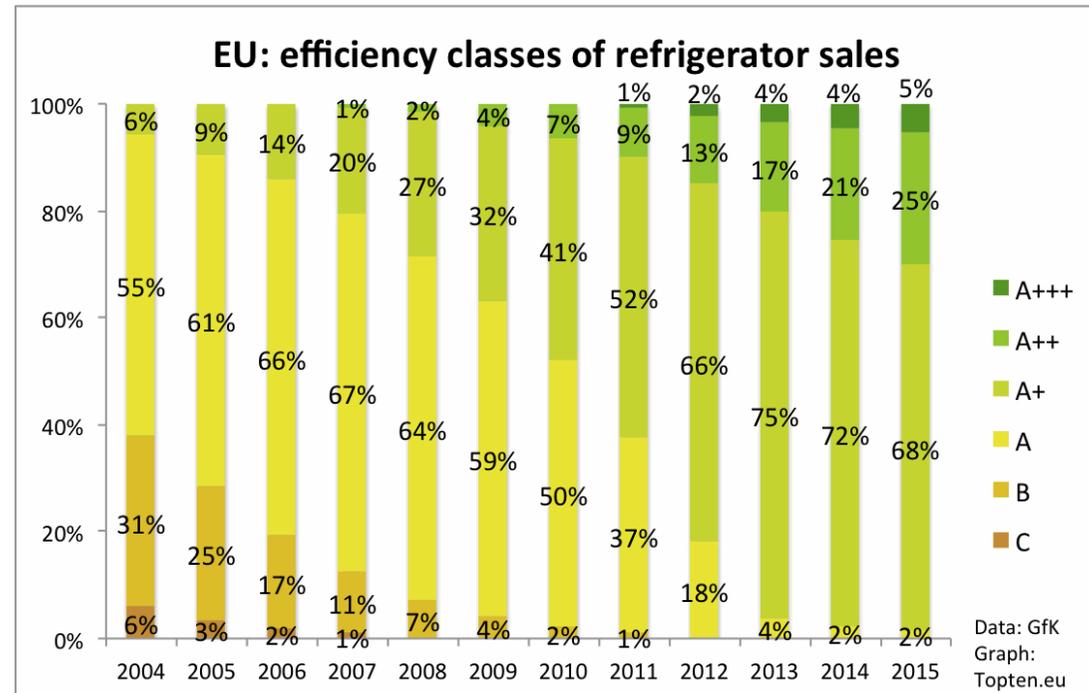


Monitoring the market with sales data: Energy efficiency of refrigerators, washing machines and tumble driers in Europe, 2004 - 2015

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Data source: GfK

Financial support:
ADEME



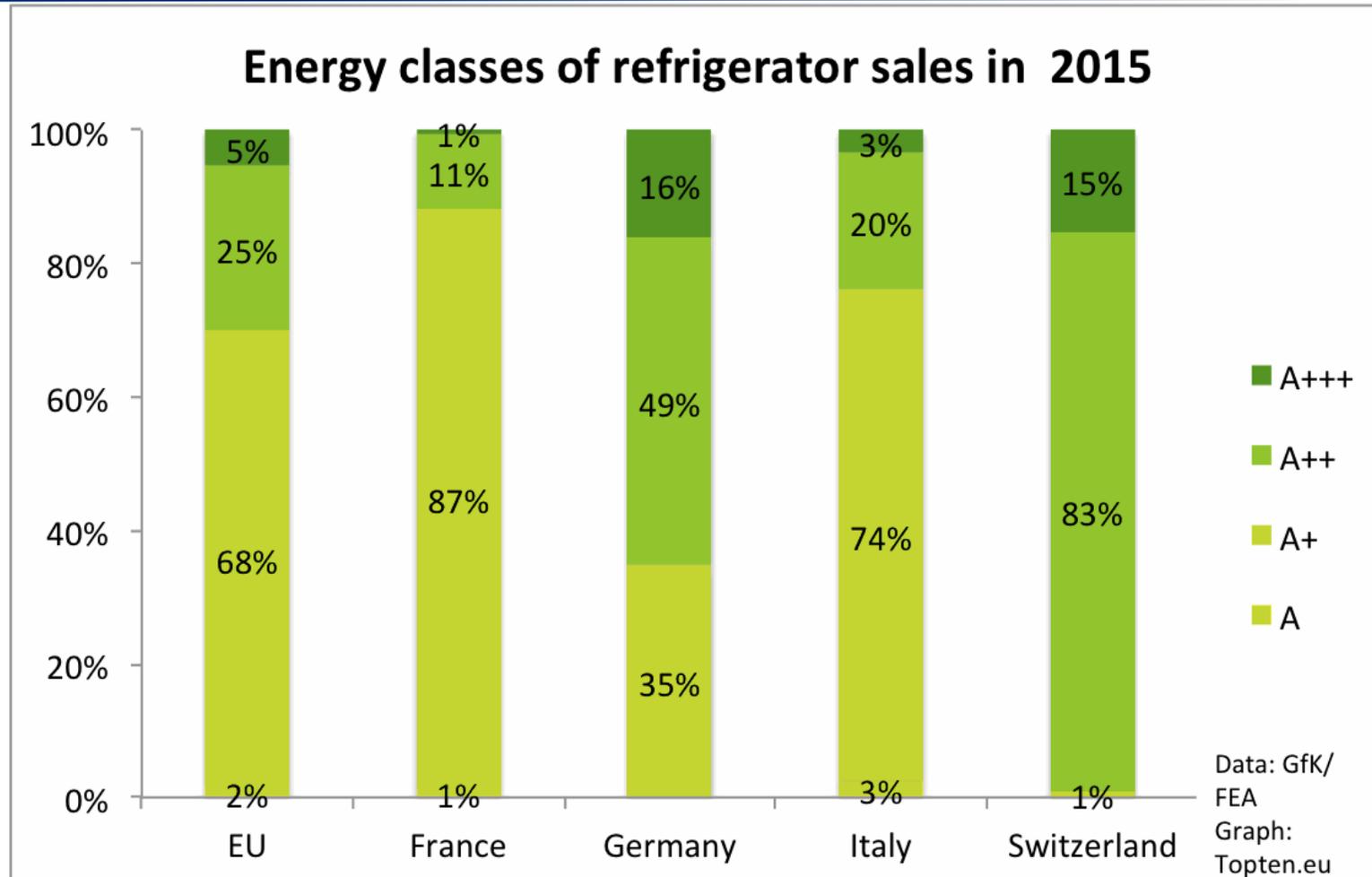
What kind of data?

