



**ECONOLER**

In Collaboration with:

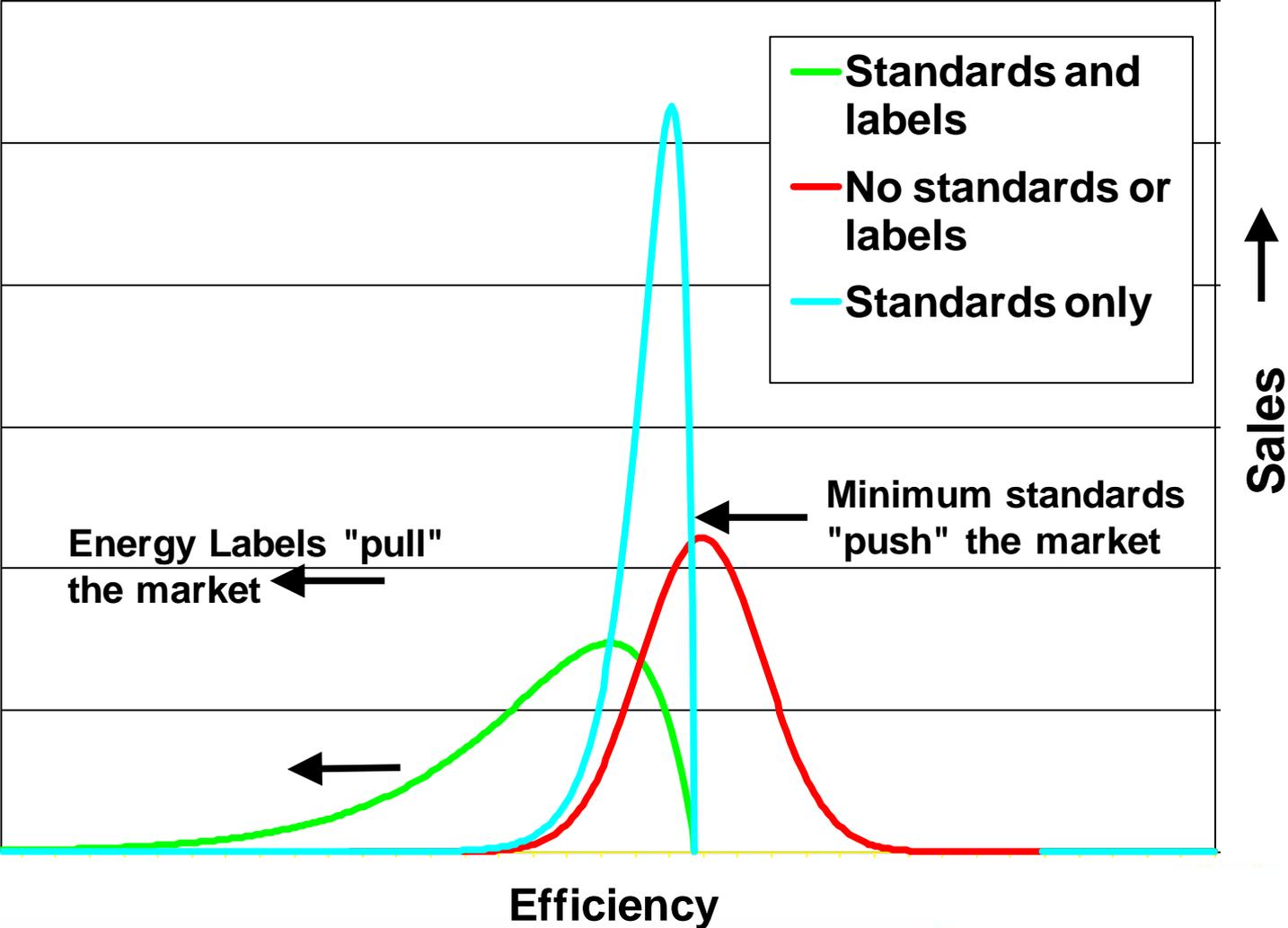


# **DEVELOPING MEPS: BACKGROUND AND GENERAL ISSUES TO CONSIDER**

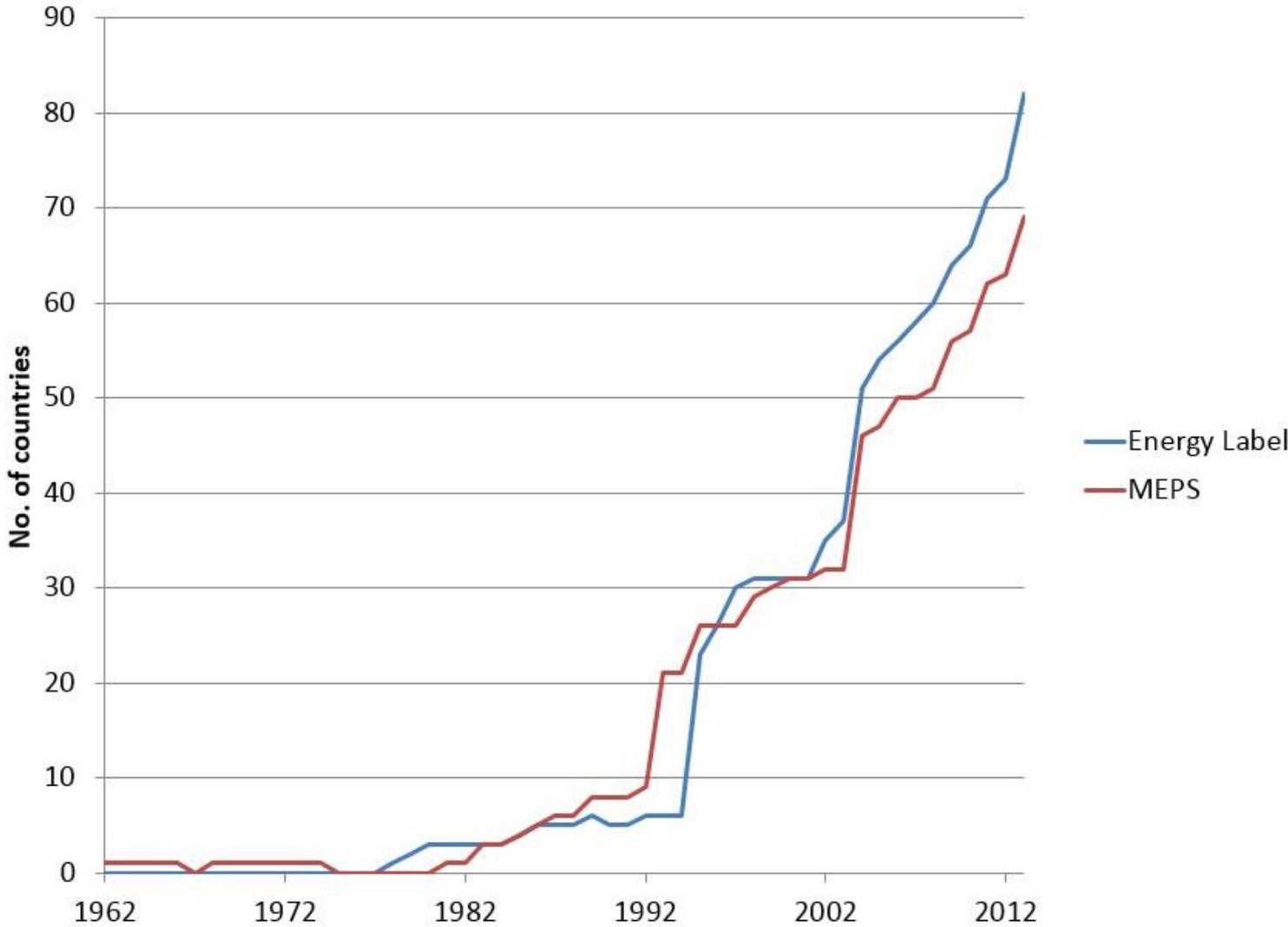
**ECREEE / GIZ**

Paul Waide, Dakar, 22 May 2019

# MARKET TRANSFORMATION THEORY OF STANDARDS (MEPS) AND LABELLING



# OVER 80 COUNTRIES AROUND THE WORLD HAD IMPLEMENTED LABELLING AND/OR MEPS CIRCA 2012





# THERE ARE MANY TYPES OF ENERGY LABEL IN USE

Based on standard U.S. Government tests

## ENERGYGUIDE

Model(s) ABC  
Capacity: Standard

**Compare the Energy Use of this Dishwasher with Others Before You Buy.**

This Model Uses **590** kWh/year

Energy use (kWh/year) range of all similar models:  
Uses Least Energy: 451  
Uses Most Energy: 899

Dishwashers using more energy cost more to operate. This model's estimated yearly operating cost is:

**\$51** when used with an electric water heater  
**\$33** when used with a natural gas water heater

Based on eight loads of dishes a week and a 2000 U.S. Government national average cost of 8.03¢ per kWh for electricity and 68.8¢ per therm for natural gas.

The more stars the more energy efficient

## ENERGY RATING

Appl. governm. and industry program  
