SET-Plan and Transition Planning

The SET-Plan is the technology pillar of the EU's energy and climate policy. It is a blueprint for Europe to develop a world-class portfolio of affordable, clean, efficient and low emission energy technologies through coordinated research. It has been proposed by the Commission in 2007 and endorsed by Member States and the European Parliament as the appropriate way forward. It lays out the EU's strategy to accelerate the development of these technologies and to bring them more quickly to the market.

The SET-Plan comprises three main instruments for implementation among which an action on *transition planning*. It aims at better understanding the evolution of future European energy infrastructure networks and systems transition planning to focus and synchronize the SET-Plan efforts towards the development of a low carbon energy system. http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm

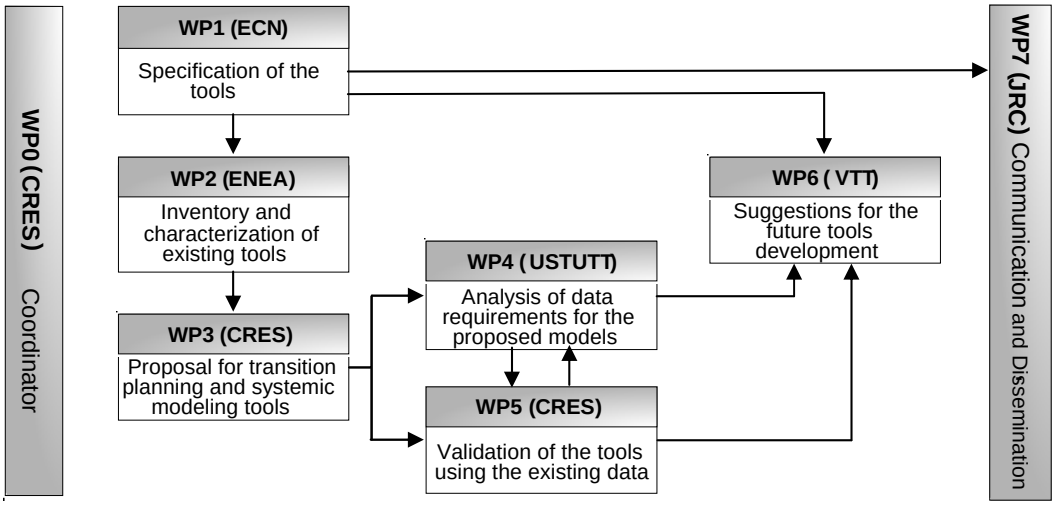
ATEsT

The ATEsT (*Analysing Transition Planning and Systemic Energy Planning Tools for the implementation of the Energy Technology Information System*) is the first action taken by the European Commission, through its 7FP, to kick-start the activity on transition planning.

The aim of ATEsT is to enhance SETIS with tools and methodologies for analyzing the transition towards a sustainable and low carbon energy system by joint efforts of European research institutes and the JRC (the implementing body of SETIS). http://setis.ec.europa.eu

ATEsT brings together competence on transition planning, energy modelling activities, and technology assessment. The goal is to create a knowledge platform in which models, techniques and data are collected, harmonized and shared. More information at:
www.atest-project.eu

Organization of the ATEsT in Work Packages (WP) and work leaders (within brackets)



ATEsT Stakeholder Workshop

What was the goal? The goal of this activity (WP 1) is to define the specifications of the models and tools to best address and support the SET-Plan decision making and implementation. To this end, a **workshop** was held in Brussels on 29th of January 2010 to consent on key policy questions and decision parameters for which modeling is required. **Who was there?** Sherpa Members of the SET-Plan Steering Group, researchers, industry, representatives of the European Energy Related Technology Platforms, sector associations and the European Commission. **What was achieved?** Groups discussions organized along four main topics enabled an extensive mapping of the key issues to be addressed by modeling techniques and tools. The key conclusions per topic are described below. The presentations and full report are available at: http://www.atest-project.eu/pdf/D.1.1_Specification_Report.pdf

1. General Characteristics of the toolbox

• Robustness and transparency of the methodology and availability of data should be a priority issue;
•Individual tools should be designed such that their workings are understandable and transparent;
•Assumptions should be made clearly visible in the model for credibility towards SET-Plan stakeholders;
•ATEsT should explore what other types of tools are needed in addition to quantitative modelling tools;
•The model toolbox should include at least both detailed technology specific models and models describing the complete energy system;
•The model toolbox should enable rapid assessment of regularly returning questions and detailed assessments giving a more complete picture.