- Sales data for refrigerators, washing machines and tumble driers, 2004 – 2015: EU-21, France, Germany and Italy
- For each energy class: sales and average energy consumption, size and price (washing machines: also water consumption)
- Data was obtained from GfK, a professional market research company
- Additionally: public Swiss sales data on energy classes, 2004 - 2015

Why?

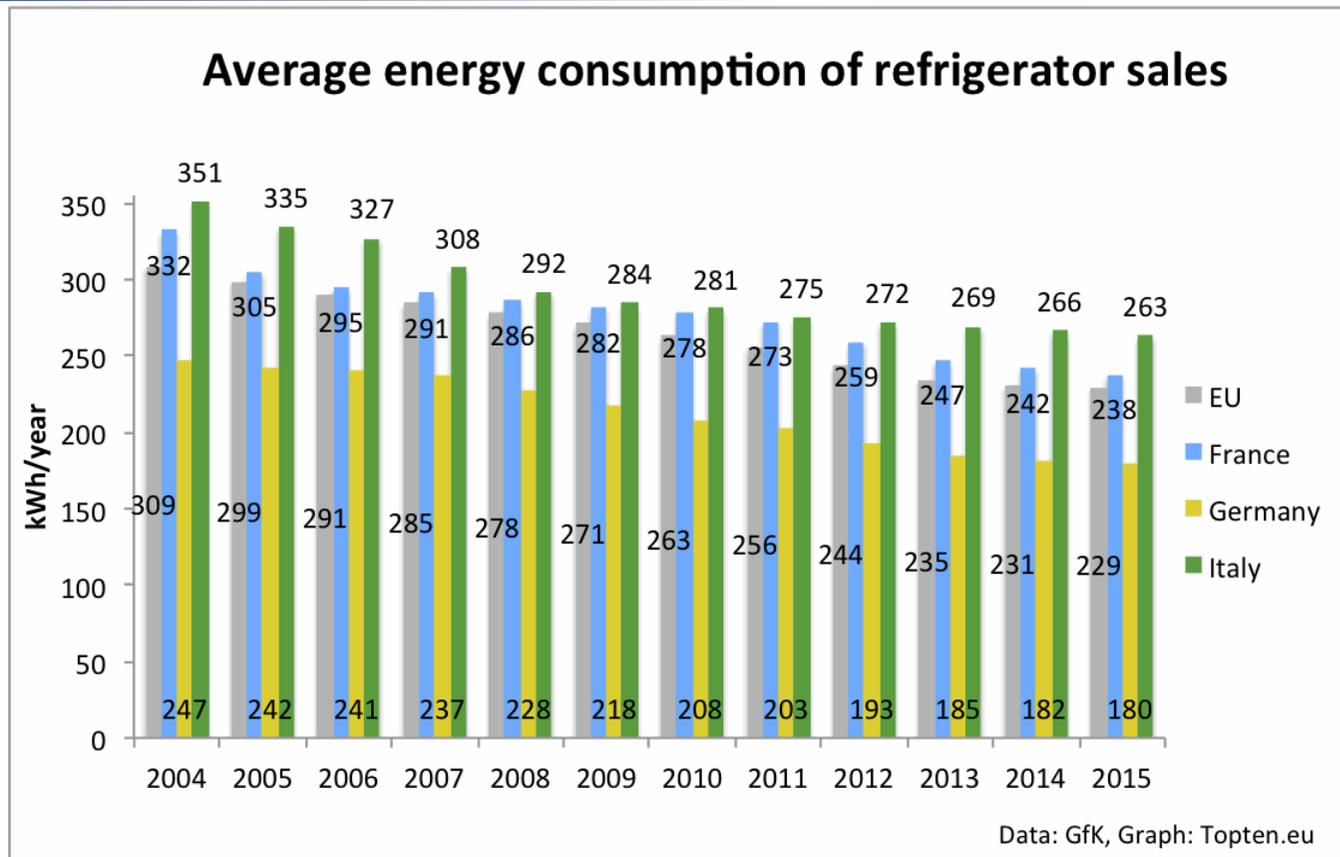
- To support Energy Label and Ecodesign revisions for refrigerators, washing machines and tumble driers with sound data
- To allow countries to take informed decisions in ErP votes and on national product policy strategies and campaigns
- To demonstrate the potential of systematic market monitoring based on sound sales data (this study is a follow up of a previous study)
- To compare countries that host/ do not host industries

