

Can Europe continue deciding on product policies (MEPS, labels, etc.) without monitoring the market?

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Abstract

The EU Ecodesign and Energy Labelling Directives are driving important changes for appliances, office equipment, lighting, consumer electronics, motors, etc.

During the preparation of product-specific implementing measures, final decisions were sometimes taken based on outdated and/or partial market data, i.e. without having a clear and recent picture of the distribution of market shares between different levels of energy performance and often using relatively theoretical assumptions for stock models, scenarios and policy impacts.

Beyond uncertainties for policy results, this procedure is not cost effective to formulate policy: experts dedicate time to dig for often scattered and poorly comparable data, then group for establishing baselines and forecasts that may remain mostly hypothetical and are not confronted to recent market evolutions. Besides, the problem is likely to surface again each time one of these implementing measure undergoes a review or revision: a time-consuming and uncertain data collection exercise will have to be started all over again on the spot, without guarantee that sufficient market knowledge will be gathered to support decision.

This gap could be filled-in: comprehensive market data does exist -or could - and is not so expensive that Europe is doomed to do without.

In order to guide market transformation towards energy efficient end-consumer goods through effective policy design, Topten¹ proposes a pragmatic and straightforward approach: a systematic European-scale monitoring of sales, i.e. a regular analysis based on up-to-date market data covering all countries and key products.

A recent Swiss market monitoring on household appliances (S.A.F.E., FEA, 2012) shows that with just a few information on market shares/energy class, appliances' size & prices, it is possible to evaluate the implemented policy tools, to see when a product needs a regulation update, the impact on industry, etc.

Such an exercise implemented at the EU level would help anticipating and delivering evidence for the regular update of energy labelling scales and the necessary lifting of minimum energy performance standard thresholds. It would also allow for the comparison of different national developments contributing to the definition of optimal policy paths. It may not seem revolutionary, but it would ease the work of the whole energy efficiency community and pay back the initial investment in staff hours saved, provided the monitoring specifications are well designed – simple and basic aggregated data, based on the same methodology, for the main product groups, for the European market as a whole and for each country in order to account for regional differences, for a yearly publication.

¹ www.topten.eu

Introduction

European product regulation

The European Union implements energy efficiency regulations for energy related products (ErP) through implementing measures of the Ecodesign and Energy Labelling Directives. Since 2005, Ecodesign requirements for 16 product groups and 7 new or updated energy labels have been introduced. More than 20 regulations are in the pipeline.

In order to deliver optimal energy savings, these policy measures must be designed appropriately. If they are not adequate, e.g. setting too weak minimum requirements or energy labelling scales, they will remain ineffective and entail pointless administrative efforts. By contrast, if they are too ambitious, they may endanger product availability or lead to unjustifiable cost increases for consumers and industry.

It is crucial that policy decisions in this field are taken based on sound and up-to-date data. The process leading to the adoption of Ecodesign and Energy Labelling regulations involves preparatory studies, several rounds of consultations with stakeholders and several yearlong discussions. It leads to substantial administrative costs: about € 12.5 million have been spent by the European Commission on preparatory studies and a similar amount on staff and other costs over the period 2006-2011 (CSES, 2012). However, not all measures were designed appropriately. Namely in the case of TVs, there has been no significant contribution of the requirements set under the Ecodesign Directive, since the majority of the TV sets met the requirements quite some time before they entered into force (CSES, 2012). The data on which the preparatory study was based led to a substantial underestimation of the deployment of LED TVs. In general, the Commission does not take the lack of sound and reliable data seriously enough. If a well-founded preparatory study is not feasible, this should be acknowledged and an appropriate market monitoring scheme put in place (CSES, 2012).

What is market monitoring

This paper focuses on home appliances and products. The term "market monitoring" is used to cover data and facts describing the market at a given time: total number of products sold each year, distribution per energy efficiency class on the label if any, or according to energy consumption or power given a standardised use, information on sizes and possibly purchasing price. This definition does not cover the sales per company or brand, which is not of utmost importance for the policies considered. Market monitoring numbers are generally searched for at the time of a regulation design, in order to assess the technical and economic feasibility and market acceptance, and to evaluate the possible effects of this regulation and its implementation. We are not covering here market surveillance or "monitoring, verification and enforcement" (MVE) as defined by the International Energy Agency as "actions (...) to ensure the integrity of Standards & Labelling programmes by minimising non-compliance cost." (IEA 2010), such as tests and verification activities in shops to check whether consumers are correctly informed about energy labels and manufacturers declare their products' values correctly. We neither discuss the quality of energy testing procedures, although they are crucial to provide a fair picture of the performance of a product efficiency.

This paper mostly aims at supporting the establishment of a more systematic market monitoring scheme in the EU, and discusses how it could be done. This market monitoring would serve as an up-to-date basis to design appropriate policy measures, as well as better allow evaluating the effect of the implemented instruments.

