



Climate change adaptation: Selection and Evaluation of Adaptation Options

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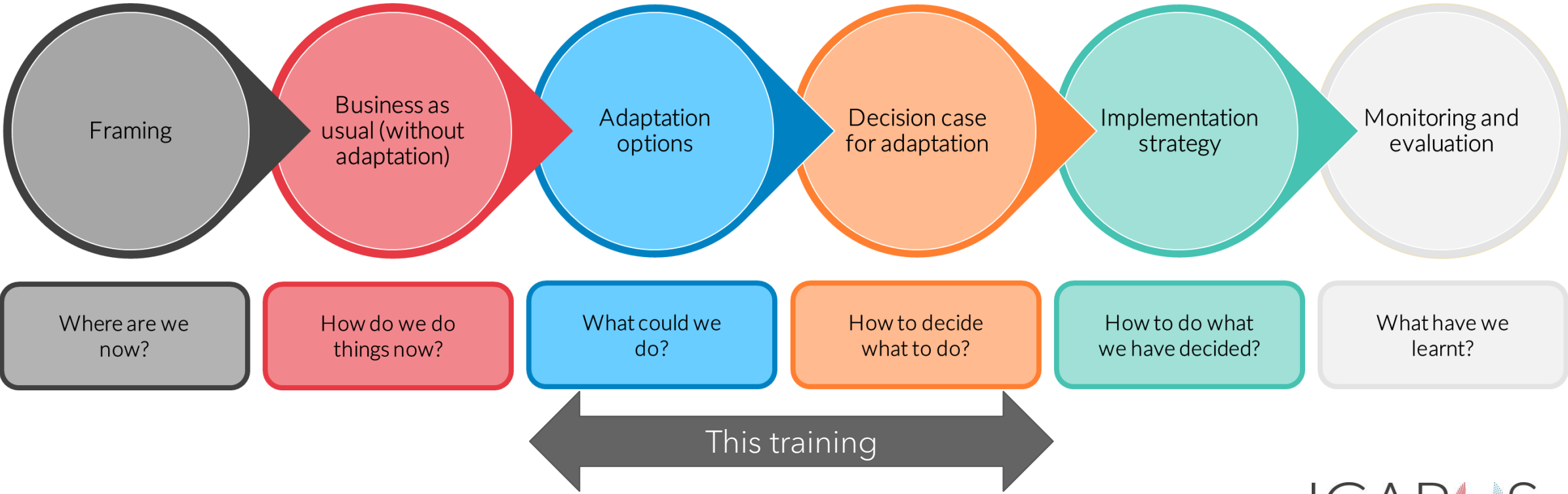
ICARUS



The broader ICARUS picture

Main ICARUS objective: Improve the uptake of Climate change Adaptation in the decision-making processes of Road aUthoritieS

ICARUS framework





Key learning points

- Overview of Adaptation Options Database
- Think about criteria for adaptation selection
- Selection of Adaptation Options
- Evaluation of Adaptation Options



Overview of Adaptation Options Database

- ✓ **What do we mean by Climate Change Adaptation Options?**
 - ✓ *Adaptation options or measures are possible solutions to help reduce the impact of climate change on road infrastructure*
- ✓ **How have the adaptation options for ICARUS been developed?**
 - ✓ *We have started with those developed previously for the ROADAPT project, and adapted them to apply to the Climate Impact Drivers (CIDs) developed for ICARUS*
 - ✓ *We have also added additional adaptation options for CIDs where previously none existed*



Climate Impact Drivers – Activity!

Activity! Take some time to review the Climate Impact drivers and select up to 3 that are critical for your infrastructure. (5 minutes)

	Heat and cold	Wet and dry	Wind	Snow and Ice	Coastal and oceanic	Others: radiation & subsidence
Extreme events	Extreme heat/Heat wave	River flood	Severe wind speed-	Heavy snowfall and ice storm	Coastal flood	
	Cold spell	Heavy precipitation and pluvial flood	Tropical cyclone	Hail	Coastal erosion	
	Frost	Landslide	Sand and dust storm	Snow avalanche		
		Hydrological drought				
		Fire weather				
Slow-onset processes and trends	Mean air temperature	Mean precipitation	Mean wind speed	Decreasing glaciers, ice sheet, permafrost, Freeze-thaw cycle changes	Sea level rise	Radiation at surface
					Ocean and lake acidity	Subsidence

Decision Context

Before we get to the adaptation Database, think about what the priorities for your organisation are. These may

be:



Service driven

Ensuring a minimum service level of KPIs



Budget driven

Maximum service with given budget



Optimum service

Strive for service levels where costs and benefits are balanced



Policy driven

Biodiversity
Carbon
Climate change adaptation
Environmental partnerships
Equity and inclusion

Now make a list of 3-4 priorities that the adaptation option should satisfy. These might be:

- Sustainability (Nature-Based Solutions)
- Embodied Carbon
- Reputation
- Safety
- Health
- Service (availability)
- Durability
- Etc...