Kutim Model refrigerator Model 330

Energy consumption  
**670** kWh per year

When used in accordance with ASHRAE 474.2, Actual energy use and running costs will depend on how you use the appliance.  
Compare all models at [www.energyrating.gov.au](http://www.energyrating.gov.au)

Abc Xyz Corporation

Brand: ABC Cooling Capacity: 24,100 kJ/h  
Model: XYZ 125 Power Consumption: 2,960 W  
Type: WINDOW TYPE Frequency: 60 Hz Single phase

## ENERGY GUIDE

### ROOM AIR CONDITIONERS

# 8.2

ENERGY EFFICIENCY RATIO

For units with the same cooling capacity, higher EER means lower electricity cost.  
For this model, the minimum EER stands at 6.7 set by the government. It is 7.8.

The monthly operating cost of this model will be approximately:

Climate Zone	Monthly Cost
Zone 1	\$10.00
Zone 2	\$11.00
Zone 3	\$12.00
Zone 4	\$13.00
Zone 5	\$14.00
Zone 6	\$15.00
Zone 7	\$16.00
Zone 8	\$17.00

REMOVAL OF THIS LABEL BEFORE CONSUMER PURCHASE IS A VIOLATION OF REPUBLIC ACT NO. 7394

## EFICIENCIA ENERGETICA

Consumo de Energia  
Definición: Anexo de información en la NOM-016-ENER-1997

Modelo(s) ABC Tipo: Refrigerador Capacidad: Dependiente 248 C. litro<sup>3</sup>