The paper starts by describing how market monitoring should work and in contrast how the EU has taken its policy decisions from the 1990's still today. Three recent product cases are

discussed, where evidence shows that a market monitoring instrument could have led to better and more effective policy measures. Then, six market monitoring practices from around the world are presented, as well as the first results from a pilot market monitoring project on TVs. Based on this, some final recommendations for the EU are drawn.

Market monitoring in an ideal world

In an ideal world, when designing a legal text setting energy ratings or consumption limits for given products, regulators would ensure that decisions they take are based on sound and indisputable information. As we hear in many discourses and official papers (e.g. EC 2012a), the stake is very important in terms of impacts on manufacturers and employment, energy savings is a hot topic (anybody still doubting about climate change?) and energy-using products present significant saving potentials. We would conclude from this that - *of course* – regulators have thought about organising a system ensuring knowledge regarding the markets they oversee:

- *Market data is for free* thanks to a system planned upstream by regulators:
 - For each energy-using product, an energy consumption declaration is mandatory, containing as many details as possible to ease the work of regulators, evaluators and researchers. Declarations are centralised and put to use to inform policy decisions.
 - For each type of products, manufacturers' unions declare yearly aggregated sales figures. What matters is not who manufactures what, but the state of the art in terms of energy efficiency as a whole for a given market.
- *Market data is available: basic facts are public*
 - For example, manufacturers can argue the numbers are not reflecting their own information, or that the regulation is favouring their competitors from abroad.
 - A number of experts, policy makers, researchers, etc. are ready to accompany and evaluate the regulation – they have access to the same information.
 - The idea is to show neutral figures. In a second step, stakeholders can argue and conclusions on what to do becomes the real subject for discussion - but based on the same solid facts.
- *Market data is available regularly*: a market report is published on a yearly basis. Markets move very quickly: they are studied to spot evolutions, regulation impacts, potential needs for revision, differences between countries where it is implemented, etc.

This market data constitutes the first step for many other policies and tools to transform the market and achieve energy savings. With sound market data:

- Baselines for energy consumption *scenarios* and *stock models* are correct and relatively easy to define; discussions can focus on the really interesting issues about policy choices guiding the different scenarios and reflecting societal choices instead of questioning the starting hypothesis.
- "Push and pull" *policy instruments* are precisely designed; for example rebate programmes target the products for which an incentive will really make a difference; endorsement labels specifications make sense because there is a real difference between products on the market.
- These instruments as well as regulations can be *evaluated* over time, since each year, market data brings facts and figures. Policy commitments, pressure on the industry and information to consumers are close to the needs.

As the first information on market data is sound and robust, there is no risk to see the whole chain of studies, expected savings, policy instruments and policy commitments based on this data being jeopardized by initial mistakes or insufficiently comprehensive data from the starting point – which can have a snowball effect on the chain of decision.

So, in an ideal product policy world, sound market data would allow for optimal policy design. Of course, even with high quality market data being available, there would still be

discussions on what an optimal Energy Label or Ecodesign regulation looks like: in reality regulations are not here only to preserve the common interest and the public good, but they actually are the result of compromises between often diverging interests. The process is often long and complex. But *because* it can be contentious, it would be crucial to concentrate on the real political issues and to solve at least the basic data aspects.

European practice over the last decades

In 1992 when the first framework Directive on energy labelling was passed at European level (COM 1992), decisions were quite courageous – and were obtained after strong negotiations – also because there was very little market information available. Not many people and especially not retailers had a clear idea on what would be the "colour" of the shops – green A or red G - when the labelling would become effective. The Rio Earth Summit was dealing with the climate change topic which was still considered to be a specialist issue, the European energy label, as an instrument, was new to everybody: manufacturers had to invest in R&D, vendors had to be trained, the general public also, etc.

But the market quickly organised, and especially the industry, which soon used energy performance criteria as a structuring element of its production and pricing policy. As a result, and thanks to the label which obliged manufacturers to clearly declare energy consumption values, energy performance and energy classes were followed-up by manufacturers and marketing companies. Information about the distribution of sold products according to their energy performance was available relatively soon after the labelling Directives for the different products entered into force².

We can thus say that in the 90's on the one hand the regulators did not organise the market data collection – they developed the labelling tool but not the system around to ensure follow-up, but on the other hand that this market data existed and developed as a charged activity – meant to be sold initially to manufacturers and retailers. The following decade saw both new difficulties and a qualitative jump:

- Labels are not very dynamic tool as they are difficult to update, whereas on the market, a lot of products and sometimes the majority quickly became labelled in the best class (A) without possibilities to signal "better than A" products and reward innovative manufacturers and guide consumers;
- The Ecodesign Directive and the new framework directive for energy labelling allowed for a fresh start (COM 2005, COM 2009).

