



Energy research Centre of the Netherlands

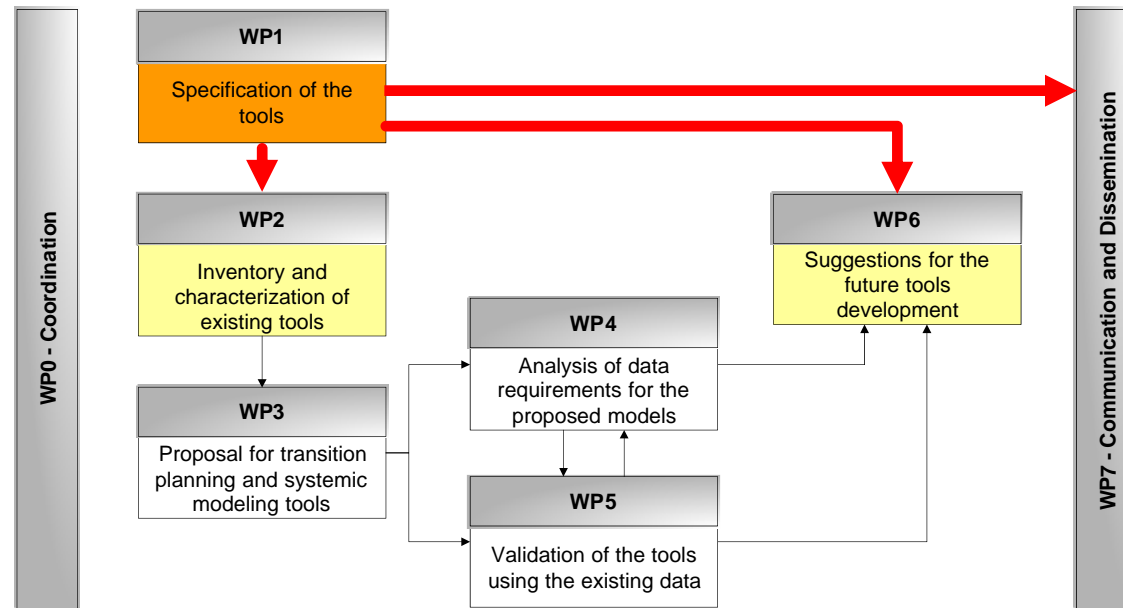


Requirements for the SETIS tools and models

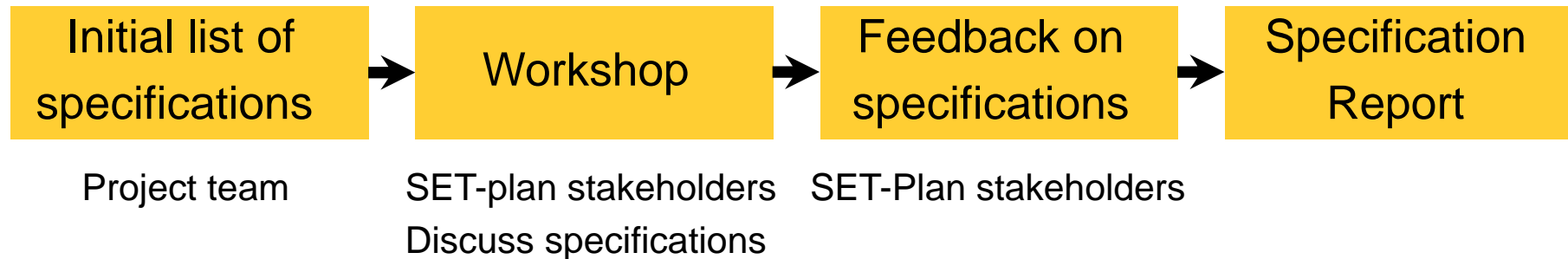
Koen Schoots



- Define specifications of the models/tools for addressing policy questions SET-Plan
 - The transition planning framework should provide relevant data to aid decision making of the EC Steering Group on SET.
- Determine the answers the models will have to provide
 - Relevant data to SETIS



- Specifications to WP2: for characterizing existing models
- Specifications to WP6: suggest future tool developments
- Contributions to WP7: project website and reports



Methodology

- Draft initial list of specifications
- Workshop (Brussels, 29 January 2010)
 - Introduction of SETIS, ATEsT
 - Initial list of specifications
 - Characterization of the models (WP2)
 - Discuss the list of specifications
- Circulate Workshop results among participants for feedback
- Bring together all results in Specification Report (February 2010)

- General characteristics
- Strategic planning
- Deployment and planning of the transition
- Innovation and R&D
- International cooperation