Modelo(s) XYZ Capacidad: Dependiente 248 C. litro<sup>3</sup>

Límite de consumo de energía (kWh/año): 423,8

Consumo de energía (kWh/año): 337,2

El consumo de energía siempre representará un porcentaje de un porcentaje del promedio

menor consumo

0%  
10%  
20%  
30%  
40%  
50% o más

Mayor consumo

Anexo de Energía de la Norma NOM-016-ENER-1997

Importante  
Le pido que no desifique el producto antes que haya sido diseñado por el fabricante

Based on standard U.S. Government tests

## ENERGYGUIDE

AMERICAN APPLIANCE MODEL(S) CWL10752  
Clothes Washer Capacity: Standard

**The More Stars the More Energy Efficient**

★★★★

1184 kWh/yr Based on a comparison of similar models. 1380 kWh/yr

kWh/year (kilowatt-hours per year) is a measure of energy (electricity) use. Your utility company uses it to compute your bill. Only standard size clothes washers are used in this scale.

This model uses **466** kWh per year

Estimated Yearly Operating Cost:  
**\$37** when used with an electric water heater  
**\$20** when used with a natural gas water heater

Based on eight loads of clothes a week and a 2000 U.S. Government national average cost of 8.03¢ per kWh for electricity and 68.8¢ per therm for natural gas.

