



Improvement of Energy Efficiency in Turkey

**Twinning, a joint review of progress: Actions done,
effective results & changes, missing steps & hopes**

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Developing partnerships, doing together

- **Municipalities**, 25 attended 2 Training Workshops; Sivas, Istanbul & Paris in a joint proposal (Civil Society Dialogue)
- Professional Associations & **Chambers**, joint training packages identified
- **Ministries**: Public Works, Transport, SPO, Industry.., Environment...
- **Universities** & Tübitak
- Consumer's **associations**
- Services providers



New or re-looked subjects

- **Summer** conditions for TS825 in Buildings
- **Data base** on EE indicators
- **Cogeneration & District Heating.**
- Sustainable Urban **Mobility** Master Plan
- **Modal shift** in Transport
- Auditing **programmes**
- **Financing**
- Degree*days data for heating & **cooling** now on line www.meteor.gov.tr



Promoting New Attitudes

- **Sharing** the study visits with partners in policy elaboration
- Building confidence & dialogue in **networks**; visiting stakeholders outside EIE
- Opening the **debate** with TR public & professional stakeholders about new policy proposals.
- Searching for & joining EU thematic **platforms** & networks



Opening the process of consultations... from internal job to internet..

- 72 recommendations (translated to TR) sent officially to over 50 stakeholders by mail for written comments
- ...and discussed at EIE in large session (4 July 07)
- then partly inserted as draft 2nd legislation...
- & put on EIE web site for public consultation...



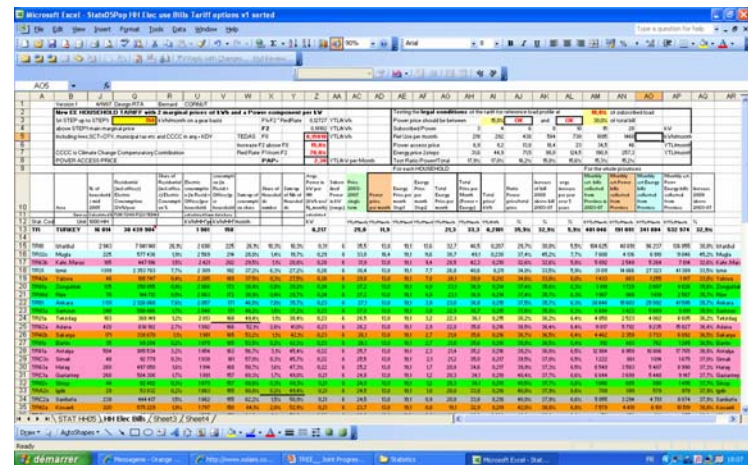
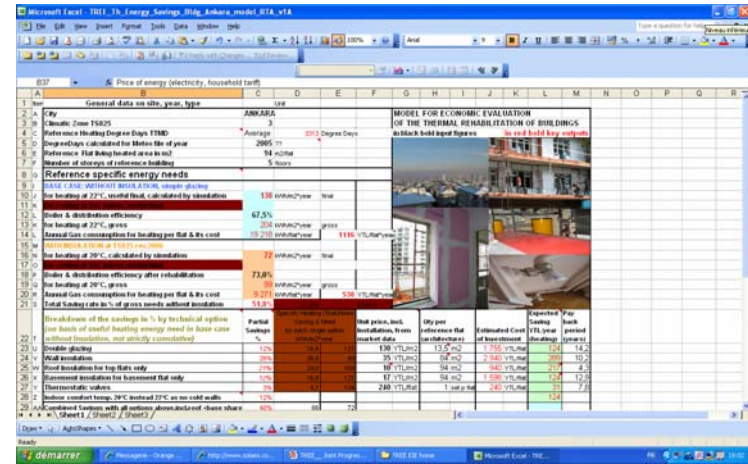
New: logical framework matrix sessions. From ideas to action plan & budget+staff?

