

Introduction to Panel 4

Market transformation

Panel leader: **Tea Alopaeus Sandberg**
Swedish Environmental Protection Agency

Panel leader: **Hans Paul Siderius**
SenterNovem, The Netherlands

MARKET TRANSFORMATION IS A WELL ESTABLISHED part of EU policy in order to achieve energy efficiency. Examples of policy options which may help to transform markets include research and development, technology procurement, labels, rebates and mandatory efficiency standards. Market transformation includes all actions which produce an irreversible and substantial increase in the energy efficiency of products sold or practices used. A market transformation is visible when a reduction in market barriers has occurred the result lasts after an intervention has been withdrawn, reduced, or changed. It could mean that the performance of products has changed, energy efficient products or practices have high market penetration rates and actors on the market are participating, rather than slowing down, the process.

WHAT HAS MARKET TRANSFORMATION ACHIEVED?

Market transformation in Europe started in the early 90's. One of the first policies implemented to achieve market transformation was the EU Energy Label. This label transformed most of the white goods market in Europe – driers being the exception – and since a couple of years, energy labels also exist for lighting, household ovens and air conditioners. Currently (2005) the best appliances on the market have an energy efficiency close to the technical limits that were identified in the early 90s, and the average efficiency has improved about 30%. Incentive programmes in many EU countries used the energy label criteria and reinforced the market transformation started by the label. Another indicator of success is that the EU Energy Label is also used in several countries outside the EU. Several papers in the market transformation panel address the achievements of energy labels and provide insights in the way forward. Market transformation, including voluntary labels and voluntary

agreements, has also been successful in transforming the market of standby of consumer electronics. An average new TV 1996 had a standby consumption of more than 6 W, whereas the standby consumption of the current average new TV is below 2 W. Outside the residential sector, market transformation is less clearly developed. However, this could be due to the fact that for commercial appliances no EU Energy Label exists. It would be interesting to investigate whether the energy label for (household) air conditioners has any impact on the commercial market for air conditioners. Furthermore, several industries have ideas about using the EU Energy Label for their products, amongst others an initiative for a label for central heating pumps.

The principles of market transformation are broader applicable then with regard to appliances and other tradable goods. The take-up of the ESCO (Energy Service COmpany) market and engaging the public and commercial sector into increased energy efficiency are such additional or new areas for market transformation.

The market transformation panel is focused on papers that analyse what we can learn from the past and papers that provide insights on how further results can be achieved. The accepted papers not only cover these aspects but provide also in-depth information on specific applications of market transformation. There are lessons learned about implementing policies such as labels, standards, projects etc. There are several papers with analyses about actors and how to understand them better (e.g. early adopters, how to reach customers or what makes small businesses interested). Additionally, there are papers on methods to estimate potentials and measuring progress.

ONE SIZE FITS ALL? HOW TO MAKE ENERGY EFFICIENCY ATTRACTIVE FOR CONSUMERS?

The consumer is a key player in market transformation of appliances and tradable goods. But, does the consumer exist and how to make energy efficiency attractive for consumers?

Paper 4,024 (One size fits all? Policy instruments should fit the segments of target groups) illustrates the different instruments that should be used in targeting two characteristic innovation markets, the early market and mainstream market.

Three other papers describe new or renewed instruments to make energy efficiency attractive for consumers. Paper 4,177 (Initiative EnergieEffizienz: An information campaign on energy efficiency for private households) describes the information campaign in Germany that aims to raise consumer awareness and to motivate and inform consumers on energy efficient appliances. Retailers play an important role in this campaign. Also the renewed Japanese Top Runner program focuses on retailers (paper 4,066: New challenges of Japanese energy efficiency program by Top Runner approach). In order to increase diffusion of efficient appliances, the e-Shop Commendation System for retail stores was started. This system provides an incentive for retail stores that recommend efficient appliances to customers.

Paper 4,282 (www.topten.info goes European – How to get Mr. Smith hooked to energy efficient appliances) describes how Topten, a consumer oriented online search tool helps consumers to choose the most efficient appliances. It is also a powerful instrument to influence manufacturers.

LABELLING/OFFICE EQUIPMENT/STANDBY

Labelling, office equipment and standby belong to the “classics” of market transformation. These areas provide ample opportunity for “lessons learned”.