This time, regulators decided to frame the process leading to decisions: each product going through the Ecodesign Directive, is subject to a preparatory study, following a given format in order to be sure to assess all the aspects of a market and listen to arguments from all stakeholders before taking decisions.

With more than 5-year experience now, it can be said that in cases the collection of market data has not been satisfactory. Firstly, the suggested procedure for compiling market data is relatively rudimentary (recommended databases such as PRODCOM usually give too superficial results). Secondly, the industry does not have any obligation in the EU to provide precise technical characteristics of the products or sales numbers in a centralised system. Thirdly, the budget for the preparatory studies does not cover buying the data from marketing companies; therefore in many cases the consultants hired for these studies has to rely on numbers provided directly by the industry and/or to go through own desk research, consuming

² Two to three years at the beginning, while today, marketing companies such as GfK are able to anticipate regulations and open a line within their product fiche for future energy information as soon as the regulation is being agreed

a lot of time for producing often questionable results (i.e. incomplete, partial, and often quickly obsolete data)³. As a result of the difficult data collection, the engineering analysis (telling what is technically and economically feasible at the level of the product) also undertaken for the preparatory studies is often weighted stronger than the market analysis (telling what the market can accept and deliver). However, estimates primarily based on engineering approaches often lead to an overestimate of the difficulty or costs to comply, and thus to sub-optimal and insufficiently ambitious regulations. This has been highlighted recently for instance in a study on regulatory costs of energy-using policy (PSI, BIOIS, 2011)⁴.

In addition, as the decision process is rather long with sometimes 7 to 9 years before products are actually subject to (potentially) substantial Ecodesign requirements, data sets initially collected may become very obsolete.

Decision paths of three product cases

1) In the framework of the **Ecodesign measures for household cold appliances**, the preparatory study started in 2006 and was finalised in 2007. The market data presented was for the years up to 2005. Numbers came from a sample from an industry database. The discussions with stakeholders on the regulation took place in December 2008, the MEPS adopted in 2009 and the 1st tier enforced in 2010. At the time of discussion, some individual Member States had punctual market information for their country, showing the first MEPS levels were not ambitious as they nearly matched the market situation and would lead to very limited changes (see for instance Swedish Energy Agency, 2009), but no recent picture was publicly available at the European level.

Had a European market monitoring activity started in the framework of this preparatory study and been updated since then every year, we would today benefit from a) a much better basis for the coming regulation revision and b) reliable information for stock models.

2) **The preparatory study for the implementing measures on Televisions** was finalised in August 2007, containing sales data from 2004 and before. Sales data was compiled from different public and non-public sources. In 2004, CRT TVs still dominated the market, and the trend towards flat panel TVs had only just started. Power consumption was calculated based on TVs from 2006. LCD-TVs with LED backlight only started to emerge on the market, yet being 70% more expensive than LCD-TVs with CCFL-backlight. Based on this, authors of the preparatory study decided to draw the conclusion that LED applications for TVs were not mature yet and commercialisation for mass production would require more time (Stobbe, 2007).

Based on these assessments and after political discussions, the Ecodesign regulation on TVs (COM 2009) was adopted in July 2009. Tier 1 requirement for On-mode power applied from August 2010, tier 2 from April 2012. By the time the regulation was implemented, the initial market and consumption data considered in the preparatory study was outdated. The

³ These problems were already anticipated in the methodology guidance for the Ecodesign preparatory studies (VHK, 2005): 'The fact that market data are not publicly available is one problem of this source. A second problem is that there are considerable differences in quality, depending on experience, sources and network of a specialist. (...) A third problem, even with a high-quality specialist, is in the continuity of the data for long-term analysis. (...) Very few - if any - market research specialists bother to use a time series of sales that extends to the product life to make their projections. As a result the year-to-year market projections seem to be rather volatile (...)'

⁴ One of the main conclusions of the study: 'The diffusion of more efficient products appears to be a market-driven process, with predictable impacts on structure of the market in terms of both relative prices and sales. This suggests that it may be better to use a market-based approach when assessing the impacts of policy interventions on market prices, rather than the engineering /cost-based approach currently employed.'

implementation of the regulation had little effect: those energy classes that were banned by the On mode power limits were almost empty by the time of application (Toulouse et al., 2012).

3) For the **Ecodesign and new energy labelling regulations on Domestic Air Conditioners**, the final draft regulations were in discussion in 2010 and early 2011. No up-to-date market data was available (the preparatory study (Riviere et al. 2009) was published in July 2008, based on market data from 2005 and 2006). In addition, the assessment of the market's average efficiency was difficult because of a large share of the models being already in energy class A. Based on this, the European Commission decided to introduce 3 classes on top of A. Topten measured an efficient air conditioner according to the methodology of the revised label, and the results implied that the best models on the EU-market would already reach the highest A+++ energy class (Michel et al., 2011). After sharing and discussing the results with the European Commission, the limit of the A+++ class was increased at the last minute by 20% (from SEER=7.0 to 8.5) in order to slightly mitigate the risk of an already obsolete energy labelling scale at the time of introduction.