Refrigerators



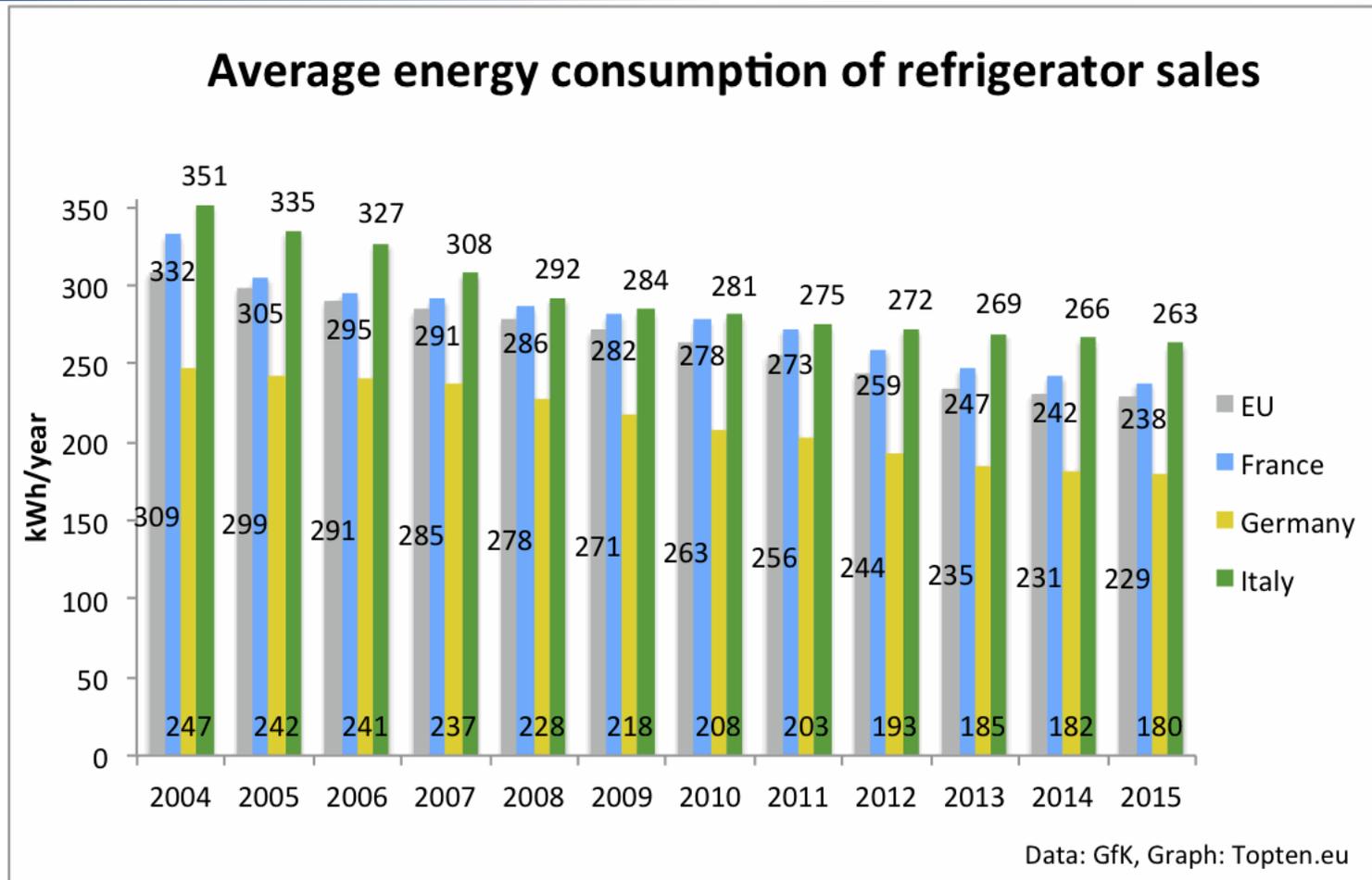
- Less A++ sales than in the EU in FR and IT, more in DE
- Impact of Swiss MEPS (A++ since 2013) shows

Refrigerators



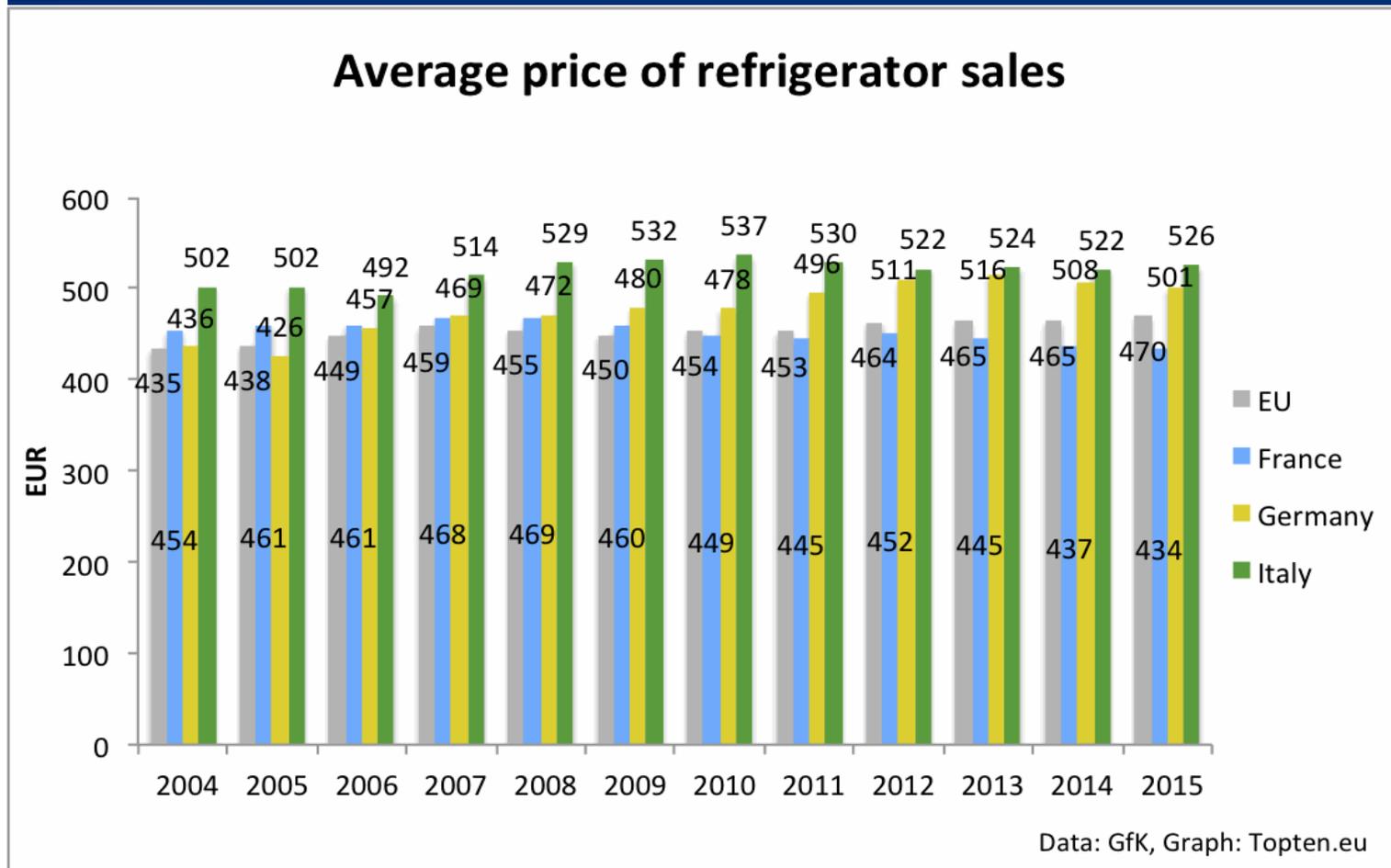
- National differences: Energy consumption higher than EU average in IT (+34 kWh), in FR (+9 kWh), lower in DE (- 59 kWh)
- Reasons: efficiency is lower (FR+IT) / higher (DE), but refrigerators are also smaller in DE