- 1st & 2nd experiences within EIE, April 07: thermal rehabilitation of **large hotels**, built < 2000; ***Voluntary Agreement in Bricks & Tiles Industry**.
- 3rd experience for thermal rehabilitation of **residential buildings** (July 07)
- 4th as internal session for **Sivas** proposal on gas consumption indicators (Aug07)
- 5th internal: action plan on **urban mobility** & modal shift (Oct07)



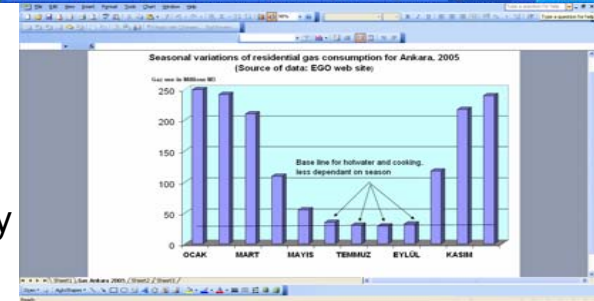
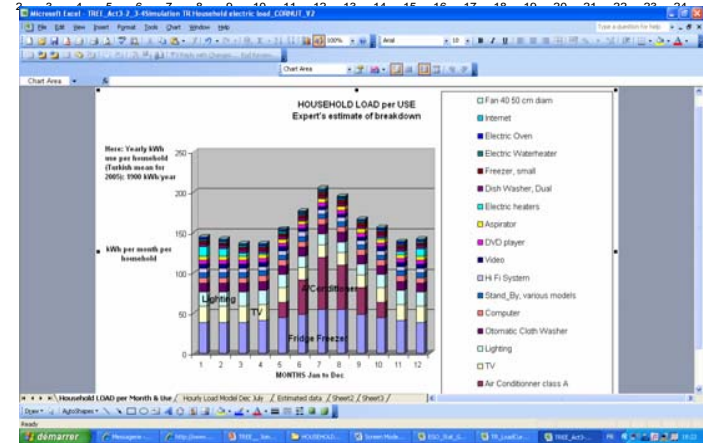
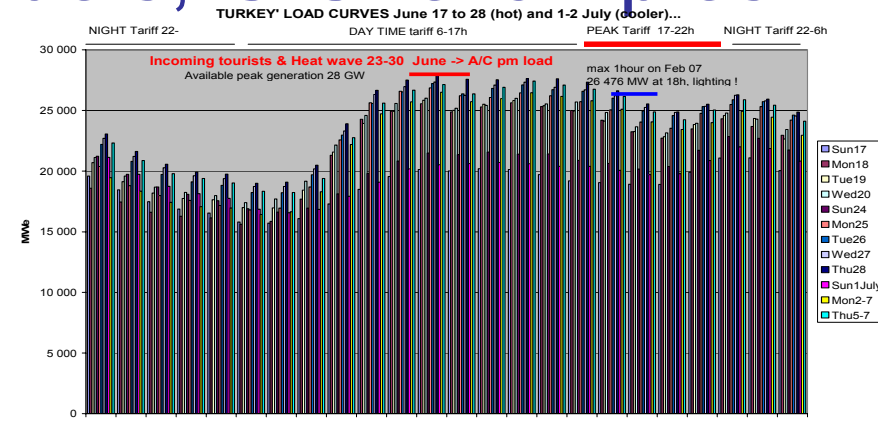
Developing simple **technico-economic** tools

- Existing Buildings: Economic evaluation of **thermal rehabilitation** (Ankara climate)
- Industry audits : translating (AFNOR) **methodological reference** for adapting to TR ...
- Residential electricity **Tariff: parametric model** for 2 terms 2 steps tested for 81 provinces average kWh consumption



Integrating statistics into simple models, advanced simulation models, GIS: examples

- Using **detailed climate** data for hourly simulation of buildings
- **Daily** electric **Load** curves
- Seasonal variations of **gas** consumption
- Processing data in **GIS** geographical information systems..



A wider horizon: New roles to take over

- **Inserting** Energy Efficiency options with the Energy & Power Planning
- Defining **programmes** & monitoring, instead of doing
- **Statistical** overview for setting priorities
- **Economic approach** for technical recommendations
- Facing the **financing & implementation** issues
- Meeting the **financers**, but also for the **benefit of the other partners**
- Connecting people in view of **voluntary agreements**
- Promoting financing procedures and **projects of others**
- Helping **sharing & disseminating** results
- Professionalism in **communication**



Let us move in the main stream with EU partners, not behind!

- Turkey now accepted in the EU platform for Energy Performance of Buildings Directive implementation.
- EIE has already started to prepare stakeholders & partnerships for Energy Intelligent Europe 2
- EIE has joined Steering Committee for TOPTEN+ 1 Motor Challenge (IEE2...)
- EU Plan Action for Energy Efficiency (Oct 2006) is translated to Turkish, for more dissemination...
- Intensifying the contacts & joint works under climate change & environmental issues : 1st National Communication of Turkey to UNCFCC.