Europe is an important economic region of the world, which should not renounce on using quality market data when taking decisions on requirements for the market access of products and Energy Labels. A market monitoring would serve as a sound basis not only for such decisions, but also for stock models and scenarios, energy saving estimates and the assessment of the policies' effects, which today are based on sometimes weak assumptions.. One can think that in the 90's regulators were learning by doing and were too occupied by new policy tools to also plan for how to get market data, but since the first revision of the energy label for cold appliances in 2003 and even more incredibly today, can Europe continue deciding on product policies (MEPS, labels, etc.) without a better market monitoring approach?

Inspiring examples of market data use and organisation

The following examples from the EU and around the globe illustrate with which objectives and how market data is used within some initiatives..

The European Joint Research Centre electricity consumption status report

The European Joint Research Centre periodically publishes status reports on energy consumption in the EU, in which several chapters focus on residential electricity use, with detailed market information presented (Bertoldi 2012, Bertoldi 2009). In general, these reports are published every second or three years. They are very complete reports, with, when it comes to the electricity consumption in the residential sector, factual information mainly taken from Ecodesign preparatory studies (see concerns in the previous sections) and private consultancies already published and selected information: sales distribution according to energy performance for several products together, up to the year 2010 or for a short period of sales in order to show the impact of a rebate programme at national level, etc.

These reports are very useful to evaluate where Europe stands in terms of energy consumption, providing trends, showcasing national policy examples, etc. They are themselves used as a basis for many research studies.

They are not made to help regulators make informed decisions on energy labelling and Ecodesign measures though, i.e. they globally support the labelling and MEPS tools, but they cannot really help in setting the thresholds at a good level according to recent and homogenised data for the whole of Europe, product per product.

Products databases, examples from Australia and China

Several countries have chosen to set up product databases in which all products sold on the territory must be declared, accompanied with more or less energy related information – for example Australia or China (Zhou 2012).

In Australia, all products must be registered in a database prior to their being put on the market for sale, and manufacturers can choose in which Australian State to register. The registration includes information on the product's model, manufacturer, and energy performance according to national standards for each product. The database is publicly accessible and updated daily. It is intended as a tool for consumers and serves as a monitoring tool and compliance filter. The authorities can fine or deregister products in case of non-compliance (wrong values declared, problems with the label, etc.). Importantly, a new requirement for registrants is to submit annual data on sales and import/export of figures for each registered model (as currently required by the New-Zealand Regulator) (E3, 2012).

In China, CNIS (China National Institute of Standardization) maintains the China Energy Label Center: manufacturers are required to submit energy efficiency information for their products before putting them on the market. In this case, there is no market data involved, but at least the database provides valuable indications regarding the products' evolution and accordingly the potential need for regulation's evolution. CNIS and other institutions provide direct technical assistance to policy makers.

In Europe, the case for a centralised database on the performance of appliances has always triggered reluctance from EU Institutions. As an example, in its response to an evaluation study on the Ecodesign Directive pointing notably at the '*unavailability of reliable data to inform policy decisions*', the European Commission committed to bring improvements to the process, yet none of which referred to specific market monitoring tools or databases (EC, 2012b).

European database for cars

Yet, it is interesting to note that Europe did set-up databases sometimes. Why is it possible to put on the market a refrigerator without any possibility for authorities to know about it, whereas each car sold in the EU must be registered at least in one country, providing information on fuel consumption and CO₂ emissions according to different types of use? This information is then available to all national authorities. The availability of the data differs from country to country (e.g. the data is quite public in Switzerland and Germany, but less so in France), but the sales of each car type are assessed (at country level, then summarised by T&E⁵ at EU level). The sales of the car types are used to calculate the total CO₂ emissions the different manufacturers contribute to, based on the declared values. If all sold models of a manufacturer misses the max. European CO₂ emissions requirement, the manufacturer has to pay a penalty based on the g CO₂/km exceeding the limit. This annual monitoring is published by T&E.

International 4E - Mapping and Benchmarking Annex

Having acknowledged that there is a data shortfall and that policy makers are "often forced to make decisions with major environmental and economic impacts based on fragmented and incomplete data", the Mapping and Benchmarking 4E Annex of the International Energy Agency⁶ has started a huge analysis work covering 13 products categories in order to assess the differences in the performance of products sold in the various regions of the world, the

⁵ <http://www.transportenvironment.org/>

⁶ See <http://www.iea-4e.org/annexes/mapping-and-benchmarking> and <http://mappingandbenchmarking.iea-4e.org/>

primary causes of these differences (policy, culture, etc) and the potential for improvement in the performance of products and how to reach it.