Refrigerators



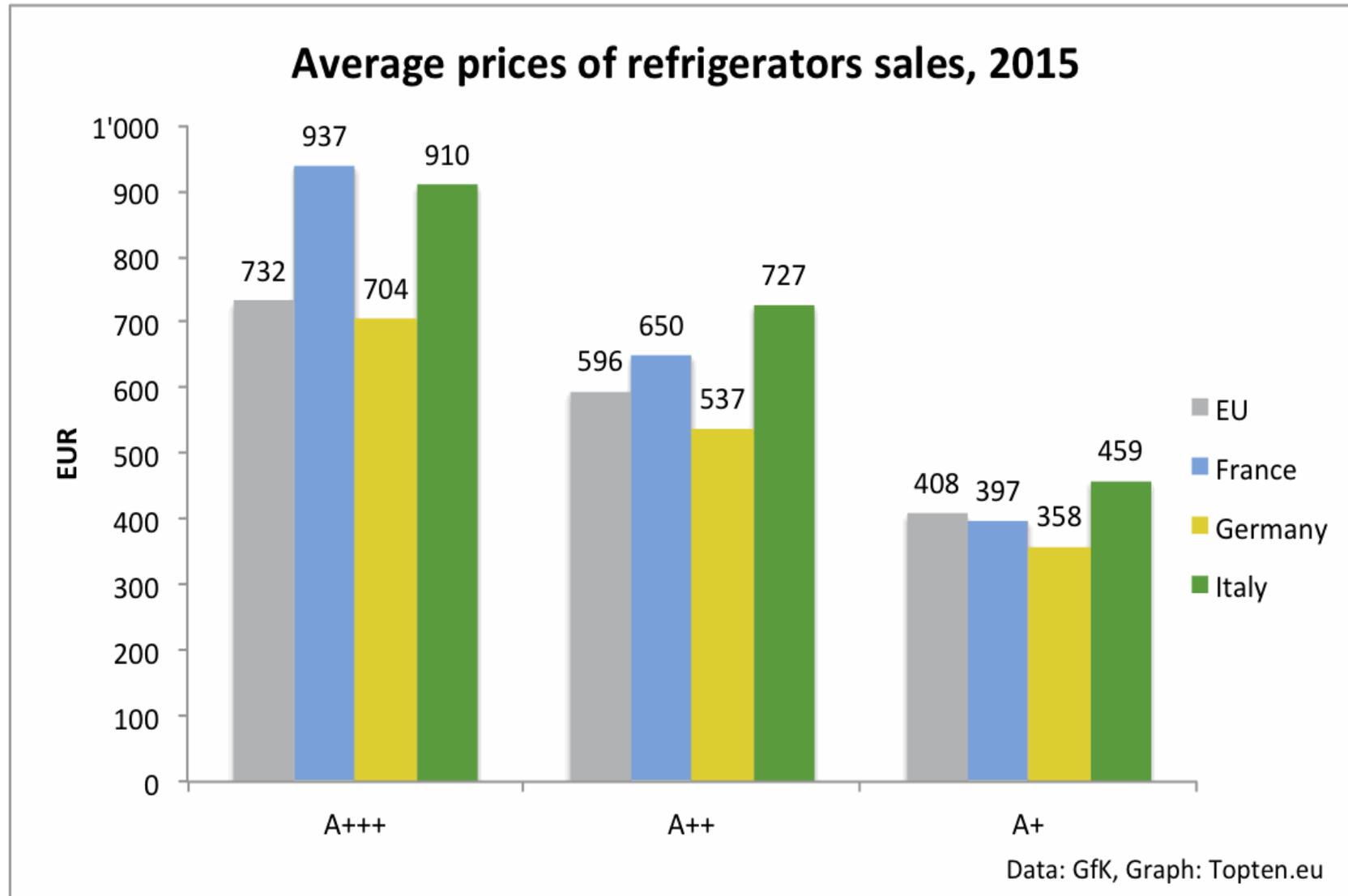
- Energy consumption reduction of 26% in eleven years -- compared to Energy Efficiency Index improvement of 37% (gap not due to size increase)

Refrigerators – Average price

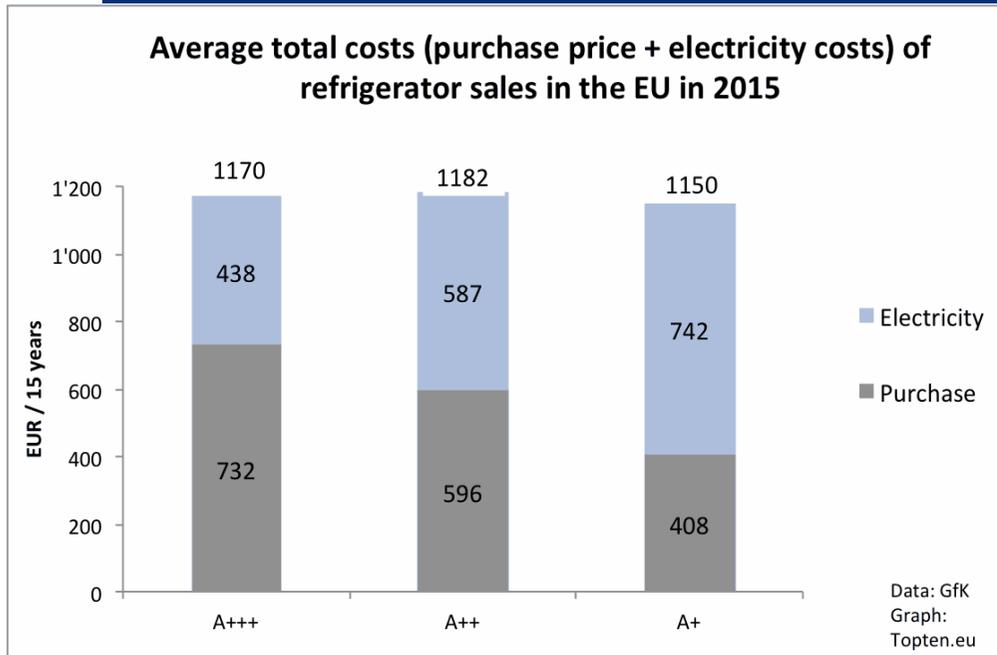


- Since 2004, +8% for EU, +15% in DE, +5% in IT but -4% en FR
- Compared to EU average (470 € in 2015), for all energy classes : IT and DE are above (526 € / 501 €), FR is below (434 €)