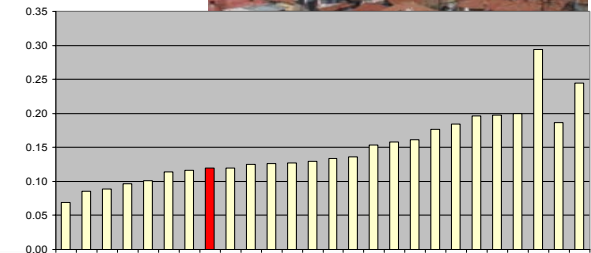
Looking at the missing steps

Key examples

1. Removing barriers for Cogeneration & District Heating.
2. Introducing Summer conditions in revising TS825 for Buildings
3. Advising govt about integrating energy tariffs reform with EE action plan
4. Inserting environmental/fiscal/local tools to support EE investments.
5. Supporting Modal shift in Transport toward low energy use per service
6. From few industry audits by EIE to Auditing programmes



Retail Price - Household (USD/kwh)



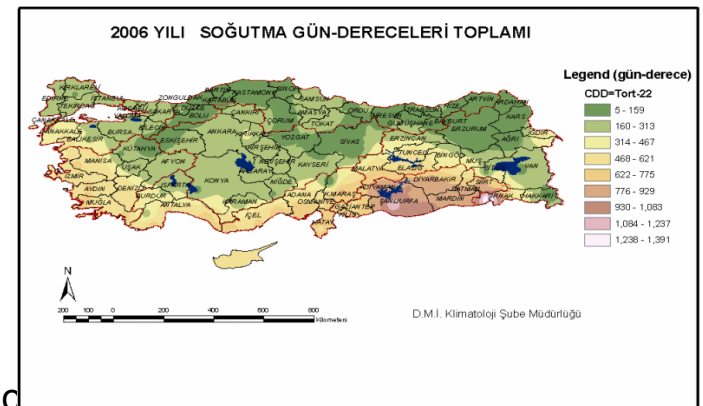
1/6 Removing barriers for Cogeneration & District Heating

- Training seminars done
- Professionals met
- High Gas & Low electricity prices help targeting best situations: Cold cities waiting the gas
- problem identified: no heat market law, EPDK launching tender for *gas only* for new municipalities
- How to open options for District heating + gas for next cities ??



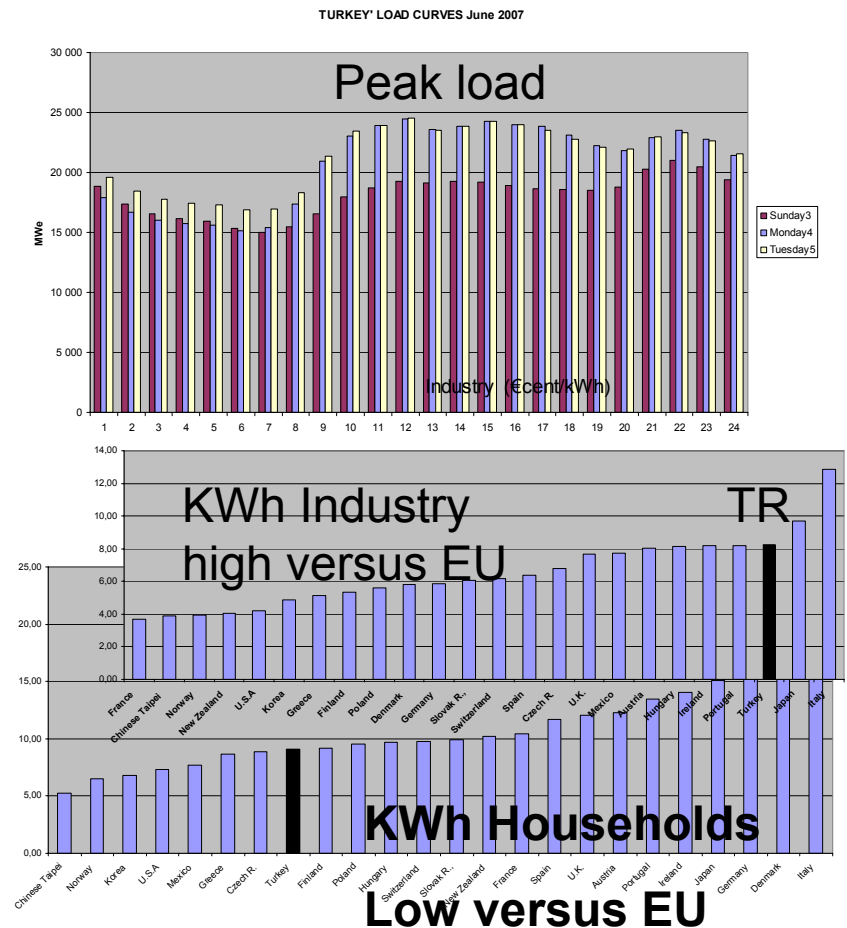
2/6 Introducing Summer conditions in revising TS825 for Buildings