The participants are the countries joining the Annex on a voluntary basis (6 European countries and a representation from the European Union with data from GfK for EU 14 – depending on products) and accepting to fund their participation. The objective is international detailed comparison of product performances, including market data but also trying to compare the performance under different testing procedures around the world.

The reports are very complete for the countries / regions they cover, but the work programme for the coming years is not published and the updating periodicity is not indicated (for the moment, for most appliances, reports are dated of 2010 with data from 2008, with for example an update in 2012 for cold appliances with data from 2011). The quality of data is a key issue and is each time rightly described to qualify its robustness.

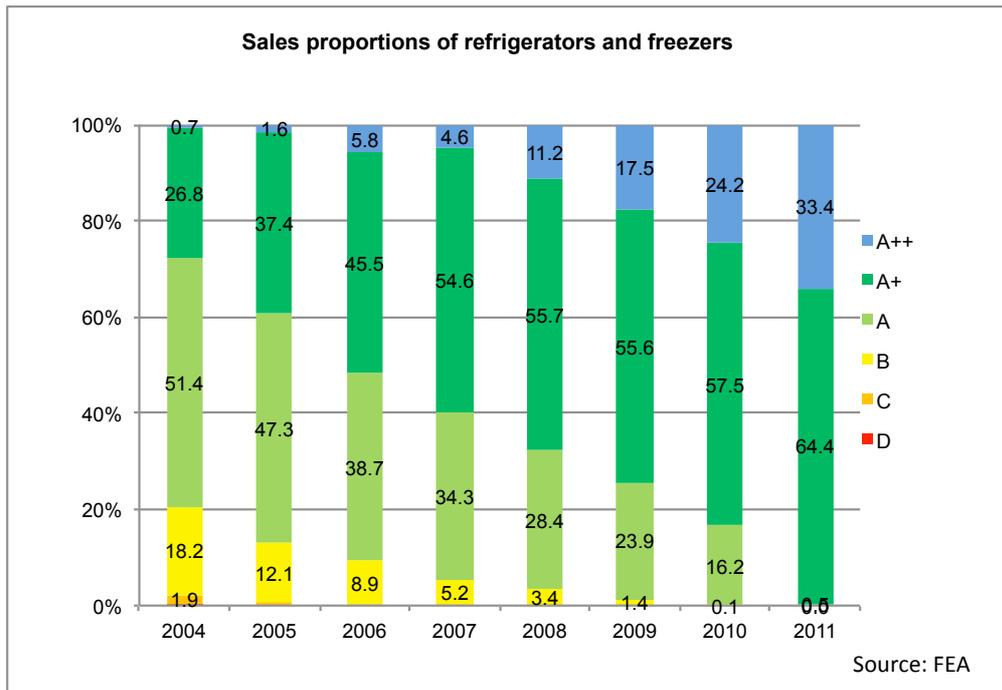
Market monitoring in Switzerland – basic facts, public, yearly publication

Though at the heart of the European continent, Switzerland is not subject to the European regulation. For the sake of consistency for the globalised industry, and for clarity to consumers, it uses the same energy label as the European one, but market monitoring is organised. There is an agreement between the Swiss government and the Swiss Association of the Domestic Electrical Appliances Industry, FEA, which provides since 2004 yearly sales data for six product categories. In the first year, this data was submitted to the ministry in charge and was difficult to obtain by other stakeholders, but today the data is provided to S.A.F.E. (Swiss Agency for Energy Efficiency) and discussed between the two organisations before it is published in a report (S.A.F.E., FEA, 2012).

The Swiss FEA sales data on refrigerators and freezers, washing machines, tumble driers, dishwashers and ovens allow observing the technical development of these products towards higher efficiency. Linking the different rates of development visualised by the graphs to implemented policy instruments such as energy label, MEPS and rebate programmes allows to conclude that these are vital for technical development to happen – most of all an energy label with an appropriate classification scale. Three product examples of the most recent Swiss market monitoring report are shown in more details.

Cold appliances

The graphs published by S.A.F.E. and FEA (2012) show a constant improvement of the efficiency from 2004 to 2011. Starting with almost 30% in 2004 the classes A+ and A++ made up 100% of the sales in 2011.

