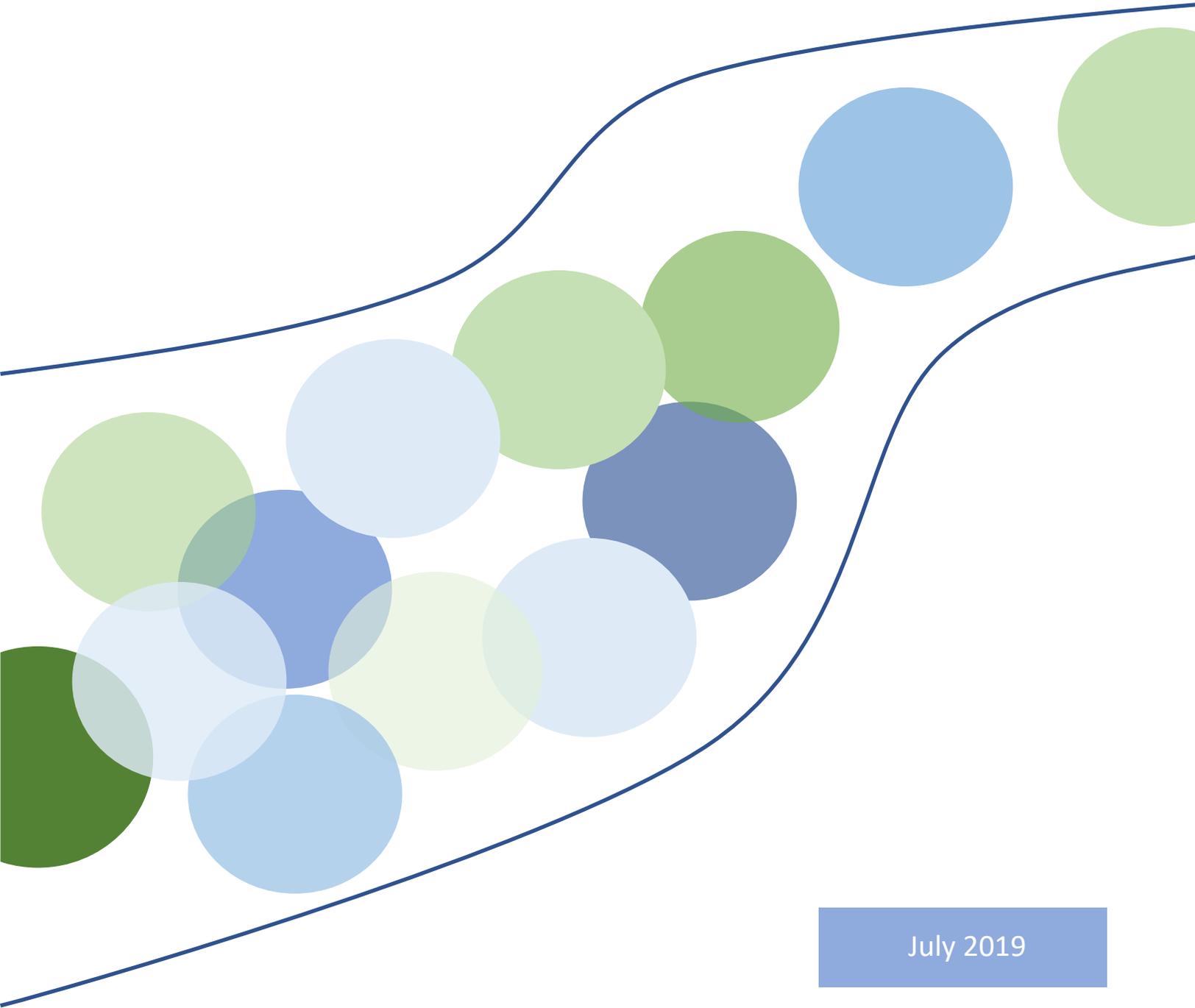




D7.4

Online Energy Systems Learning Simulation





About this report

The current report is a description of the Energy System Learning Simulation called REEEMgame, which is deliverable 7.4 of REEEM project (<http://www.reeem.org/>). The Energy System Learning Simulation is the prototype developed within the project. REEEMgame is open source and link to the Github repository containing the REEEMgame is provided.

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About REEEM

REEEM aims to gain a clear and comprehensive understanding of the system-wide implications of energy strategies in support of transitions to a competitive low-carbon EU energy society. This project is developed to address four main objectives: (1) to develop an integrated assessment framework (2) to define pathways towards a low-carbon society and assess their potential implications (3) to bridge the science-policy gap through a clear communication using decision support tools and (4) to ensure transparency in the process.