- Both heating & cooling degree days now available www.meteor.gov.tr
- Many trainings on thermal behaviour of building
- Weak points of the TS825 identified
- Why not interim recommendations !
- Why not amending ÇED-Impact Assessment law for hotels for + details on energy
- May be soon a power component in Electric tariffs for Commercial?
- And for residential tariff also?



3/6 Advising govt about integrating energy tariffs reform with EE action plan

- Prices of gas & electricity unbalanced
- KWh: unbalanced tariffs between households & industry
- Peak load at summer noon, outside peak tariff
- Introducing a power component for Residential & Commercial tariffs?
- Why pricing policy not considered at a main tool kit for EE?
- Why EE not addressed enough on 5 June 07 Energy EU-TR conference in Istanbul ?



4/6 Inserting environmental/fiscal/local tools to support EE investments.

- **Financing support to audits** and decision making is recognized as a key element for boosting the EE investment
- Keeping a low public deficit induces the need to also define a **source** of support, to evolve a **balanced financing** mechanism, such as re arranging some fiscal rates.
- The transport sector has been explored as a good example for a proposal of new fiscal policy: presently rates of MTV decrease with age, OTV rates increase with environmental quality, all this being against an environmentally and EE driven approach!
- Lack of economists at EIE, lack of contacts and economic approach prevents EIE to integrate & tackle these issues

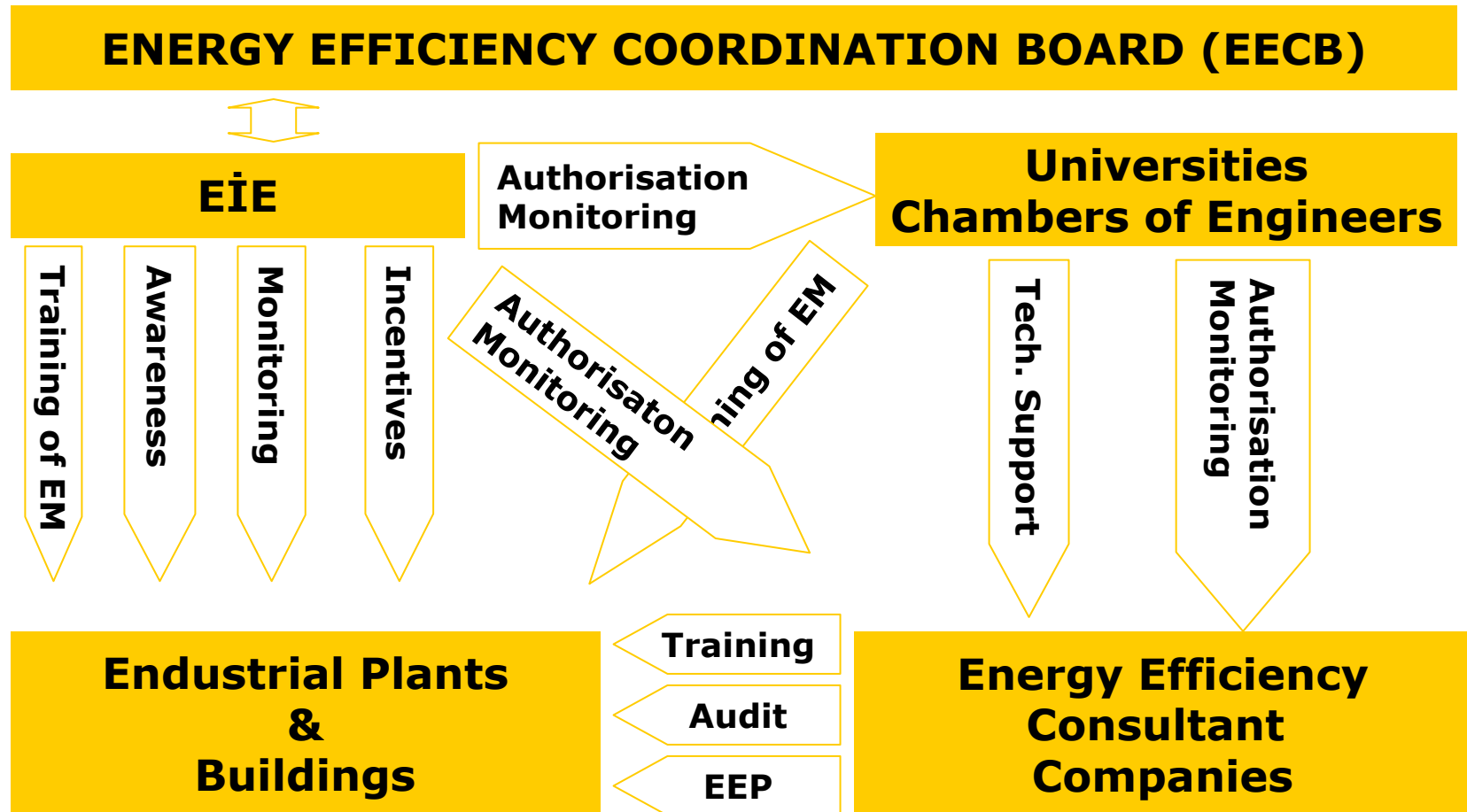
5/6 Supporting Modal shift in Transport toward low energy use per service

