

Project Description

Import increasingly contributes to energy consumption of EU27. According to the commonly accepted energy outlooks in 2030 about 70% of the European energy needs will be met by primary sources originating from foreign areas, some of which are very remote and geopolitically unstable. A relevant issue involves the reliability of the infrastructures, as far as likely accidents and terrorist attacks are concerned. In addition, the import of electricity will be relevant as many new interconnections are at several stages of design and implementation.

Our project *“REACCESS - Risk of Energy Availability: Common Corridors for Europe Supply Security”* is carried out under the 7th Framework Programme (FP7) of the European Commission. The project began on January 2008 and is expected to be finished on December 2010.

The main goal is to build tools suitable for EU27 energy import scenario analyses, able to take into account at the same time the technical, economical and environmental aspects of the main energy corridors, for all energy commodities and infrastructures.

REACCESS Progress



Figure 1. 1st International Conference, Torino, Italy

The *1st International Conference* has been held in Torino on February 2008, close to the Kick Off Meeting, to launch the project and to start the effective dissemination of the proposed objectives to relevant stakeholders, key energy market players, policy makers and the civil society.

During the *first year* activities, the attention has been mainly focused on the energy corridor identification and characterization. The principal achievements are related to the:

- Identification and the characterisation of the energy import framework for EU27+, suitable to be implemented as a sub-Model associated to the adapted versions of the existing pan-EU27+ and TIAM TIMES Models;
- Identification of the main paradigms of the security of supply and their applications to energy corridors;
- Assessment of a methodology for the security-of-supply evaluation, able i) to take into account socio-political and economic aspects and technological risks associated to routine and accidental operational conditions; ii) to be implemented in the TIMES LP optimisation procedure.

The Simplified Scheme of the Nuclear Power Chain, to be adopted in the Reference Energy System of Pan-EU27+ TIMES Model is indicatively presented, based on the work carried out by POLITO, which is also included in the Technical Note: “Characterization of Uranium Import Corridors - Export Potentials, Infrastructures and Costs from POLITO” (authors: Evasio Lavagno and Raffaella Gerboni).

During the *second year*, the efforts have been mainly addressed to adapt the available models for EU27+ (PET) and for the rest of the World (TIAM - 15 regions), to build the new module representing the “captive” and “open sea” energy corridors (RECOR), to implement suitable methodological approaches for risk/availability evaluations and to develop the first steps for scenario analysis activity. A first Work Session has been held in Torino on February 19th-20th, 2009, where the related to the data aggregation activities, in coherence with the requirements of the TIMES modelling approach for the energy corridor region, and the planning of the adaptation activities of the pan-EU27+ and TIAM TIMES models were finalized.

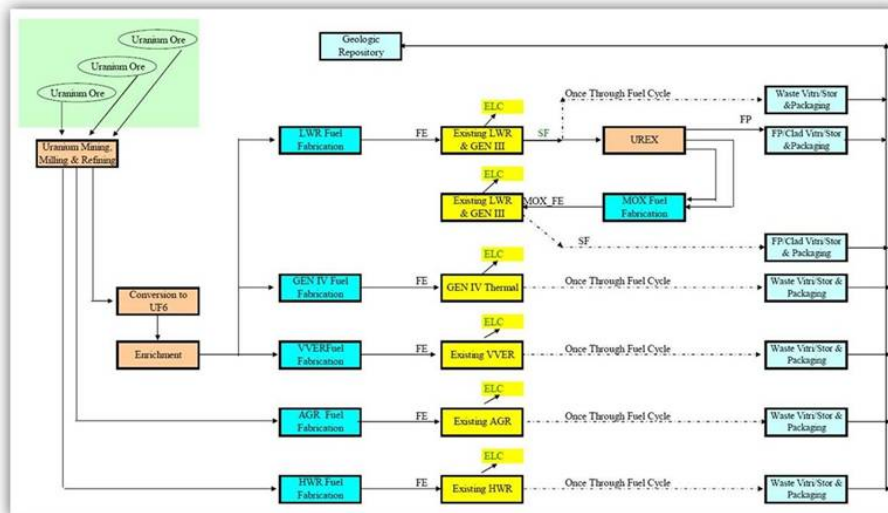


Figure 2. Simplified Scheme of the Nuclear Power Chain, to be adopted in the Reference Energy System of Pan-EU27+ TIMES Model

On the 22nd - 23rd of October 2009, in Athens, the 2nd International Conference, Work Session and Advisory Board Meeting will be held for presenting the results on the energy routes characterisation and risk/availability evaluation methodologies and discussing the structure and potentialities of the modelling tools resulted, in order to define the scenario typologies to investigate.

A special sub-session will be also devoted to the Advisory Board to discuss and comment on the recent economic and technological developments, such as the economy after the crisis and its impact on the energy security of supply as well as the emerging opportunities for international cooperation with the emphasis on the renewable sources, smart grids etc.



Figure 3. 2nd International Conference, Athens, Greece

List of Partners

- Politecnico di Torino (POLITO), Italy - *Coordinator*.
- Institute of Energy Technology (IFE), Norway.
- National Technical University of Athens (NTUA - EPU), Greece.
- Austrian Research Centres - Research Studios Austria (ARC), Austria.
- Fundacion General de la Universidad Nacional de Educación a Distancia (F-UNED), Spain.
- Valtion Teknillinen Tutkimuskeskus, Technical Research Centre of Finland (VTT), Finland.
- University of Stuttgart (USTUTT), Germany.
- Institute of Methodologies for Environmental Analysis (CNR-IMAA), Italy.
- Applied Systems Analyses, Technology and Research, Energy Models, ASATREM, Italy.
- Climate Change Coordination Center (CCCC), Kazakhstan.
- Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas (CIEMAT), Spain.
- Deutsches Zentrum für Luft und Raumfahrt, German Aerospace Center (DLR), Germany.
- Kanlo Consultants (KANLO), France.
- Institute for the Economy in Transition (IET), Russia.

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