Introduction to Adaptation Options Database



Selection of Adaptation Options

1. Now that you have selected the critical CIDs for your location/network, and identified your priorities as an organization, the next step is to select adaptation options.
2. Filter by asset type, project stage or risk management stage if appropriate
3. Filter by priority needs – maybe these are benefits / co-benefits corresponding to the organization's strategy.
4. Assess if NbS or Emerging Technologies may be useful
5. Select 3-5 adaptation options you would like to implement. These will be used for evaluation and later on again when discussing barriers to implementation.



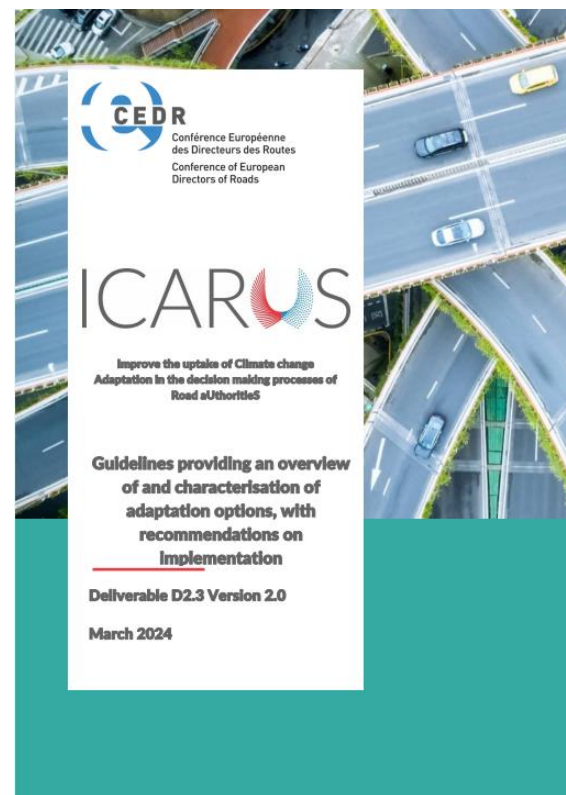
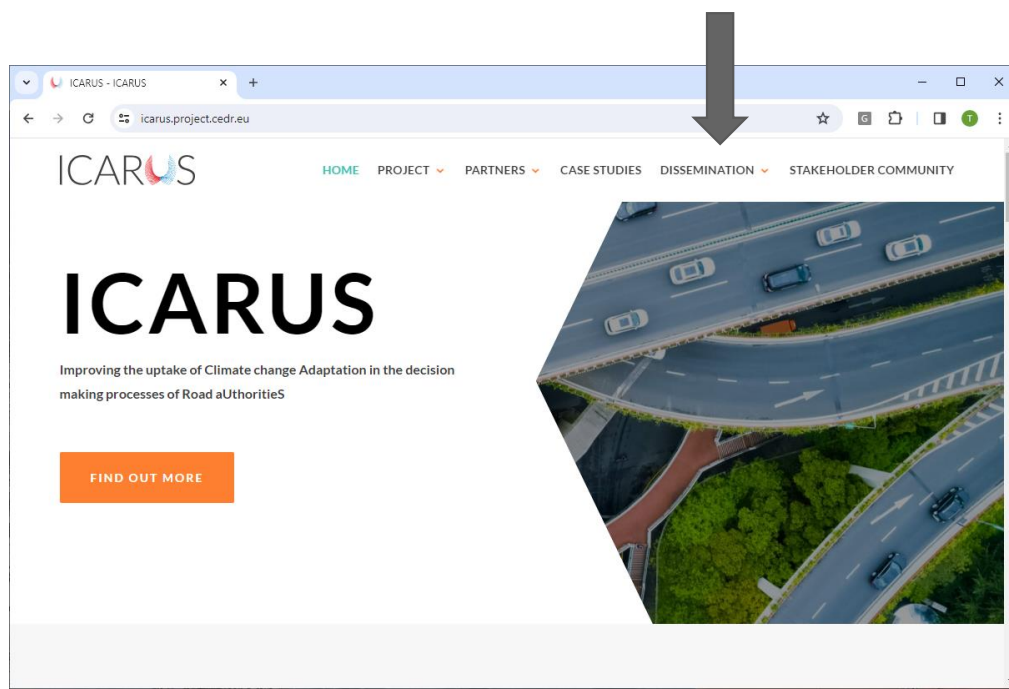
Questions for Discussion

- Have you any questions for us??
- How receptive is your organization to climate change adaptation?
- Have you used any emerging technologies or NbS to implement adaptation?

Thank you!

- If you would like more information about our project, please go to our project website by scanning the QR code or going to the following link:

<https://icarus.project.cedr.eu/>



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