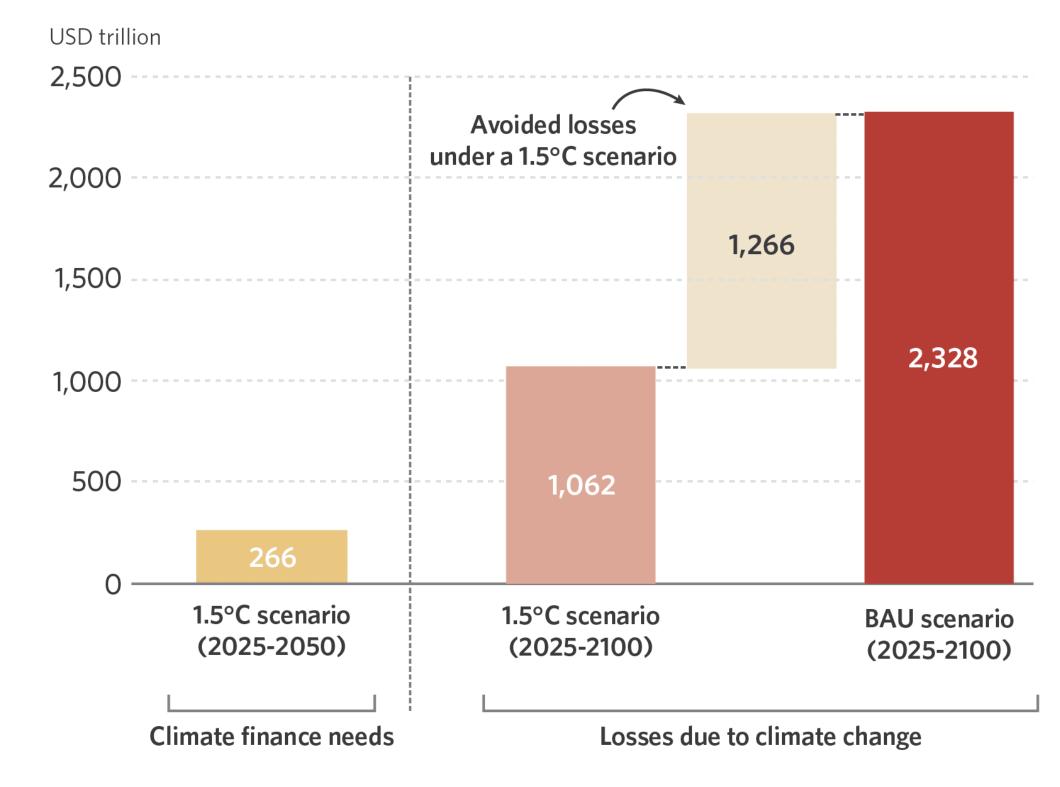


Cost of climate proofing is still considered to be relatively low, especially in relation to benefits (avoided costs if climate proofing was not done)

Costs of climate proofing in later stages of project phases are significantly more expensive, technically often impossible (timing of the process is crucial)

Set of options for climate proofing includes in most cases at least one option to mitigate risks and it also brings other benefits — social, environmental and economic (win-win climate proofing)

Figure ES4: Cumulative climate finance needs vs. losses under 1.5°C and BAU scenarios



Source: Climate Policy Initiative



Background...

- Majority of infrastructure has a long life-span and is built to be used for long time. The one built now will be used in the second part of the century, or even longer.
- The economy will be carbon net zero by 2050 achieve climate neutrality in line with Paris agreement and EU climate regulations
- However, effects of climate change will remain, will get more extreme, more frequent and harsher. EU needs to become resilient to climate change effects and decrease its vulnerability



Climate proofing 2021-2027



Climate Neutrality

Screening
Phase 1 (mitigation)

Detailed analysis
Phase 2 (mitigation)

The climate proofing process is divided into two pillars (mitigation, adaptation) and two phases (screening, detailed analysis)