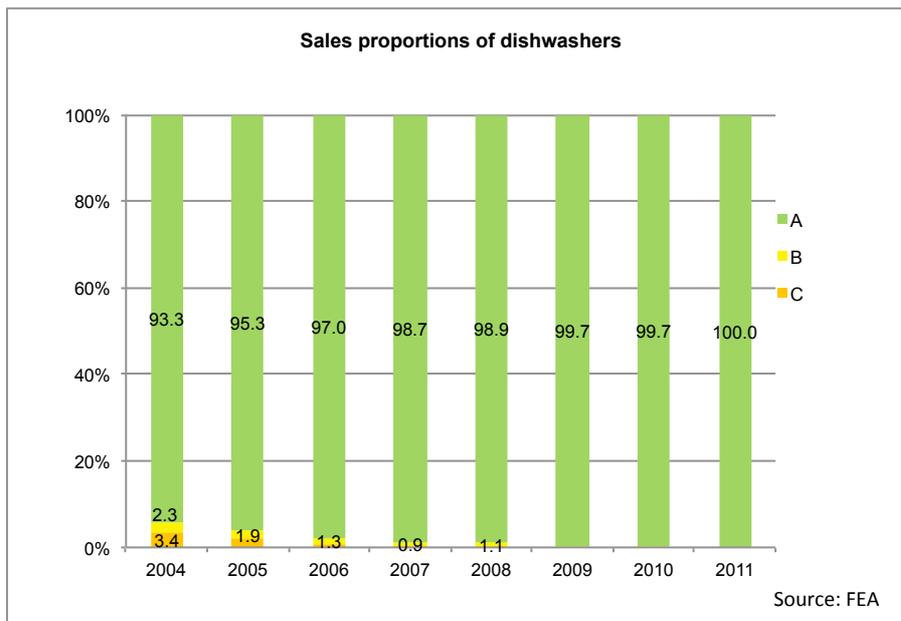


Graph 1: Swiss refrigerator and freezer market development. Source: S.A.F.E. FEA (2012)

- Lessons learned on the energy label: When added in 2003, the A++ class was virtually empty. It acted as an incentive for manufacturers to develop better products. In 2011 one third of all products reached the class A++ threshold. The new statistics from 2012 will show the declaration according to the new energy label. It will be interesting to see the percentage of the newly added class A+++; will it exert the same effect onto the market as the class A++ when it was added in 2003? The large number of A+++ models available on www.topten.eu lets us expect a higher sales percentage than A++ had earlier. If these expectations were met, a new revision of the energy label would be due.
- Lessons learned on MEPS: Based on FEA sales data, Switzerland has defined minimum efficiency requirements ahead of the EU: Since January 2013 only products of class A++ or better are allowed on the Swiss market. The EU will fully implement A+ as requirement in July 2014 only (incl. smaller measurement tolerances) and so far has not defined any further steps. The Swiss ban of A+ refrigerators and freezers, which has been announced in September 2011, will considerably speed up the market transformation to higher efficiency, since in 2011 still 64% of the models sold were of class A+. The 2012 figures are expected to already reflect the stricter future minimum requirements.

Dishwashers

The opposite example is found in dishwashers: Class A has been dominating the market since 2004; its sales proportion climbed from 93% to 100%.



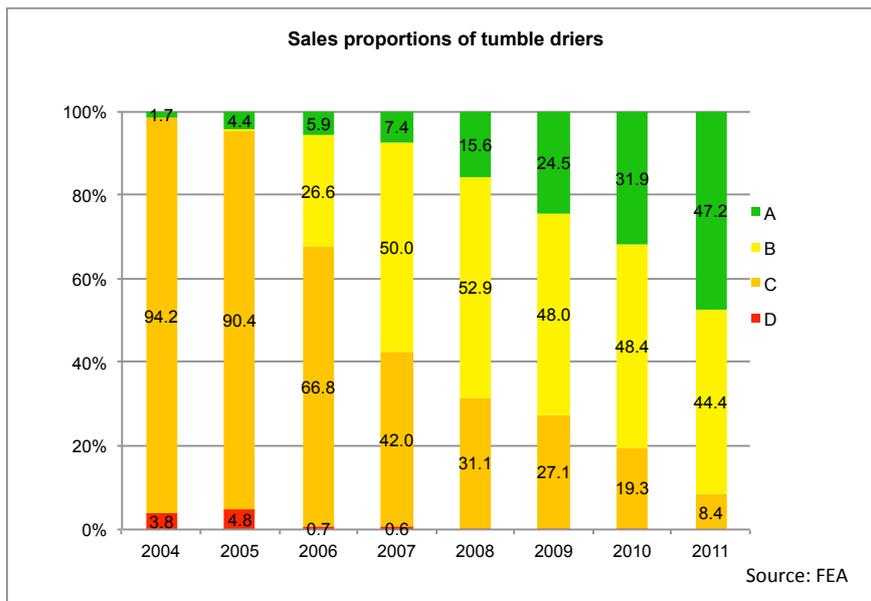
Graph 2: Swiss dishwasher market development. Source: S.A.F.E. and FEA (2012)

