



Rijkswaterstaat
Ministerie van Infrastructuur en Milieu

Klimaatonderzoek in Europees verband

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Dienst Verkeer en Scheepvaart
afdeling Leefomgevingskwaliteit



Klimaatprojecten met internationale link

Actieplan klimaat droog van DVS:

- Omvat mitigatie en adaptatie
- Mix van projecten en onderwerpen in uitvoering (klimaat in planvorming, maatgevende buien, watertoets) en in planning
- Past naadloos in Europese context
- Samenwerking is efficiënt (gezamenlijke inleg van budget), leerzaam en inspirerend

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Europese Context

- EU White paper 2011, Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system
- DG CLIMA
Develops comprehensive adaptation strategy based on its White Paper, for release in 2013; further refine key priorities for action and how EU policies can encourage effective adaptation action
- Proposal for REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Union guidelines for the development of the trans-European transport network (TEN-T) are a planned set of road, rail, air and water transport networks in [Europe](#).

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Waar is DVS oa bij betrokken

Europa:

- ERTRAC 2012: Climate Resilience: Cost-effective adaptation technologies (adviesing, programma als referentie)
- ERANET ROAD / CEDR - Road owners adapting to climate change, begeleidingsgroep, projectmanagement
- I-mobility Working group on ICT for Clean and Efficient Mobility (WG4CEM) – voorzitterschap en secretariaat
- MIRIAM – begeleidingsgroep
- Onderzoek via Fehrl

Nederland:

- Onderzoek TU Twente, invloed extreem weer op onderhoud en invloed op assetmanagement (Prorail en Rijkswaterstaat) – contacten via afdeling Netwerkplanning

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ERTRAC

Gelinkt aan Joint ETP Roadmap on Transport Infrastructure Innovation (naast wegen ook spoorwegen, vliegvelden, waterwegen)

Basisidee FOR: The Forever Open Road is adaptable, automated and climate change resilient

ERTRAC Roadmap, 'headline' tasks proposed are:

- Selection of 3 European corridors
- Identification and modeling of climate change effects
- Risk based vulnerability assessment for TEN-T Network
- Adaptation Technology identification, proving, integration and roll out
- Development of adaptation strategies and their implementation for existing infrastructure

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ERTRAC

Objective:

develop and deploy cost-effective adaptation measures in order to increase the resilience of the TEN-T road network:

- Management and adaptation strategies
- Management and operations response to extreme weather events
- Climate Change Risk map of TEN-T road network

Research needs:

- improve pavements, resist effects of extreme heat, in general better management of water on the pavement surface and in the substructure. Additionally, bridges and structures, including foundations require increased resilience to flooding, and scour.

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ERANET ROAD / CEDR

Road owners adapting to climate change

- A: Identification and modelling of Climate Change effects regarding national highway networks to provide a unified input data base
- B: Development and application of risk based vulnerability-assessment of transnational highway networks (TEN-T)
- C: Development and application of adaptation technologies

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Objectives of WG4CEM

- Identify current state of mobility
- Provide vision on clean mobility
 - suggest promising technical, management and political measures & business cases*
- Provide roadmap for transition
- Focus on period until 2020
 - (EU 20% CO₂ reduction target)*
- Perspective on roadmap towards ambitious CO₂ reduction goal for mobility in 2050
 - (EU 60% CO₂ reduction target)*

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Working group deliverables so far

- List of relevant EU projects
- Definitions of scope themes and measures > in progress report
- Aggregated literature and data on effect of measures (incomplete)

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Proposal for WG4CEM output

- General assessment of impact of measures, interesting combinations of measures and business cases, to focus research in future
- WG advice how to fill in the gaps in EU research

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Miriam

- 2^e fase:
 - calibreren rolweerstandmetingen uit verschillende landen / afspraken over eenduidigheid
 - valideren van modellen
 - vertalen naar de praktijk van wegbeheerders / assetmanagement
- Gelijktijdig loopt een eigen onderzoek rolweerstand: "Hoeveel energie en brandstof kan je besparen met 2laags ZOAB (fijnkorrelig)"