Climate Resilience

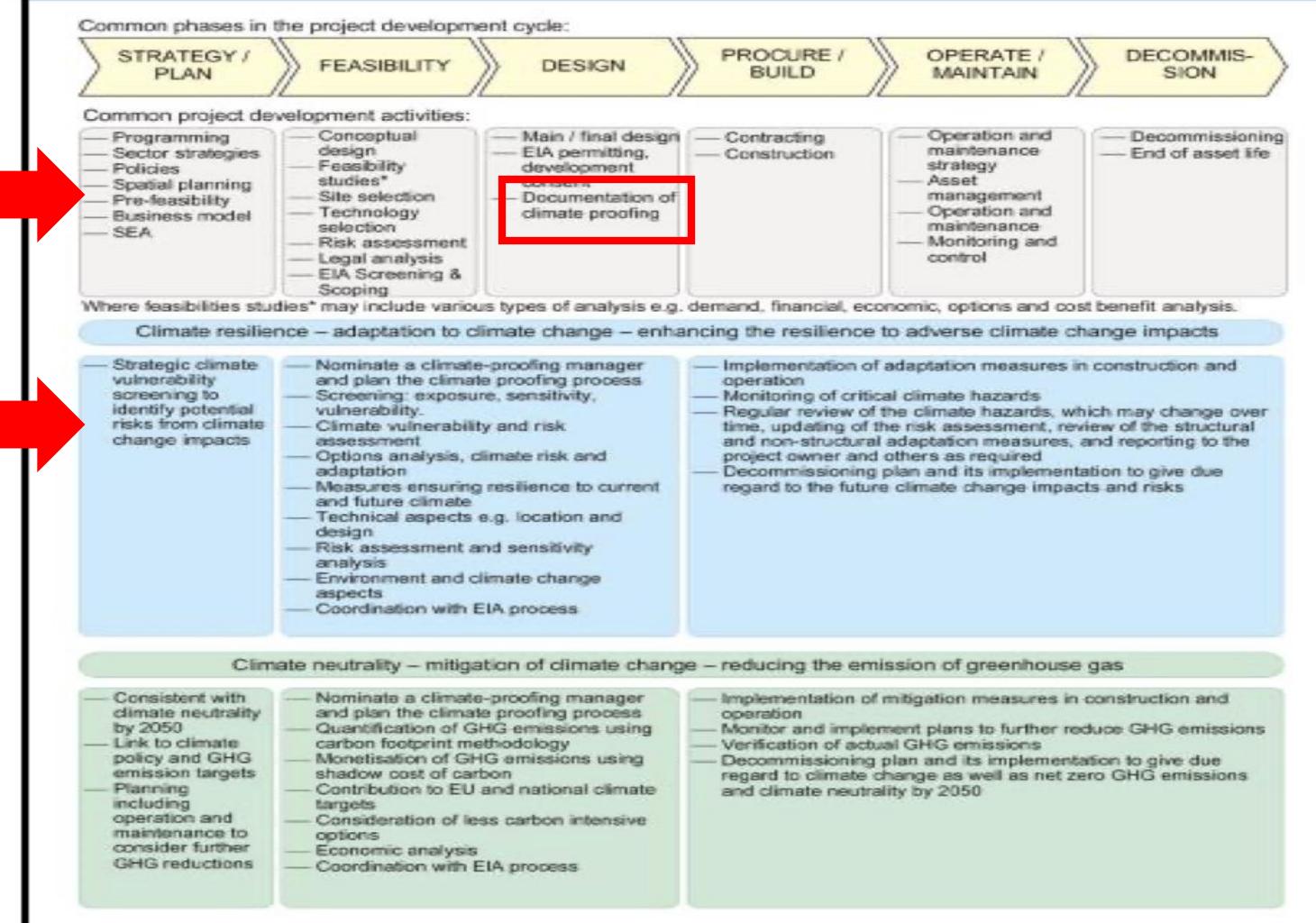
Screening
Phase 1 (adaptation)

Detailed analysis
Phase 2 (adaptation)

Positioning of climate proofing



Climate proofing & environmental assessments



Don't think only on projects, basis should be in:

- Development strategies
- Spatial plans
- Budgets

Resilient by design



Resilience by Design:

Energy Infrastructure

Phase 1 SPATIAL PLANS

Embed climate risks in spatial plans

- CROM risk maps
- RZO zones
- Performance rules (DFE, wind, heat, dranage, wildfire)



Outputs: updated plans
Annual resilience report

Phase 2 DESIGN CLIMATE-PROOFING

- Define design climate envelope (time horizons)
- Revise norms & parameters (IDF, temp, wind, SLR, wildfire, hail, corrosion)
- Performance KPIs
- Documentation (RIS, compliance matrix)



Phase 3 MONITORING & RE-ASSESSMENT

- Instrumentation
- KPIs & reporting
- Triggers
- Feedback loop



Instrumentation

- KPIs & reporting
- Feedback loop



Connection to the public procurement process

Stage 1 – procurement of technical documentation

Stage 2 – Main design development

Stage 3 – construction works procurement

Terms of reference for the project (new-build, reconstruction) Main design development

Terms of reference for construction works based on the main design

Climate risk assesment (matrix) – connected to the location

Consolidation of technical documentation for climate change – GHG monetisation and resilience

Monitoring plan for climate change aspects from the climate proofing excersize

Engineers, architects, developers and climate risks experts, procurement specialists

Engineers, architects,
developers and climate risks
experts,
procurement specialists

Primarily public procurement specialist with the support of developers and climate change specialists

Who



City of Zagreb experience and challenges

Climate proofing was introduced as standard for all infrastructure projects (political decision as it is not mandatory yet)

Climate proofing is introduced through the so called "New Green Deal Guidance for buildings construction and reconstruction", as a mandatory step at first, followed by all other types of infrastructure

Buildings sector is tackled primarily, but mobility and other infrastructure, especially energy one, are already addressed as well

Key challenges

Data (climate related) availability

Willingness for cooperation and understanding of the importance

Standards and norms are outdated

Perception issues



Key learnings

- Design for tomorrow, not yesterday. Standards and investments must reflect future, compound extremes—not historic averages.
- Resilience starts in planning. Embed climate-risk layers in spatial plans and permits so resilience is the default, not an add-on.
- Keep people at the center. Prioritise critical services and vulnerable users in preparedness and restoration.
- Finance resilience up front. Make resilient design eligible and rewarded in funding, tariffs and public investment.
- Learn, don't repeat. Mandate after-action reviews and update codes, procurement and training accordingly.





Paromlin building





First 100% climate action projecct according to the EIB methodology

2,7% of CAPEX is related to climate change adaptation