Paper 4,190 (A multi-country comparative evaluation of labelling research) presents a comparative evaluation of the market research which has been completed to design new or evaluate existing labelling programs in various parts of the world. The paper strongly advocates conducting consumer market research when designing or modifying energy labels.

Papers 4,191 (The Tunisian standards and labelling programme) and 4,260 (The Value of Standards and Labelling: An international cost-benefit analysis tool for Standards & Labelling programs with results for Central American Countries) provide two examples of lessons learned in earlier programs. Where 4,191 describes in detail the design and implementation of an energy label for cold appliances in Tunisia, 4,260 describes a low cost tool to analyse costs and benefits of labelling *before* implementation.

One paper and a poster specifically deal with office equipment. Paper 4,027 (Energy Efficiency of Office Equipment – Proposal for a policy mix for Germany with an in-depth analysis of labelling strategies) reviews the current policy mix regarding office equipment in Germany with special emphasis on labelling and proposes a new policy mix. Besides labelling and procurement, mandatory minimum standards are part of this mix. Poster 4,160 (Definition of energy efficiency for personal computers) proposes to use the power consumption of computers in the idle mode as an indication for energy efficiency of computers in the on-mode.

Paper 4,216 (Standby: where are we now?) also advocates mandatory minimum levels for standby for all appliances. Although labels and voluntary agreements have reduced standby in some appliances, at the same time many more appliances with standby have been brought into the homes.

ESCOS AS WELL AS THE PUBLIC AND COMMERCIAL SECTOR

The public sector represents a significant share of all economic activity in Europe. Public leadership regarding efficient technologies and practices does not only set a good example, but also saves taxpayers money. While this has been realized also in EU policy (see e.g. the proposal for the energy service directive) and experimented with in several projects, still additional steps are needed. Paper 4,248 (Public Sector Leadership: transforming the market for efficient products and services) discusses examples of program successes, lessons learned and future initiatives to strengthen these activities.

Paper 4,229 (Public Internal Performance Contracting – Managing and financing energy-efficiency measures in public administrations) describes the results of PICO projects, trying to start a “perpetual motion” of energy investments in 7 administrations and explores the general applicability. Furthermore, ESCOs are a well-known instrument. However, according to paper 4,209 (Energy Service Companies in Europe: assembling the puzzle. Preliminary analysis of the results to date from the first European ESCO database) the ESCO sector itself needs a considerable take-up to play an important role in market transformation in most EU countries.

Small commercial business are an underserved and hard-to-reach market for energy efficiency services. Yet this sector comprises a significant percentage of all businesses and aggregate energy usage. Paper 4,245 (Engaging the Small Commercial Sector: New Approaches for Solving Market Barriers) describes experiences with student outreach and using a mechanical or electrical contractor as an ESCO to overcome the two main barriers to doing an energy retrofit in small businesses.

Paper 4,111 (Procool – eco-efficient cold appliances for the commercial use) provides an example of market transformation for eco-efficient plug-in cold appliances within the commercial sector.

MICRO CHP

In the aftermath of electricity market deregulation and the forthcoming need to refurbish electricity production the technologies of combined heat and power are studied. Two papers explore the possibilities of market transformation for micro CHP (Combined Heat and Power). Paper 4,056 (Dynamics of decentralization: The case of Micro CHP diffusion in Germany) explores the actual dynamics of micro CHP diffusion in Germany: impacts of (diverging) interests of actors are mirrored with the economic potential and institutional setting. Paper 4,142 (Distributed generation potential of the US commercial sector) discusses two ways of forecasting the distributed generation potential and their contradictory results.

EVALUATION

Program evaluation often is neglected; it costs a considerable amount of money and the result may be that what was envisaged to be a good instrument is not effective after all. However, sound program evaluation is a key to long term success. The papers present both methods and recommendations for programmes and projects.

Paper 4,262 (Techniques for getting the most from an evaluation: Review of methods and results for attributing progress, non-energy benefits, net to gross, and cost-benefit) provides recommendations on key practices of assessment of program effects, especially attribution/causality and non-energy benefits.

Paper 4,228 (Modelling the effects of the U.S. Energy Star® appliance programs) provides studies about changes in market penetration across regions with and without Energy Star programs, while factoring out effects of demographic and other background factors (e.g. education, income, climate).

Paper 4,266 (Decomposing price differentials due to Energy Star® labels and energy efficiency features in appliances: proxy for market share tracking?) proposes price differentials between appliances with and without Energy Star as an alternative for market shares when examining progress in market transformation.