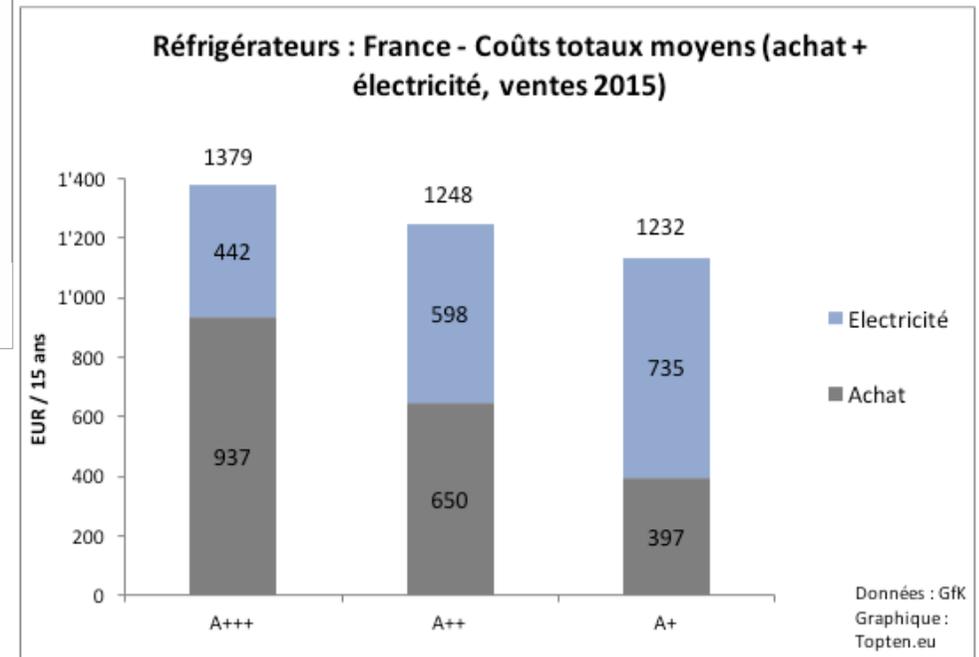
Average prices of refrigerators, according to energy class



Refrigerators – Total costs



Europe



France

- Electricity savings (0,20 €/kWh) do not compensate for higher purchase cost in France

Refrigerators: conclusions

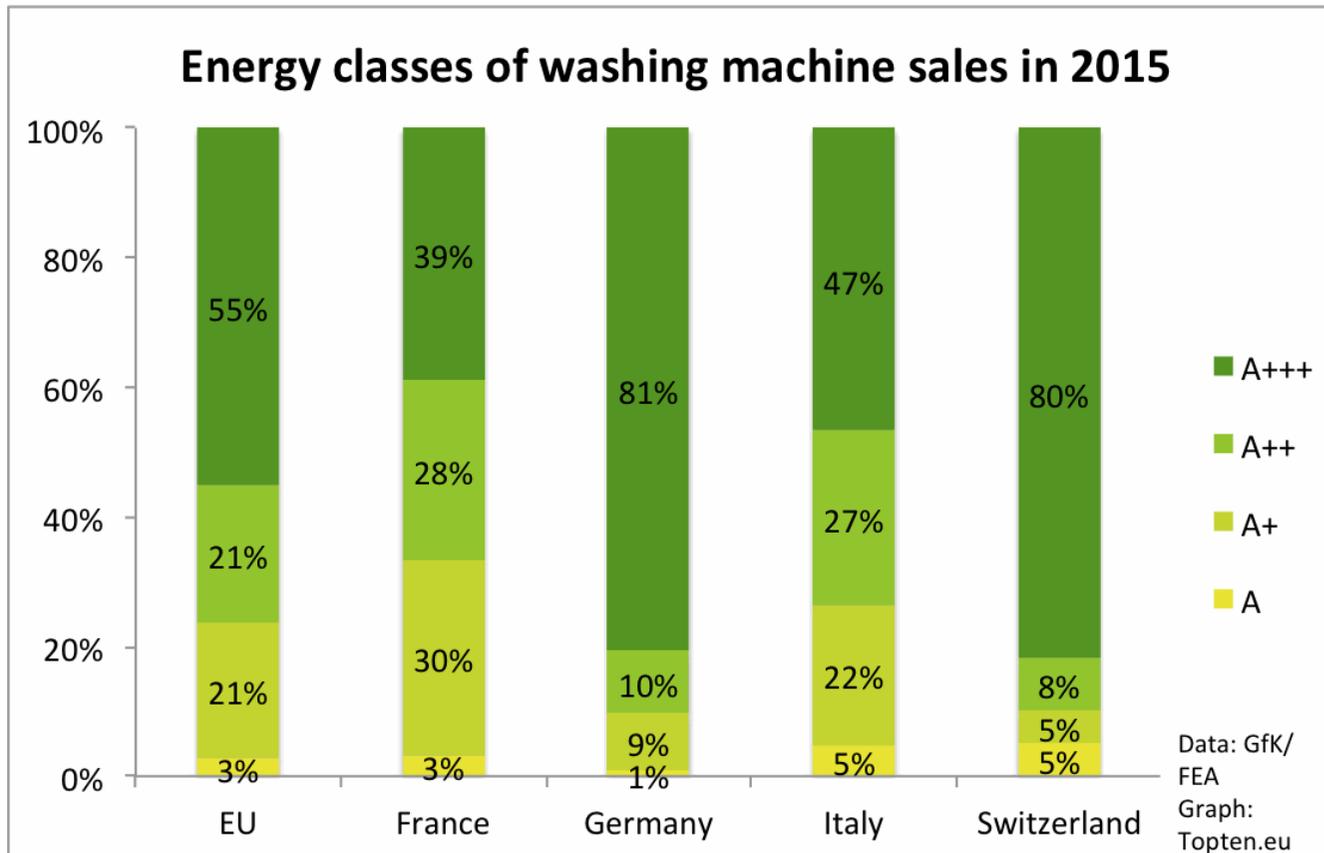
Large energy saving potential:

A++ as MEPS: 7 900 GWh in the EU, 1 670 GWh in France, 303 GWh in Germany and 997 GWh in Italy (if in 2015 all refrigerators sold had been in class A++, over a 15-year lifetime)

Recommandations :

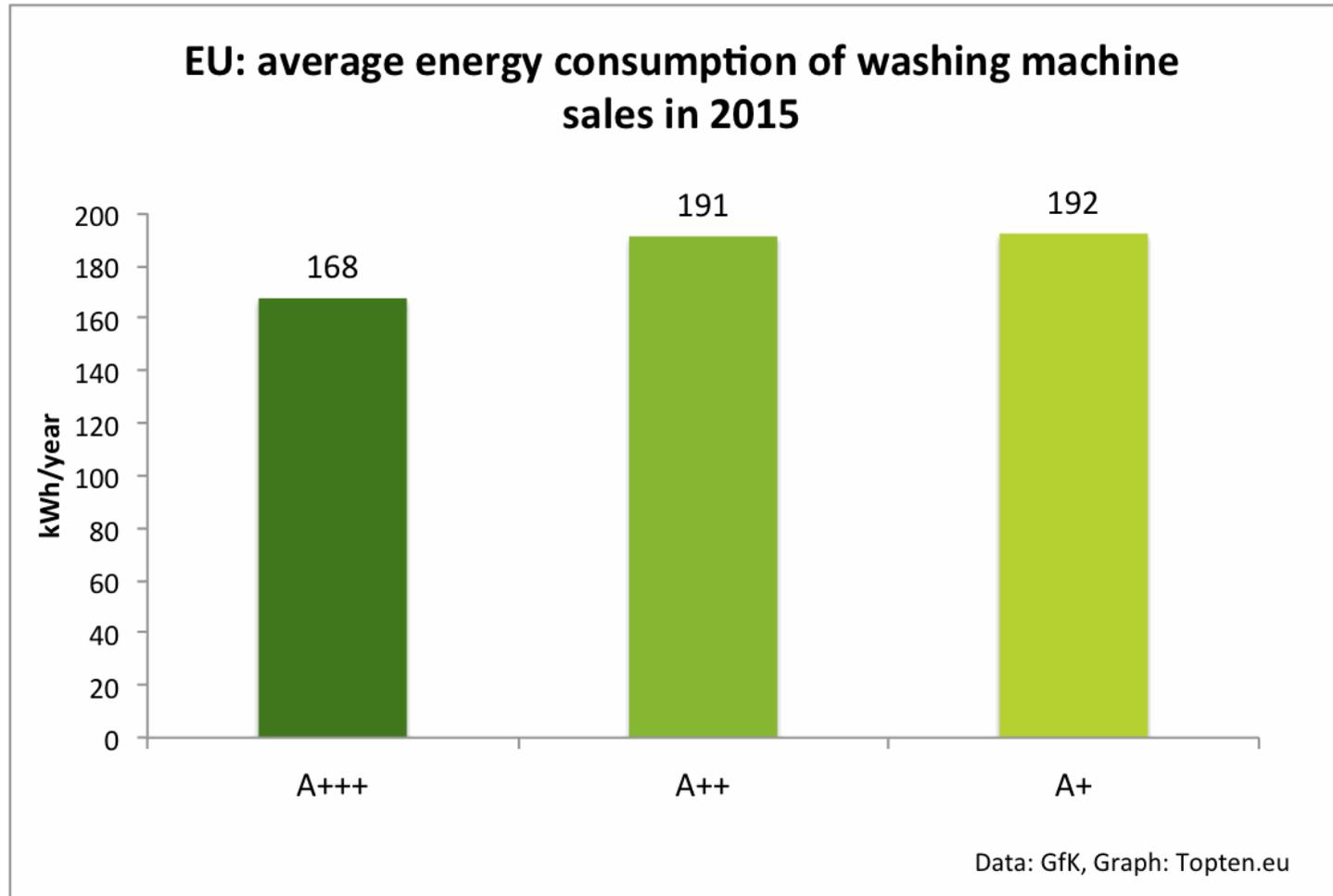
- New Label classes A-G
- Simplified and more transparent EEI formula:
1 reference line is sufficient, no 'correction factors' for energy-consuming extra features (frost free, built-in, fit for tropical climate, 0°C compartement)
- Future MEPS at A++ level

Washing machines



- EU: > 50% of sold washing machines in top class A+++, only four years after new label introduction
- Inferior efficiency in FR and IT, higher in DE and CH