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## 5

ฉลากแสดงระดับประสิทธิภาพอุปกรณ์ไฟฟ้า  
ประเภท เครื่องปรับอากาศ

วันที่ 12,942.05 กิโลวัตต์-ชั่วโมง

ชนิดเครื่องปรับอากาศ	4700 บีทียู	ที่ 12-2 บีทียู
ประสิทธิภาพ	1.1	1.1
ค่าไฟฟ้า	1.188	1.188
ใช้พลังงานไฟฟ้า	2,500	2,500
อุณหภูมิห้องเย็น	27-28 องศาเซลเซียส	27-28 องศาเซลเซียส
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โครงการประหยัดพลังงาน  
ประเทศไทย MI 00000

## Energia (Elétrica)

REFRIGERADOR

Fabricante: ABCDEF  
Marca: XYZ  
Tipo de defrost: ABC Automático  
Modelo/tensión(V): IPRR220V

Mais eficiente

A  
B  
C  
D  
E  
F  
G

Menos eficiente

CONSUMO DE ENERGIA (kWh/mes) (dados referidos a 20°C)

Volume do compartimento refrigerado (ℓ): 000  
Volume do compartimento do congelador (ℓ): 000  
Temperatura do congelador (°C): 18

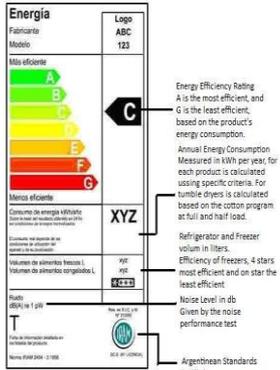
Modelo: XYZ

PROGRAMA DE COMARTE  
ANEXO DE INFORMAÇÃO DE EFICIÊNCIA ENERGÉTICA

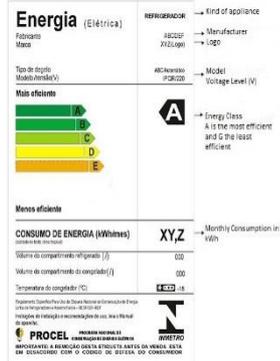
IMPORTANTE: A REMOÇÃO DESTA ETIQUETA ANTES DA VENDA É UMA DESACORDO COM O CÓDIGO DE DEFESA DO CONSUMIDOR



