ISSUE 1: WELCOME

Welcome to the SENTINEL project.

The transition to a low-carbon energy system, as understood by the scientific and policy communities, will involve a major redesign of the energy system, primarily around renewable sources, in accordance with 2030 and 2050 targets that the European Commission has defined.

The SENTINEL project responds to the topic call LC-SC3-CC-2-2018, "Modelling in support to the transition to a Low-Carbon Energy System in Europe", of the European Union H2020 work program.

SENTINEL, the Sustainable Energy Transitions Laboratory, is developing energy system modelling support for this transition. The project began in June 2019 and will run for 3 years.

NEWS

- Sentinel website now live: www.sentinel.energy

- Monthly news bulletins will provide updates to project progress, results and upcoming events. Available on the project website.

- Next issue due October 2019

- Project Kick Off Meeting held 7th-9th July 2019 in Zurich, Switzerland (page 2)

- Meet the partners! (page 2)

Introduction

By Prof. Anthony Patt,
Project Coordinator at ETH Zurich

The SENTINEL project is aligned with the Energy Union strategy and the EU's commitment under the Paris Agreement, which implies the necessity of accelerating the energy transition, ultimately leading to the complete elimination of energy sector greenhouse gas emissions. At the core of the funding call is the recognition that accelerating this transition requires us to develop a new set of energy modelling tools, able to represent and analyse the drivers and barriers to complete decarbonisation, including decentralisation, a large-scale expansion of fluctuating renewable power leading to a vastly increased need for system-side flexibility, sector-coupling including the electrification of mobility and heating, and the impacts of different market designs on the behaviour of energy sector actors.

We are creating a new modelling framework, which we call the Sustainable Energy Transitions Laboratory (SENTINEL). The SENTINEL framework will be modular in structure incorporating many separate models which will look in detail at specific technological, geographic, and societal aspects of the transition to a low-carbon energy system. The models will be able to be linked together to answer a wide range of different questions. For a given user in a given situation, only a subset of the models are likely to be needed, and this will make it a manageable task to understand how those particular models operate. The models in the framework, together with the data on which they rely, will be accessible via an online platform, for which this website acts as placeholder while it is in development.

The platform will also make available the model source code and data, together with supporting documentation and guidance. This will achieve complete transparency, and also enable other models to be added to the SENTINEL framework and online platform over time.

The project is now officially underway with partners working to pool their modelling expertise with the eventual aim of creating Sentinel's online platform (Kick Off Meeting, July 2019).
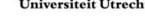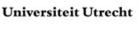
Meet the partners!

COLLABORATION

Extensive collaboration with stakeholders will inform the development and refinement of the SENTINEL framework. First, we will learn from key stakeholders what functionality they need. Second, we will apply the framework to address a set of case studies, to address specific problems that policy- and decision-makers will face in the next three years. They will help us evaluate how well the framework meets their needs, in order to improve it further.

We will disseminate our results and promote the platform to the appropriate target audiences: policy-analysts; model developers; and research scientists. In addition we will organise a set of conferences, in which we help to build a community of model users and developers to carry this work forward. Keep an eye on the website for further details: Your involvement and ideas are key in guiding the project objectives and we look forward to working with you!

www.sentinel.energy   contact@sentinel.energy