EEA 02 March 2016

**Climate-ADAPT „Research projects page submissions – Finalized projects**

1. **Template Project descriptions**

Name of projects:

Tool-supported policy-development for regional adaptation (ToPDAd)

Project logo:



The Challenge:

Full cost modelling of climate change adaptation is still underdeveloped. The need for better cost modelling has been acknowledged at both sector and macro-economic levels. The ToPDAd project has addressed this by the collaboration of economic modelling and decision support experts who have put their assessment tools into joint use to meet this challenge.

Project objectives:

ToPDAd developed the 'next generation tool set' for assessing the full costs (direct and indirect) of climate change impacts under different adaptation strategies and measures. As cost modelling of climate change adaptation varies significantly between sectors, three key sectors were chosen as study areas: energy, transport and tourism with focus on regional assessments of selected climate change trends and extreme events. The sector-level impact assessments were linked to macro-level assessments in order to provide harmonized economic conditions for the studies.

Methodology:

The ToPDAd methodology is an integrated approach to determine best strategies for businesses and regional governments to adapt to the expected medium term and long term changes in climate. The methodology consists of a phased approach integrating sectoral modelling and broader macro-economic assessments with principles from participative and robust decision making.

ToPDAd partners' own software tools were exploited in the cost assessments. Different cost indices were computed, e.g. unit cost of production, GDP% change, etc. Such cost indicators where used as input information in two Demonstrations of adaptation decision support where the robustness of adaptation strategies were visualized in a novel way. The robustness visualization method is referred to as the Strategy Robustness Visualization Method (SRVM).

Results:

Several numerical cost indicators for the energy, transport and tourism cases were produced. Results deemed most significant for policy-makers are presented in the three sector-specific policy briefs produced and publicly available. Also macro-level considerations are integrated into the key findings.

* ToPDAd interactive tool [<http://topdad.services.geodesk.nl/en/web/guest/interactive-tool>].

 An overview of the results and their sectoral and methodological context has been published on-line through the ToPDAd interactive tool .The results are not only numerical graphs but also descriptions of methods underlying the tools used in running the models (simulations).

* Policy Brief #1. SECURING THE EU’S ENERGY FUTURE: Adapting our energy system to climate change.[http://www.topdad.eu/news/brief-of-topdads-results]

ToPDAd has brought together economic, energy, climate and social models to provide a glimpse into how the energy system might evolve over the coming decades and into the points of greatest vulnerability. Several case studies look at the impacts of both gradual climate change and extreme weather events. The results show that whereas the EU energy system can largely accommodate gradual climate change, it is particularly vulnerable extreme weather events.

* Policy Brief #2. HOW WILL CLIMATE CHANGE AFFECT TOURISM FLOWS IN EUROPE? - Adaptation options for beach and ski tourists assessed by ToPDAd models. [http://www.topdad.eu/news/brief-of-topdads-results]

With climate change, mean temperatures and precipitation patterns will change in Europe. This will have consequences for the traditional tourism destinations. ToPDAd assessed how beach and ski tourists may react to changing weather patterns and how this will affect the competitiveness of various European tourism destinations. This can help decision makers and investors choosing the most costefficient strategies for adapting to climate change.

* Policy Brief #3. ADAPTATION AND RESILIENCE OF THE TRANSPORT SECTOR. [http://www.topdad.eu/news/brief-of-topdads-results]

Adaptation in the transport sector does not only cover investments in infrastructure but also information provision and innovation. The latter options are usually cheaper than changes to infrastructure yet are useful as intermediary or complementary adaptation steps.

Project partners:

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| --- | --- | --- |
| **Participant organisation name**  | **Participant** **short name**  | **Country**  |
| VTT Technical Research Centre of Finland | VTT  | FI  |
| Center for International Climate and Environmental Research | CICERO | NO |
| Cambridge Centre for Climate Change Mitigation Research | 4CMR | UK |
| Joanneum Research |  JR | AT  |
| Transport & Mobility Leuven | TML | BE |
| University of East Anglia | UEA | UK |
| Institute for Transport Planning and Systems | ETH | CH |
| Finnish Meteorological institute | FMI | FI |
| Stichting Dienst Landbouwkundig Onderzoek  | Alterra | NL |
| Institute of Economic Structures Research | GWS | DE |

1. **Template Facts**

Funding instrument: Collaborative project funded by the EU 7th Framework Programme

Start Date: 1.10.2012

End date: 31.9.2015

Duration: 3 years

Project coordinator: VTT Technical research Centre of Finland Ltd.

Project website: www.topdad.eu

Contact: Dr. Tony Rosqvist, VTT, Kemistintie 3, 02150 Espoo, Finland. Email: tony.rosqvist@vtt.fi

1. **Further advice and contact:**

Examples of project sheets can be found at: <http://climate-adapt.eea.europa.eu/research-projects>

In case of questions please contact Andreia Gonçalves Sousa (agsousa@fc.ul.pt).