# THE EU'S ENERGY LABEL HAS BEEN AN INSPIRATION TO A GREAT MANY PROGRAMMES



Argentina



Brasil



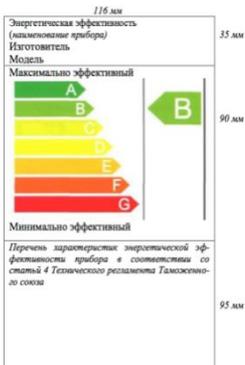
China



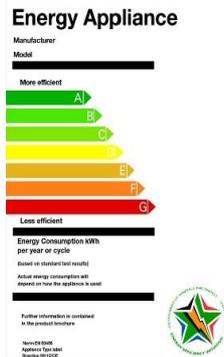
Egypt



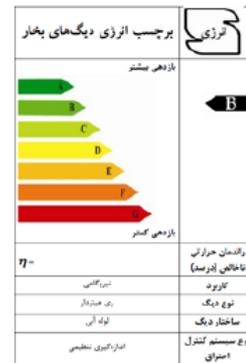
Korea



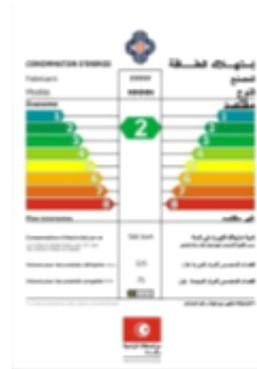
Russia



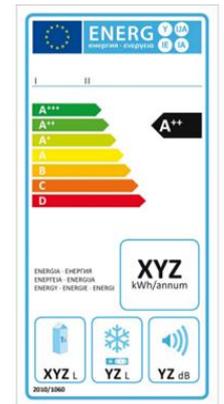
South Africa



Iran



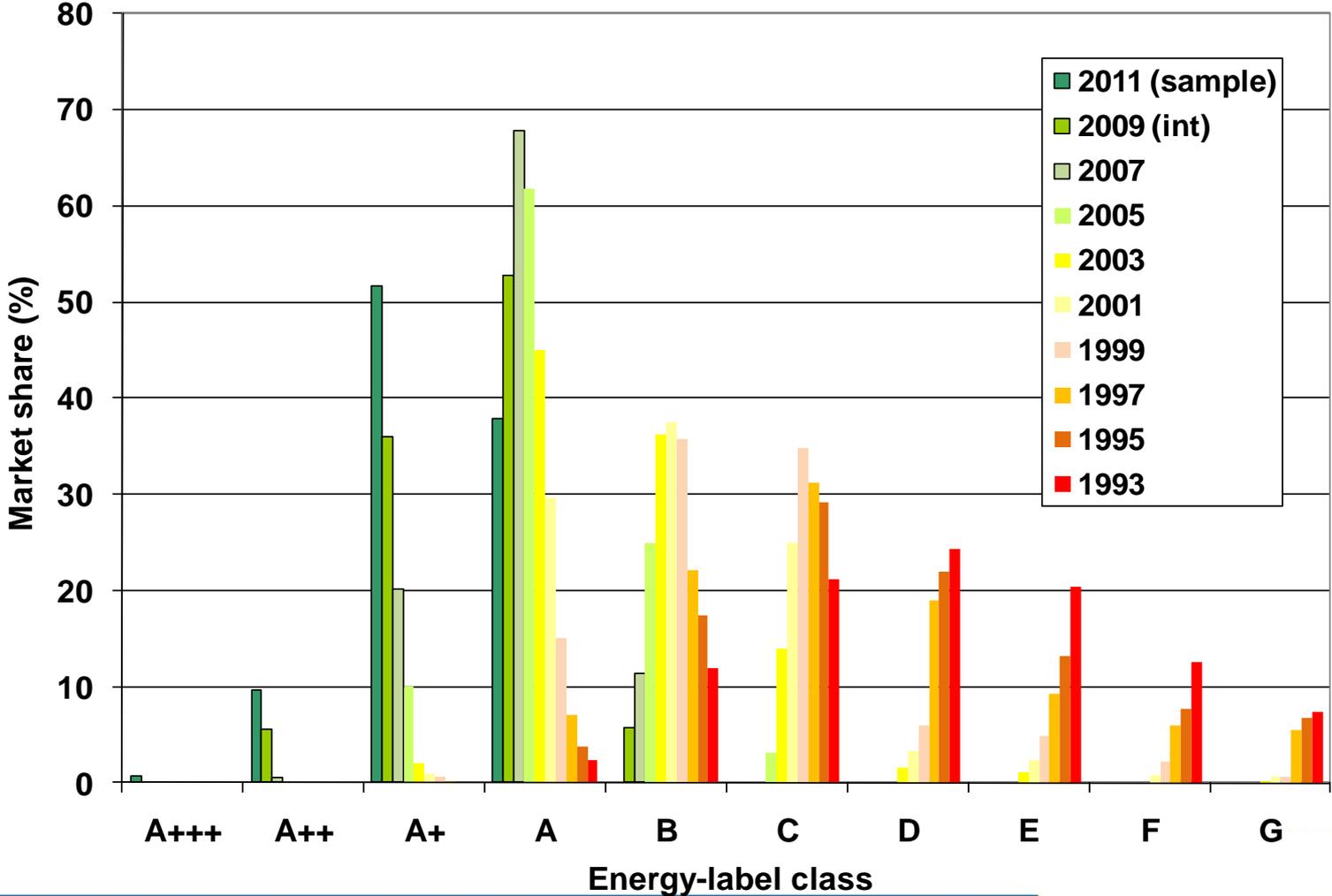
