

Greenweek Partner Event

SIM4NEXUS

Brussels

16 May 2019



The Nexus concept in transdisciplinary research

- Sustainable Integrated Management FOR the Nexus of water-land-food-energy-climate for a resourceefficient Europe
 - Target at a resource-efficient Europe
 - Nexus-compliant practices at different scales (regional, national, transboundary, European and global) regarding water-land-food-energy-climate
 - Focus on the sustainable & integrated management of resources





Nexus approach

- Scientific inquiry explicitly focusing on bio-physical, socio-economic and policy interactions (synergies and trade-offs) across sectors, with end goal of sustainable and integrated management of natural resources
- Approach to (cross-sectoral) decision making and planning that takes an explicit focus on interactions (synergies and trade-offs) between policy goals and instruments across sectors to enhance policy coherence





Achieving resource efficiency in Europe is a challenges

- Achieving resource efficiency is a challenge. It requires
 exploitation of synergies and mitigation of trade-offs
 across water, energy, food, climate and land.
 Implementations needs the active participation among
 government, the private sector, academia and civil
 society. Nexus concept will support this.
 - Resource efficiency is supported by knowledge on how Nexus sectors operate: how to create synergies in climate action with water, energy, food and land? Search for policy coherence





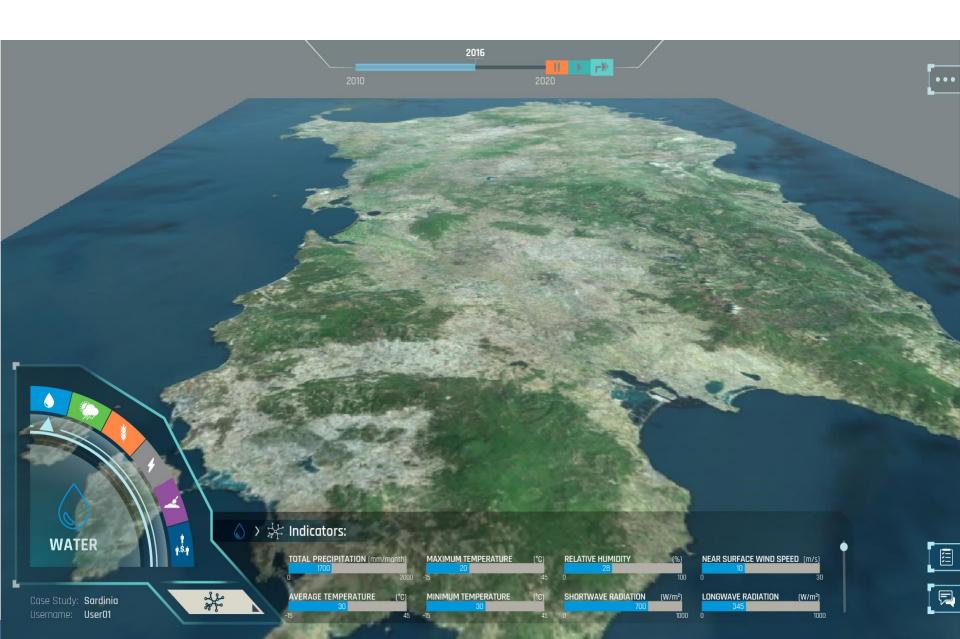
The solution in SIM4NEXUS

A Serious Game is developed to learn from modelling tools, using impact assessment approaches and expert knowledge. SIM4NEXUS develops the game through 12 cases across Europe. The case studies use transdisciplinary approaches, driven by stakeholder needs





Visualisation and interaction tool



12 Case Studies



How the governance of energy, water and agriculture effects sustainable food production, the provision of water and wastewater services and the move to a smart and flexible system for resource management?

How can agricultural and environmental policies be integrated to address pressures on land and water whilst promoting their sustainable use and economic development?

Does the goal of becoming a fossil-free nation interferes with some of the national environmental objectives such as sustainable development of water and forest resources?

Is it possible to enlarge energy self-

Main question addressed by the 12 SIM4Nexus case studies

What can be the role of biomass in the Dutch transition to a low-carbon economy by 2050?

supply, by widening the use of renewable energy sources in Latvia?

Does the landscape structure dominated by monoculture-like crop areas in some of the lower parts and its alterations by energy production affect the water cycle in an unfavorable way?

> How national policies in water management, renewable power production and land, affect each other and result in changes in food production, tourism, GHG emissions, quantity & quality of water resources?



What are the **Nexus** issues at the global scale?



Impacts of a lowcarbon economy in Europe?



What are the implications of Azerbaijan's transition to a low-carbon economy on the different Nexus domains?



How to achieve both the

transition to low-carbon

economy and the sustainable

management of water resources

in the Rhine region?

How to reach a resilient system able to satisfy all demands under climate change?

SIM4NEXUS to test the Nexus in business plans

Examples of good practice

United Utilities uses qualitative and quantitative approaches to assess a wide range of risks associated with operational, financial and corporate resilience issues. The company also uses these approaches to develop options that include collaborating with third parties and promoting solutions that take advantage of, and work with, natural processes.

South West Water also provides high-quality evidence of collaboration with stakeholders to develop efficient options and integrated systems around resilience. One example is its collaboration within the multi-stakeholder SIM4NEXUS research project to improve its understanding of the inter-relationships and interdependencies of water, energy and land management in the South West of England.

Playing the SIM4NEXUS Serious Game

- Beta version (use Use Chrome)
- Link to game site: http://seriousgame.sim4nexus.eu/
- Game in action youtube: https://youtu.be/oNQ7-akoaaw
- Introduction document:

 https://docs.google.com/document/d/15blNDQHRXX
 afMgY3xFejrL84qOxGA9MyWSntAlN3Dtc/edit?usp=s
 haring





Program of today

- Achieving SDGs for water, land, energy, food and climate (Jonathan Doelman, PBL) – The Nexus in the SDGs
- How will achieving the climate goals affect energy, water, land, agriculture, food? (Jason Levin-Koopman, WR) – Nexus and transition towards a low-carbon economy in Europe
- Successful policies in a nexus context (Trond Selnes WR; Maria Witmer – PBL)
- Nexus: Global European national and regional







Thanks for your attention!

For further information please consult www.sim4nexus.eu, follow us at @SIM4NEXUS floor.brouwer@wur.nl



