



Project Acronym : SEEDT

Project Title : Strategies for development and diffusion of energy efficient distribution transformers

Coordinator : National Technical University of Athens (Greece)

Website : <http://seedt.ntua.gr/>

ABSTRACT

4.6 million distribution transformers (DTs) are installed in EU-27. Their losses exceed 33 TWh/year. The aim of SEEDT is to promote the use of energy efficient DTs and to propose strategies for reducing energy losses of them. SEEDT made an in depth analysis of the potentials and impacts that was based on data collected from all European countries. Several scenarios were applied and after cost calculations the project team concluded to propose only the models that retain the benefits of cost saving. The calculations show that, until the year 2025, EU-27 can reach savings more than 12 TWh/year and reduction in CO₂ emissions almost 4 million tons/year with appropriate policies and measures. SEEDT proposes a mix of policies and measures that include an energy classification (labelling) scheme, a minimum efficiency mandatory standard and a specific bundle of intensive mechanisms and changes in the regulation of electricity distribution in EU-27 countries.

- IDENTIFICATION of problems related to the promotion of energy efficient DTs:
 - a) Analysis on the existing situation on DTs and the available existing solutions and presentation of the results in a report, with both quantitative and qualitative analysis,
 - b) Discussion regarding the technical and non-technical measures to be taken,
 - c) Feedback from key actors, policy makers, electric utilities, energy producers and transformer manufacturers about the policies that should be applied (labelling, standards etc).
- TECHNICAL ASSISTANCE:
 - a) A web based interactive tool has been developed for the calculation of energy losses in distribution transformers and comparison of different transformers taking into account all the energy, financial and environmental parameters,
 - b) A technical guide has been circulated to give advice to the users of DT on how to choose them. It contains tools for the analysis of the additional production cost and of the economic benefits from the energy savings in some typical cases of transformers if they are manufactured with low losses. The tool and the guide are available for free in the SEEDT website.
- PROPOSED POLICIES AND MEASURES:
 - a) Energy classification (labelling) of DTs,
 - b) Minimum efficiency mandatory standard,
 - c) Intensive mechanisms & changes in the regulation schemes of the EU countries.
- CALCULATION OF POTENTIALS AND IMPACTS: Development of a model for the calculation of the energy saving potential and the reductions in CO₂ emissions in case of adoption of 4 different scenarios of policies and measures for the gradual replacement of the existing DTs.

PARTNERS

National Technical University of Athens – NTUA – **Greece**; Alternatives pour l'Énergie, les énergies Renouvelables et l'Environnement - AERE – **France**; Agence de l'Environnement et de la Maîtrise de l'Énergie - ADEME – **France**; Wuppertal Institut für Umwelt, Klima, Energie im Wissenschaftszentrum Nordrhein-Westfalen – Wuppertal Institute – **Germany**; Endesa Distribución Eléctrica – **Spain**; Federazione delle Associazioni scientifiche e tecniche - FAST – **Italy**; Polish Copper Promotion Centre – PCPC – **Poland**; Łódzki Zakład Energetyczny – LZE – **Poland**; AREVA T&D Spółka z ograniczoną odpowiedzialnością - AREVA – **Poland**.