Tunisia



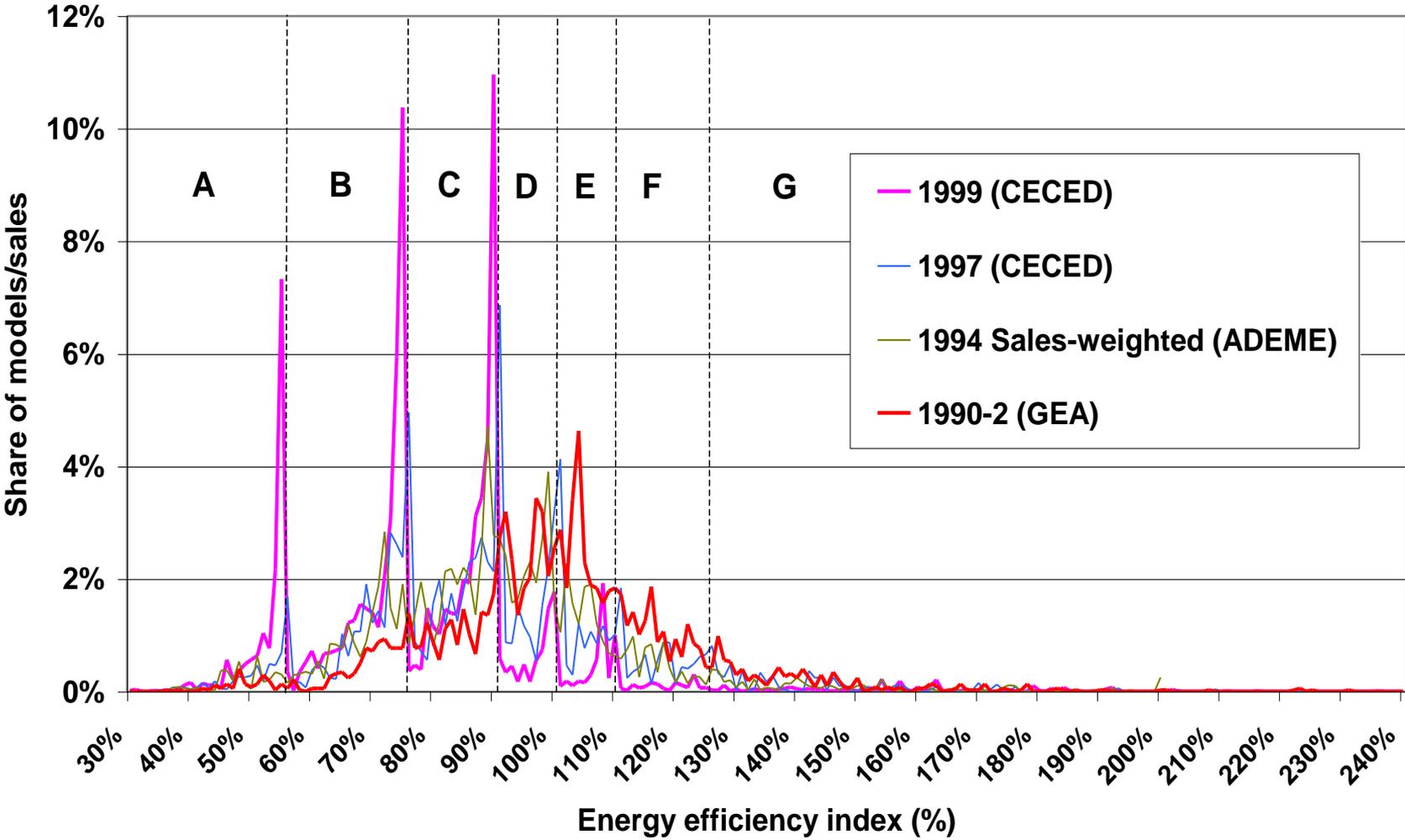
Turkey



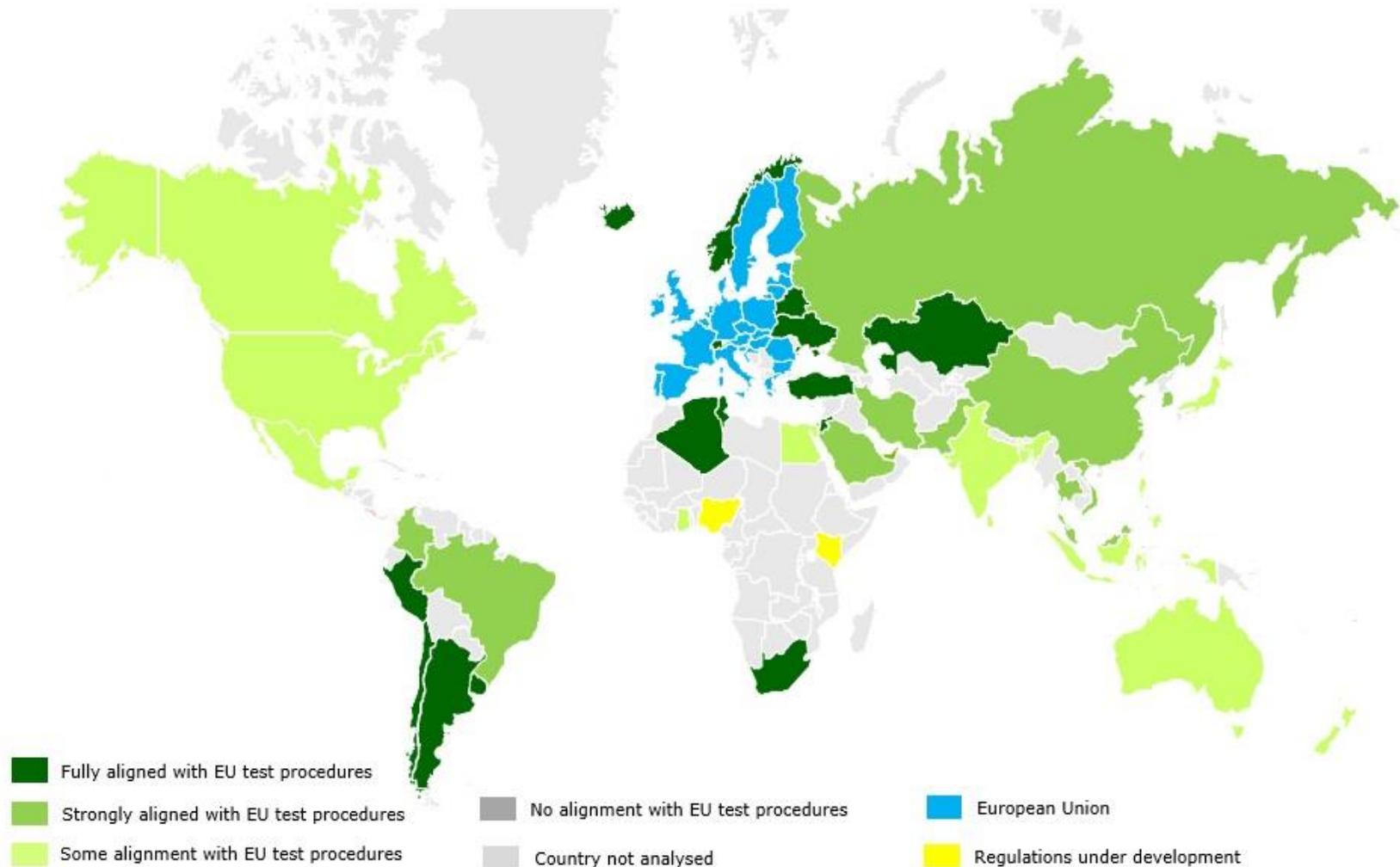
# TYPICAL IMPACTS – EU REFRIGERATOR EFFICIENCY SALES BY LABEL CLASS FROM 1993 TO 2011