2. Strategic Planning

Modelling efforts under strategic planning should :

- Address short and long-term strategies to identify and quantify the potential and opportunities of low carbon technologies in different stages;
- Consider the interdependencies between energy technologies in the supply chain, the growth path of new technologies, their impact on the energy system;
- Monitor whether industrial developments complement the outcomes of strategic planning analysis;
- Evaluate the technology performance and their potential for cost reduction;
- Contribute to the definition of policy incentives for different stages of technology development;
- Assess the effects of various policy instruments on the technology deployment;
- Consider regional differences to best address technology development and deployment.

3. Technology Deployment and Transition Planning

Key questions raised by technology introduction for planning the transition require modeling solutions on:

- Regional spatial planning, i.e. how to identify the best suitable location for resources and infrastructure;
- Time-lags and barriers that could slow down the technology deployment;
- How to anticipate the ramp-up of technology deployment by using the demonstration projects;
- How to evaluate the public acceptance of technologies.

4. Innovation and R&D

Modeling is called upon under Innovation and R&D on the following issues:

- What key performance indicators (KPI) to use for monitoring the progress of each technology;
- The impact of public and private R&D spending, in order to effectively invest and have the maximum leverage effect;
- The setting of technology development targets;
- The definition of indicators for monitoring the progress of R&D;
- The identification of Europe's industrial and research status on energy technologies.

5. Reinforcing international cooperation

Key questions addressed to modelers are:

- How the international cooperation can stimulate knowledge development on energy technologies?
- How costs and benefits can be shared between regions accelerating technology development?
- What areas are potentially most effective for international cooperation?
- What EU characteristics can be considered for strengthening the European Union's position?

Open consultation to map current modelling capacities

www.atest-project.eu/opencall.htm

Context

The Work Package 2 aims at making an inventory of existing models and tools that cover transition planning and systemic energy modelling. The main instrument to perform this task is through an open consultation.

Who

This consultation addresses modelling teams in European and other regions of the world that are actively involved in modelling future energy systems and their transition.

Why

This Consultation will serve as a basis for the development of the modelling toolbox required for implementing the European Energy Technology Policy. At the end of the project, a roadmap containing key recommendations on how to develop further the modelling tools to support the transition to a low carbon energy system will be released to policy-makers.

How

The Consultation is carried out through a questionnaire that enables to capture, in a comprehensive way, the key features and capabilities of the models. The main sections of this questionnaire are described below in the box Energy Model Classification Form.

Where

More information on this consultation and the participation procedure can be found at www.atest-project.eu/opencall.htm

ENERGY MODELS CLASSIFICATION FORM

1. Identification of the team and model
2. Evaluation of capabilities and main applications
3. Specific capability to model and evaluate SET-Plan needs and priorities
4. Model scope
5. Theoretical background and structure
6. Access to the model/database
7. Additional notes and comments

The Partners

- CENTER FOR RENEWABLE ENERGY SOURCES (CRES)
- ENERGY RESEARCH CENTRE OFTHE NETHERLANDS (ECN)
- AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE (ENEA)
- UNIVERSITY OF STUTTGART (IER)
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- POLICY STUDIES INSTITUTE – UNIVERSITY OF WESTMINSTER (PSI)
- CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS (CIEMAT)
- ENERGY INSTITUTE HRVOJE POZAR (EIHP)
- EUROPEAN COMMISSION - JOINT RESEARCH CENTER (INSTITUTE for ENERGY)

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