Washing machines

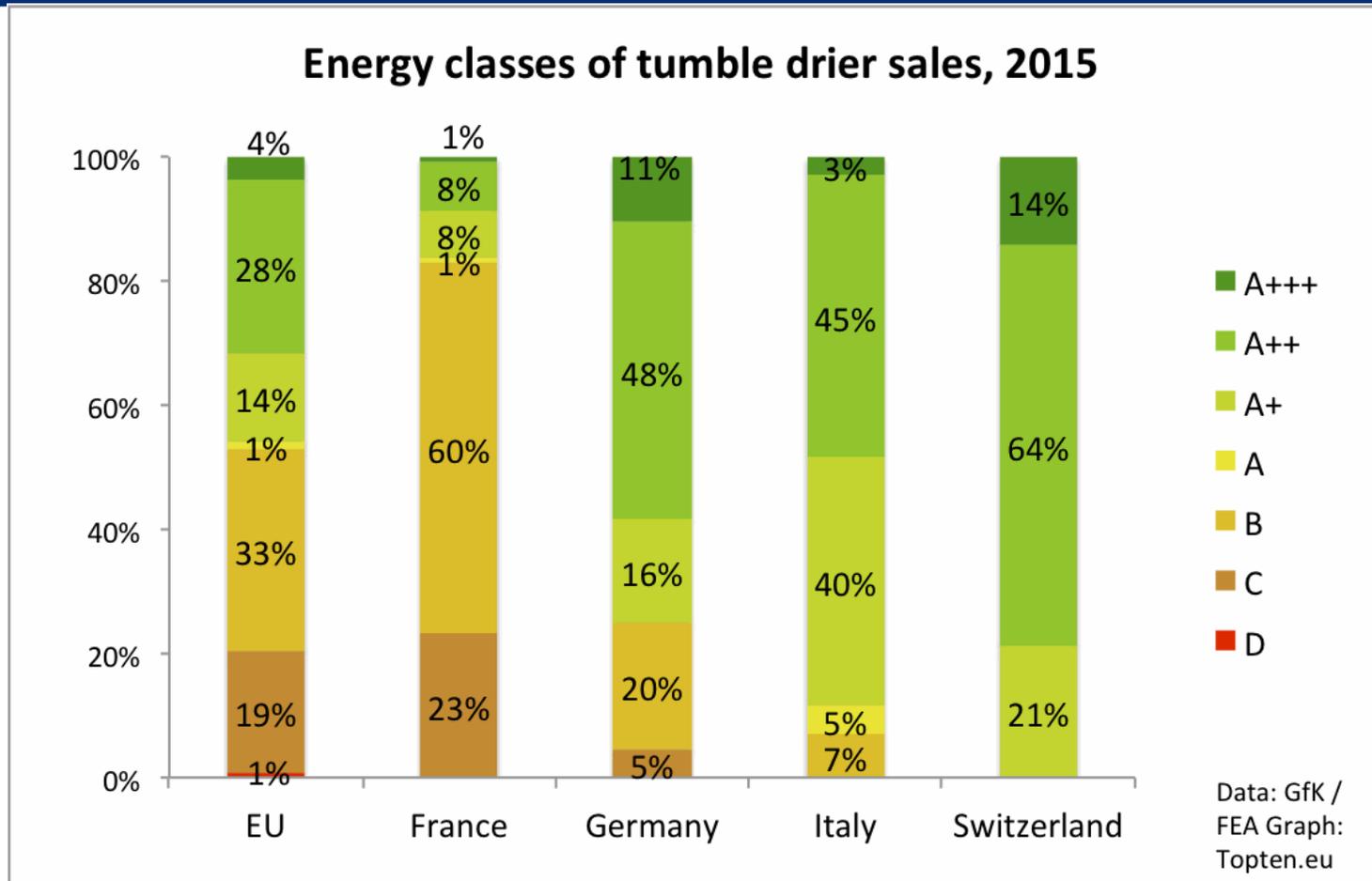


Energy consumption differences between classes are minimal.

Washing machines: conclusions

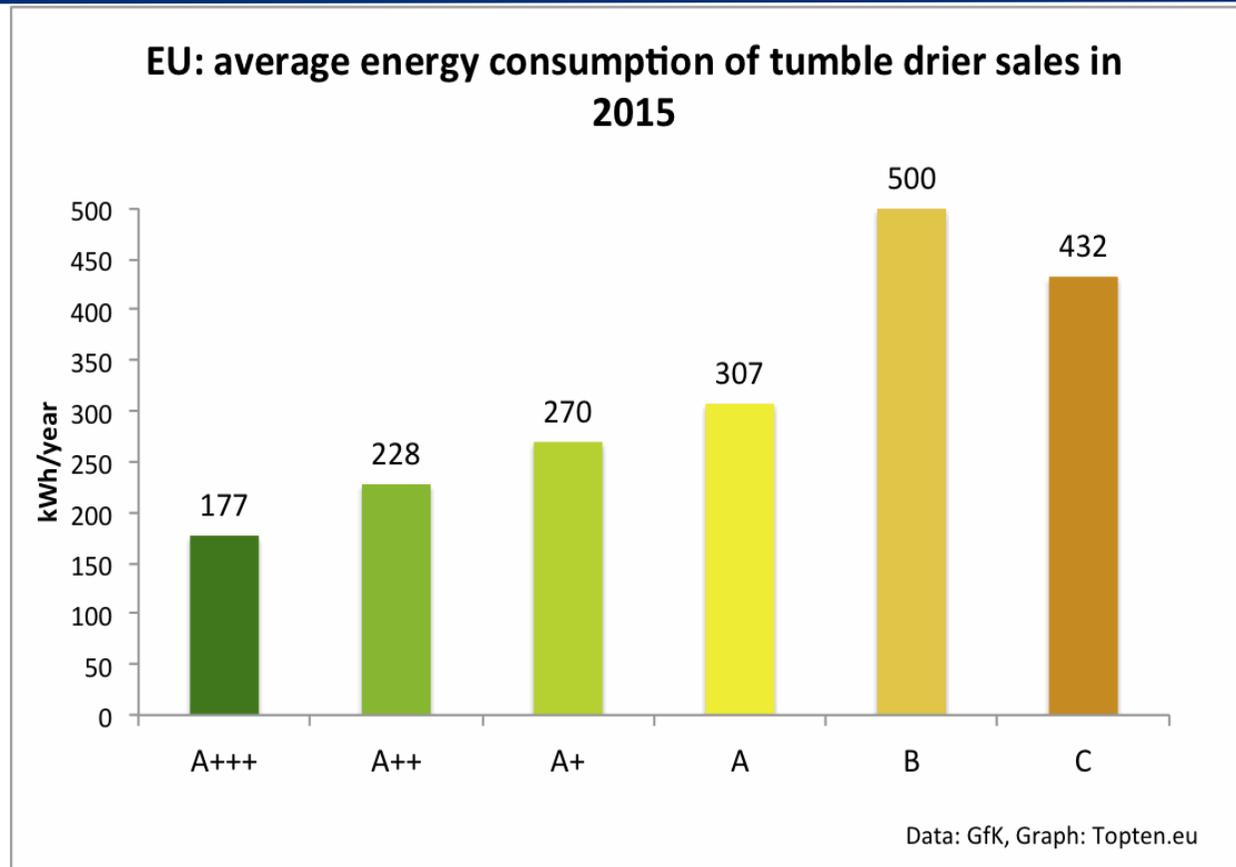
- Unclear correlation between good efficiency classes and low energy consumption
- Washing machines in good efficiency classes are mostly large machines ($\geq 7\text{kg}$)
- The 'real' energy consumption is unknown - for all programmes, temperatures, amounts and types of laundry
- Large washing machines bear the risk of wasting water and energy
- With the current EEI formula, it is not possible to introduce more stringent MEPS without banning small and low-consuming models – MEPS on a max consumption?
- The EEI formula needs to be revised to better link good efficiency to low energy consumption

