

SEEDT Strategies for development and diffusion of Energy Efficient Distribution Transformers

PROJECT DESCRIPTION

- ✓ 4.6 million distribution transformers (DTs) in EU-27
- ✓ DT losses exceed 33 TWh/year
- ✓ SEEDT objectives
 - ▶ promote the use of energy efficient DTs
 - ▶ propose strategies for reducing energy losses
- ✓ SEEDT activities
 - ▶ data collection from all European countries
 - ▶ analysis of the potentials and impacts
 - ▶ calculated savings: more than 12 TWh/y and 4 Mtn/y CO₂ emissions until year 2025 in EU-27

ACHIEVED RESULTS

IDENTIFICATION of problems

- ✓ Analysis on the existing situation on DTs and the available existing solutions
- ✓ Discussion regarding the technical and non-technical measures to be taken
- ✓ Feedback from key actors, policy makers, electric utilities, energy producers and transformer manufacturers

DISSEMINATION of SEEDT objectives

- ✓ SEEDT organized workshops and round table discussions in Europe
- ✓ The project team promoted SEEDT objectives in energy conferences
- ✓ Publication of 4 biannual newsletters
- ✓ Website of the project

TECHNICAL ASSISTANCE

- ✓ A web based interactive tool
- ✓ A technical guide for DT users

PROPOSED POLICIES AND MEASURES

- ✓ Energy classification (labelling) of DTs
- ✓ Minimum efficiency mandatory standard
- ✓ 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 CO₂ emissions

ECO DESIGN Directive

- ✓ SEEDT team supported the inclusion of DTs in the list of products of the Eco Design Directive

| Overview on policies and measures for the different market actors | | | | | | | | | | |
|---|------------|--------------------|---------------------|--|--------------------------------------|--|---|-----------------------------|--------------------------|-------------------------------------|
| Market actor | Regulation | Mandatory standard | Labelling | Incentives from obligations or certificate schemes | Other financial or fiscal incentives | Information, motivation, qualification | Inclusion into energy advice / audit programmes | Toolkit for buyers | Co-operative procurement | R&D, pilot / demonstration projects |
| Larger electricity distribution companies | ● | ○ | ○ | ○ if not regulation | ○ if not regulation | ○ | | ○ | ○ | ● |
| Large industry | | ○ | ○ | | ○ | ○ | | ● | ○ | ● |
| Smaller electricity distribution companies | ● | ○ | ● | ○ if not regulation | ○ if not regulation | ● | | ● | ● | ● |
| Small and medium industry and commerce | | ● | ● | | ● | ● | ● | ● | ○ | ● |
| Engineering firms, ESCOs, energy consultants, planners | | ● | ● | | ○ | ● | Service provider | ● | ○ | ○ |
| Transformer manufacturers (and their suppliers) | | | Compliance required | | | | | Can include it in marketing | | ● |

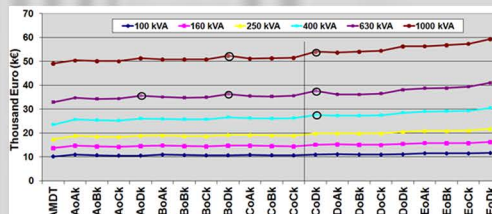
● = main focus within policy mix for this market actor
○ = only partly relevant for this market actor, or just addressing small part within this target group

PROPOSALS

Energy classification

| Letter | The simplified label |
|--------|--|
| | Total losses at 40% loading to reference $P(40\%) / REF = (NLL + 0.4^2 \cdot LL) / (C_0 + 0.4^2 \cdot B_2)$ |
| A | Empty class today |
| B | $P(40\%) / REF \leq 0.75$ |
| C | $0.75 < P(40\%) / REF \leq 0.85$ |
| D | $0.85 < P(40\%) / REF \leq 0.95$ |
| E | $0.95 < P(40\%) / REF \leq 1.05$ |
| F | $1.05 < P(40\%) / REF \leq 1.20$ |
| G | $P(40\%) / REF > 1.20$ |

Minimum efficiency standard

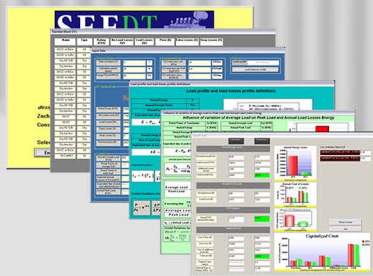


Policies and measures

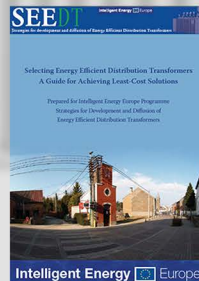
- ✓ Intensive mechanisms
- ✓ Changes in the regulation schemes of the EU countries

TECHNICAL ASSISTANCE AND DISSEMINATION

SEEDT TLCalc



SEEDT Guide



SEEDT Newsletters



<http://seedt.ntua.gr>