Reliable method

Available data

Transparent

Understandable workings

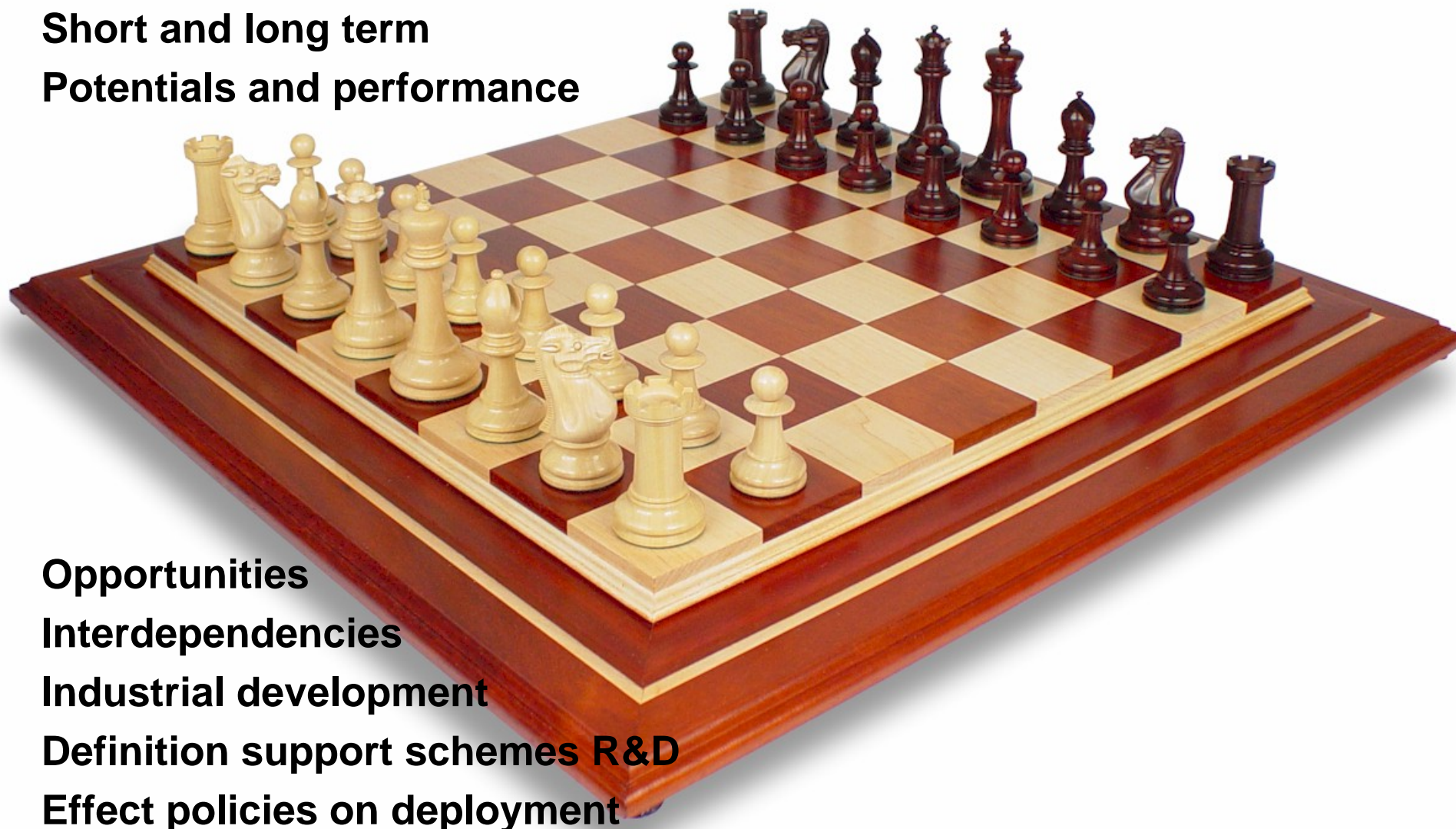
Also other than traditional tools

General Characteristics

List of Specifications

- Reliability 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 'traditional' (i.e. 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 may also include detailed assessments giving a more complete picture

**Short and long term
Potentials and performance**



**Opportunities
Interdependencies
Industrial development
Definition support schemes R&D
Effect policies on deployment**

Strategic planning

List of Specifications

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, and 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 supporting schemes for different stages of technology development
- Assess the effects of various policy instruments on the technology deployment



Finding best location for resources and infrastructure

Identify time-lags and barriers

Demonstration as seed for deployment

Public acceptability and consumer awareness

Deployment and Planning of the Transition

List of Specifications

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



Key Performance Indicators?
Progress of R&D
Impact of R&D spending
Technology development targets
EU R&D status and international position

Innovation and Research & Development

List of Specifications

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
- The evaluation of the EU position related to the rest of the world



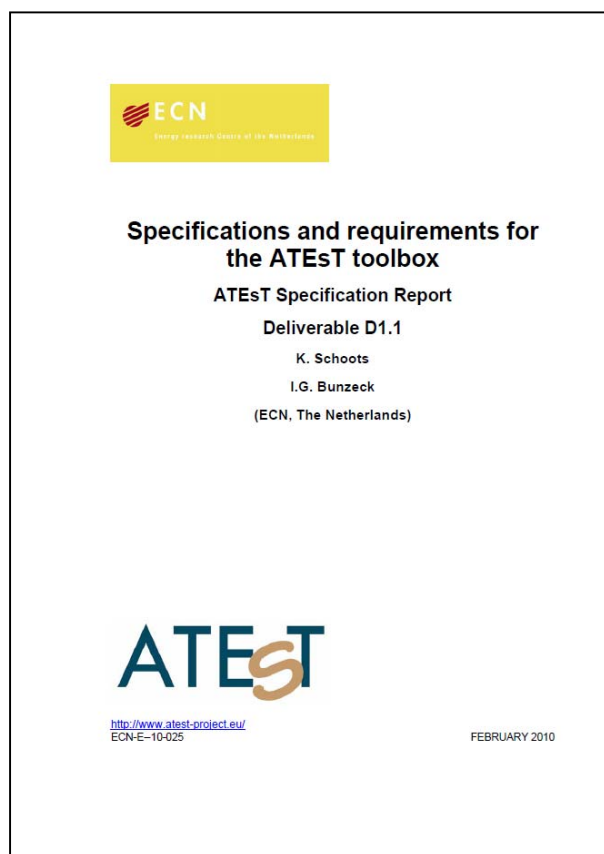
Stimulation knowledge development?
Sharing of costs and benefits?
What (technology) areas?
Strengthening EU position?

International Cooperation

List of Specifications

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?



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