- Lessons learned on the energy label: The energy label for dishwashers was implemented in 1997. Since 2004, there remained virtually only class A on the market. Manufacturers could not market more efficient products, so there was no development towards higher efficiency during all those years. The energy consumption per cycle remained at the same level – just above the class A threshold. Now the new energy label has been introduced, and the data from 2012 will be based on the new declaration with classes up to A+++.
- Lessons learned on MEPS: unlike the EU, Switzerland did not adopt minimum efficiency requirements (which would not have changed much anyway as the requirement is set at the A class which already forms the market). Had effective policy instruments such as an updated energy label and a systematic monitoring been at hand, more effective minimum requirements could have been formulated. Class A minimum requirement had literally no effect – but it was not possible to release more ambitious requirements since there was no helpful energy label to base these upon.

Tumble driers

The development in the case of tumble driers is especially interesting in two ways:

- Class C, which was dominating the market until 2006, was displaced by classes B and A at the same time. Class B emerged on the market later than class A, but then its sales' proportion increased very quickly. In 2011 class A reached a higher sales proportion than class B. With close to 50% sales share in 2011, class A has been much more successful in Switzerland than in other European countries, mainly thanks to rebate programmes (Werle, 2011).
- While class B driers are not much more efficient than class C driers, class A driers use a different technology, which is much more efficient: only heat pump driers, which are nearly twice as efficient as class B driers, reach class A. Thanks to the emerging class A driers, the efficiency of the typical drier model increased by 30% between 2004 to 2011.



Graph 3: Swiss tumble drier market development. Source: S.A.F.E., FEA (2012)

- Lessons learned on energy label and rebate programmes: For a long time after the label's introduction in 1995, it seemed that efficiency values exceeding class C could only be reached by the new technology of heat pump driers. Only when class A heat pump driers emerged on the market, there seemed to be incentive enough to also develop class B driers. The energy label does not reflect the huge gap in efficiency between the two classes: while class B driers barely reach the threshold of 0.56 kWh/kg, the vast majority of heat pump driers exceeds the class A threshold by far: instead of the required 0.5 kWh/kg, heat pump driers reach 0.3 kWh/kg (now even 0.19 kWh/kg).

By 2004 manufacturers had developed heat pump driers reaching class A that were satisfying in all aspects and put them onto the market. The initially very high purchasing price was a barrier, which was targeted by public procurement and rebate programs by the city of Zurich (2004), by the utility of Zurich (2006) and other utilities (since 2007). Consequently the sales proportion of class A driers increased to close to 50% in 2011.

- Lessons learned on MEPS: as early as June 2009 the Swiss government announced an ambitious minimum efficiency requirements that would be put into force in January 2012: only class A tumble driers would remain on the market. The announced ban of class B and C driers certainly helped considerably to further push the sales share of class A driers. The ban of tumble driers without integrated heat pump has been implemented in January 2012 without any problems.

The discussion of the different efficiency development graphs in the Swiss study shows that a technical development towards higher efficiency of appliances does not happen *per se*, but needs to be fostered by appropriately designed policy instruments - and this appropriateness (or not) shows in market data which can guide policy makers.

Pilot project on market monitoring: TVs

Topten International is currently developing a similar market data report for TVs at European level. The objective is to start and showcase the inputs that could deliver a European systematic and pragmatic market monitoring for one product category, with the aim to convince European policy makers to adopt this approach (the results will be presented at the eceec summer study).

Conclusion - what Europe needs

Market monitoring instruments have been undervalued in the EU for a long time, but cannot be ignored anymore with so many new regulations passed on energy-using products and appliances.

To be very fair, some recent indications reveal that things may now be progressing in the right direction, if not quickly enough. The European Commission expressed in 2012 the intention to launch a call for tender for a 36 month project related to the *'development and management of a database on product energy efficiency in the EU aiming at providing an (historical and) actual view of the energy consumption and related product characteristics of products covered by Labelling and/or Ecodesign measures, with the aim to support their review of and enforcement'* (EC, 2011). This is a promising sign. However, it is not yet known whether this initiative will be long standing or just a one off, if it will be well guided and monitored by European Commission staff, and whether this database will rely on a robust and effective data collection system in which the industry would have to continuously contribute. Also, the scope in terms of sampling and product groups could remain limited. Technical details are also not known at this moment: this database should not become a new "white elephant" – big, unwieldy, complicated but impractical for decision-making. .