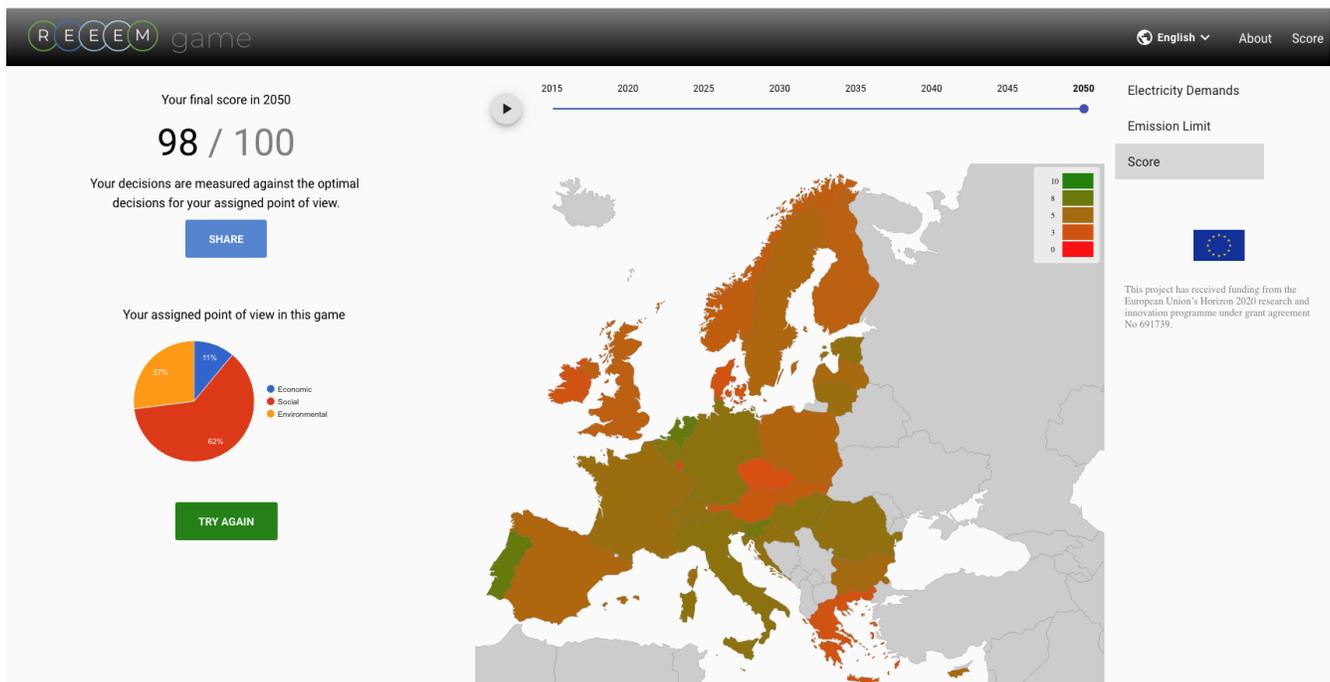
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Introduction to REEEMgame

REEEMgame has been created as part of the REEEM project. The REEEM project is an EU funded project which aims to gain a better understanding of how energy strategies can help the transition to a low-carbon EU energy society. The purpose of REEEMgame is to learn about energy systems. Participants learn how different decisions affect the energy systems and the outcomes for other stakeholders.



How to Play

You access the game at the site: <https://reeemgame.org>

The game is a simulation of how the future will look depending on how participants decide to act.

The player is assigned some economic, environmental and social preferences (a "point-of-view"), and the mission is to maximize the score for the assigned point-of-view in 2050. The solution is compared to the optimal score calculated by the Open Source Energy Modelling System for Europe (OSeMBE).

To maximize the score, the player has the option to make climate policy decision at three points in time (2020, 2030, 2040). The decisions concern the emission reduction pathway, the investment in Renewable Energy Technologies, and the trans-border electricity transmission between European countries.



After each game is finished the simulation is saved and the score is registered, and the player can share the game on social media and challenge others to beat the score using the same point-of-view.

Development process

The software development process used in developing REEEMgame is called Scrum [1]. Scrum development is based on a number of sprints. Each sprint in developing REEEMgame had the following structure:

- 4 weeks long
- started with a sprint start meeting, where it is decided which feature should be implemented in the coming sprint
- ended with a demo, which is a demonstration of the current state of REEEMgame. After the demo there was a test, where everyone in the consortium is invited to try out the REEEMgame. The feedback from the demo and test, is then used in the sprint start meeting for planning the next sprint.

Repository

The repository containing REEEMgame-local is located on GitHub at the following URL:

<https://github.com/ReeemProject/reeemgame>

The repository is where technically advanced stakeholders can get instructions and all necessary source files to install the game on their own computers, make amendments and new game models in local or forked versions of the source code.

Local version

Following is the installation guide which can be found in the repository.

Prerequisites: [Node.js and npm](#) Node.js ^6.9.5, npm ^3.10.10

1. Installation: npm install
2. Start Server at port 3000: npm start
3. Go to url <localhost:3000>

References

[1] <https://www.atlassian.com/agile/scrum>