- EIE used to be concerned only by specific fuel consumption of vehicles.
- Lectures, workshops, study visit and cooperation with municipalities showed that the key way to increase EE in transportation is the **modal shift** as various modes have very different specific fuel use per service (per passenger*km or ton*km).
- The unique article related to transportation in the draft EE law has been enriched accordingly, But postponed to the secondary legislation...
- Although transport sector was declared a priority for 2006 by EIE, no change in view for staffing & budget

6/6 From few industry audits for utilities by EIE to Auditing programmes

- Since 1995 legislation making energy audit compulsory for industries >2000 toe/y, EIE staff acquired direct experience in auditing.
- But thus prevented the emergence of a real & professional market for auditing.
- Converting EIE from directly doing to the setting up and management of a auditing programme still needs deep changes in budget level and structure, organisation and qualification of staff

Administrative Structure of Energy Efficiency in Turkey



Energy Efficiency Measures in Industry and Trade



- η Energy Management
- η Incentives for EE Projects
- η Voluntary Agreements
- η Incentives for SME's

Energy Efficiency Measures In Building and Service

- η Energy Management
- η Energy Performans / Building Codes
- η Enerji Performans Certificate
- η Control and Individual Metering for Central Heating Systems

Energy Efficiency Measures in Power Generation



- η Demand Side Management
- η Improvement of Energy Efficiency in Power Generation, Transmission, Distribution and Public Lighting
- η Utilisation of Waste Heat of Thermal Power Plants
- η Utilisation of Alternative Fuels in Power Generation

Energy Efficiency Measures in Transport



- η Reducing of Specific Fuel Consumption for Domestic Whicles
- η Improvement of Energy Efficiency Standards for Whicles
- η Promoting of Public Transport
- η Utilisation of Traffic Control Systems

Other Measures

- η Utilisation of Small Scale Renewable Energy Sources
- η Incentives and Supports for Co-Generation
- η R&D
- η Training and Awareness
 - ↳ Energy Efficiency in Primary and Secondary Schools
 - ↳ Undertakings for TV Channels
 - ↳ Information for Consumers by Energy Companies
 - ↳ Information in user's guide of equipments
 - ↳ Energy Efficiency Week

Energy Management

| Appointment of energy managers or establishment of energy management unit in industrial plants since 2007 | | |
|---|-------------------------------|---|
| | Energy Management Unit | Energy Manager |
| Industrial Plants | $\geq 50,000$ TOE | $\geq 1,000$ TOE |
| Organised Industrial Zones | X | |
| Buildings Public Commercial Service | | ≥ 500 TOE or $\geq 20,000$ m ² |

Conclusions / Moving forward: Hopes for the next future

- Networking and dialogue extended within Turkey & with European partners
- EIE staff get wider perspectives
- EIE has 5 divisions on EE & RES
- EIE more visible in TR & EU27
- Draft 2nd legislation in consultation
- EE coordination board, members at work
- Bilateral cooperations expected with ADEME & SenterNovem
- New projects starting soon (awareness)
- New projects expected: Sivas, Topten+, Motorchallenge?

Thank you, Teşekkürler, Danke, Merci