Another promising development is the legal obligations defined in most Ecodesign measures for manufacturers to declare the main energy parameters of their products. For some product groups, manufacturers have to provide this information in the user manuals and on free-access websites. The main problem is that there is no obligation to submit this information into a centralised system and under a standardised format. This makes it virtually impossible or extremely difficult to compile the information and conduct any market monitoring based on this. These steps in the right direction are not sufficient though. Improvements have been suggested (by Environmental NGOs, ECOS 2011) in the form of two main options that would not be so difficult to implement: either to set up a proper mandatory registration of products (as in other jurisdictions) or to improve the obligations set in Ecodesign measures by imposing that product characteristics are centralised in a database managed at EU level. Both options could be organised in different ways. The European Commission could also rely more on existing market monitoring organisations, and buy market data whenever relevant. The company GfK for instance compiles data about products placed on the EU market. Their current credentials do not allow for tracking many environmental characteristics, and the information is sometimes incomplete (the bias is limited and can be estimated), but the Commission could sign a long-term partnership with such marketing companies.

Summarising, Europe needs:

- To start now in a more robust way and with a long term perspective
- A picture of the whole European market, using aggregated numbers
- A picture for each European country to show regional and accompanying policies differences
- A yearly publication of a simple and short report
- Sufficient energy and environmental information monitored together with annual market shares
- But pragmatic: basics are needed, and not too many data which would unnecessarily increase the cost for a marginal input (the database is not useful per se, only its results on policy formulation and evaluation).

References

Bertoldi, Atanasiu – Electricity Consumption and Efficiency Trends in European Union. Status Report 2009. European Commission, Joint Research Centre (JRC), Institute for Energy.

Bertoldi, Hirl, Labanca – Energy Efficiency Status Report 2012. Electricity Consumption and Efficiency Trends in the EU-27. European Commission, Joint Research Centre (JRC), Institute for Energy.

COM 1992 - European Commission: COUNCIL DIRECTIVE 92/75/EEC of 22 September 1992 on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances.

COM 2005 Directive [2005/32/EC](#) of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive [92/42/EEC](#) and Directives [96/57/EC](#) and [2000/55/EC](#) of the European Parliament and of the Council

COM 2009 - European Commission: COMMISSION REGULATION (EC) Nn 642/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions

COM 2010 - European Commission: DIRECTIVE 2010/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 May 2010 on the indication and standard product information of the consumption of energy and other resources by energy-related products (recast)

CSES, 2012 - Evaluation of the Ecodesign Directive (2009/125/EC), Final Report.

E3 2012 – Newsletter "The Efficiency Standard", Equipment Energy Efficiency Program, n°7, Winter 2012.

EC 2011 - COMMISSION IMPLEMENTING DECISION of 20/12/2011 establishing the 2012 Work Programme for implementation of the 'Intelligent Energy - Europe II' programme.

EC 2012a – Ecodesign, Your Future – brochure.

EC 2012b- Working Document on the review of the Ecodesign Directive (20 March 2012).

ECOS 2011 – Discussion paper: The EU Ecodesign Directive: how to better fulfil its potential?

IEA 2010 - Monitoring, Verification and Enforcement, improving compliance within equipment energy efficiency programmes

Michel, Bush, Nipkow et al, 2011 - Energy efficient room air conditioners – best available technology (BAT). Presented at EEDAL 2011.

Michel, Bush, 2012 - Swiss appliance sales data, 2004 – 2011: Analysis and conclusions for EU market monitoring. August 2012. Published on Topten.eu: www.topten.eu/uploads/File/Swiss_appliance_market_analysis_and_recommendation_s.pdf

PSI, BIOIS, 2011 - Impacts of Innovation on the Regulatory Costs of Energy-using Product Policy, report for UK DEFRA.

Rivière et al, 2009 - Preparatory study on the environmental performance of residential room conditioning appliances (airco and ventilation). Reports on Tasks 1-8. March 2009.

S.A.F.E., FEA, 2012 - Swiss appliance sales development 2004 – 2011. August 2012. www.topten.eu/uploads/File/Swiss%20appliance%20sales%20data,%202004%20-%202011.pdf

Swedish Energy Agency, 2009 - Swedish comments on the working document on possible ecodesign and energy labelling requirements for domestic refrigerating appliances.

Stobbe, 2007 - EuP Preparatory Studies “Televisions” (Lot 5). Final Reports on Tasks 1- 8. Fraunhofer IZM. Berlin, August 2007.

Toulouse, Sivitos, Arditi et al., 2012 - EU Ecodesign and Labelling regulations for TVs: is the picture half full or half empty? Presented at the 2012 Electronics Goes Green Conference in Berlin.

VHK, 2005 - MEEuP Methodology Report.

Werle, Bush, Josephy, Nipkow, 2011: Energy-efficient heat pump driers – European experiences and efforts in the USA and Canada. Presented at the EEDAL conference in Copenhagen, 2011.

Zhou et al, 2012, International Comparison of Product Certification and Verification Methods for Appliances, Ernest Orlando Lawrence Berkeley National Laboratory www.topten.eu, European review of best available appliance sin Europe (BAT).