Tumble driers



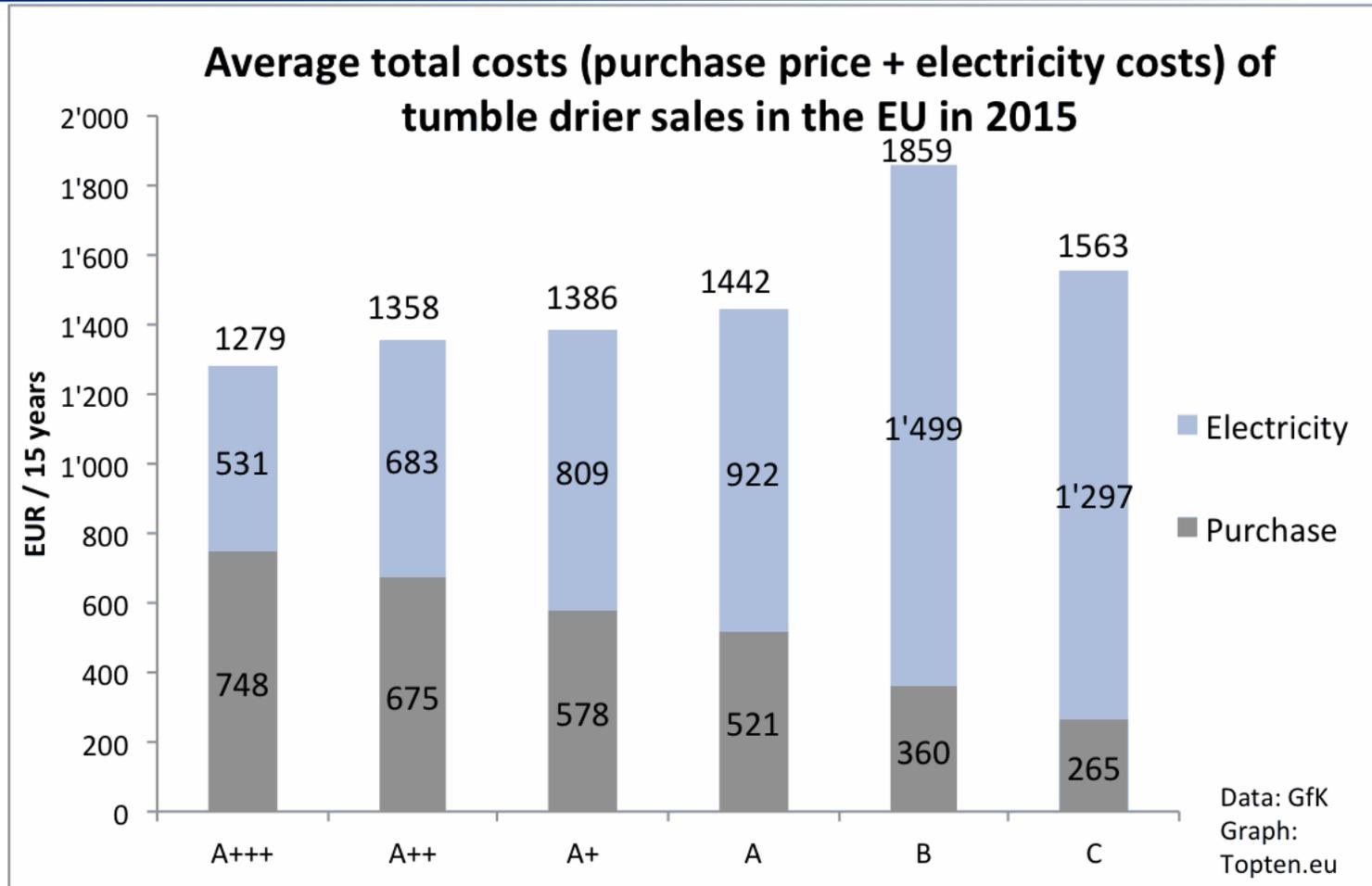
- 47% heat pump driers (classes A and better) sold in EU in 2015
- Large differences between countries: 18% in FR, 75% in DE, 93% in IT
- Swiss MEPS leave only classes A+ and better on the market since 2014

Tumble driers



- Heat pump driers save > 50% energy
- Class B consumes more than C (small efficiency improvement, larger drums); Class C has been banned since November 15
- Key that consumers do not choose B, but A+ and better instead !

Tumble driers



Despite higher purchase costs, heat pump driers save total costs to consumers, thanks to their low electricity consumption

Tumble driers: conclusions

- Good efficiency classes (A+ to A+++) consume less energy and are economical in terms of total costs
- Ecodesign tier 2 (class B since Nov. 2015) has an energy-saving effect only if consumers do not switch to class B, but to classes A+ and better instead
 - Promotions of heat pump driers
- Large saving potentials: 5 800 GWh in EU, 1 600 GWh in France, 550 GWh in Germany and 16 GWh in Italy (had only A+ driers been sold in 2015; over a 15 year lifetime 15)
- EU market is ready for future MEPS at A+ level, but not all individual countries where high purchase prices will be a barrier

Synthesis

- Market monitoring reveals market trends, national differences, problematic aspects and saving potentials
- On a regular basis it would allow policy makers to launch improvements and Label updates on time, and to base decisions on sound data.
- The planned EU product database will improve the market overview, but it will not allow to weight models according to their sales. Sales-based market monitoring could complement the DB, and it could start now.
- Results need to be compared to measurement campaigns
- Research will start in France to better understand its surprisingly “poor” situation

Thank you!

Full report available on

www.topten.eu/Documentation.html

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