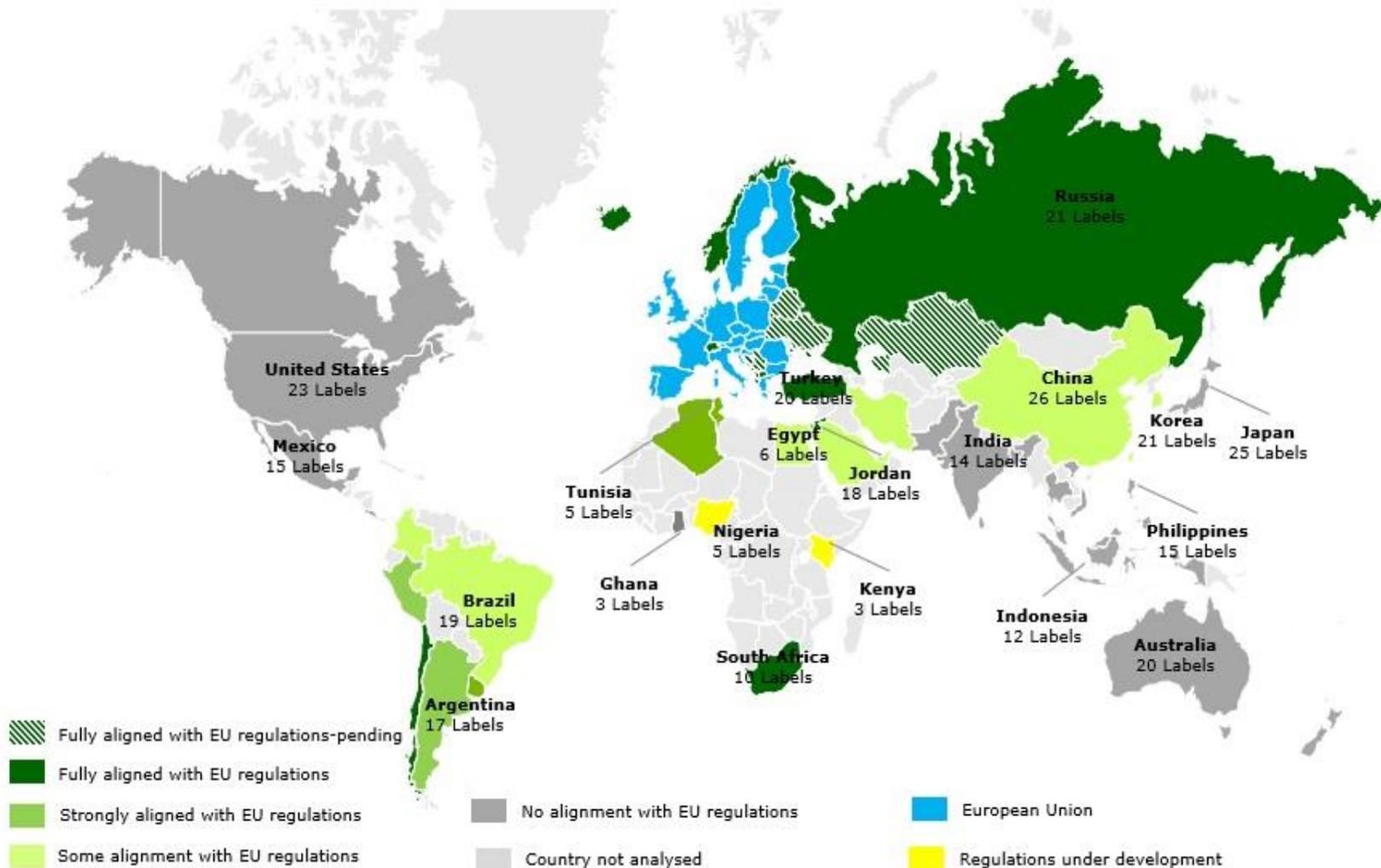
# BEHIND THE LABEL CLASS IS AN ENERGY EFFICIENCY METRIC (ENERGY EFFICIENCY INDEX - EEI) – EU REFRIGERATOR SALES BY EEI FROM 1993 TO 2011



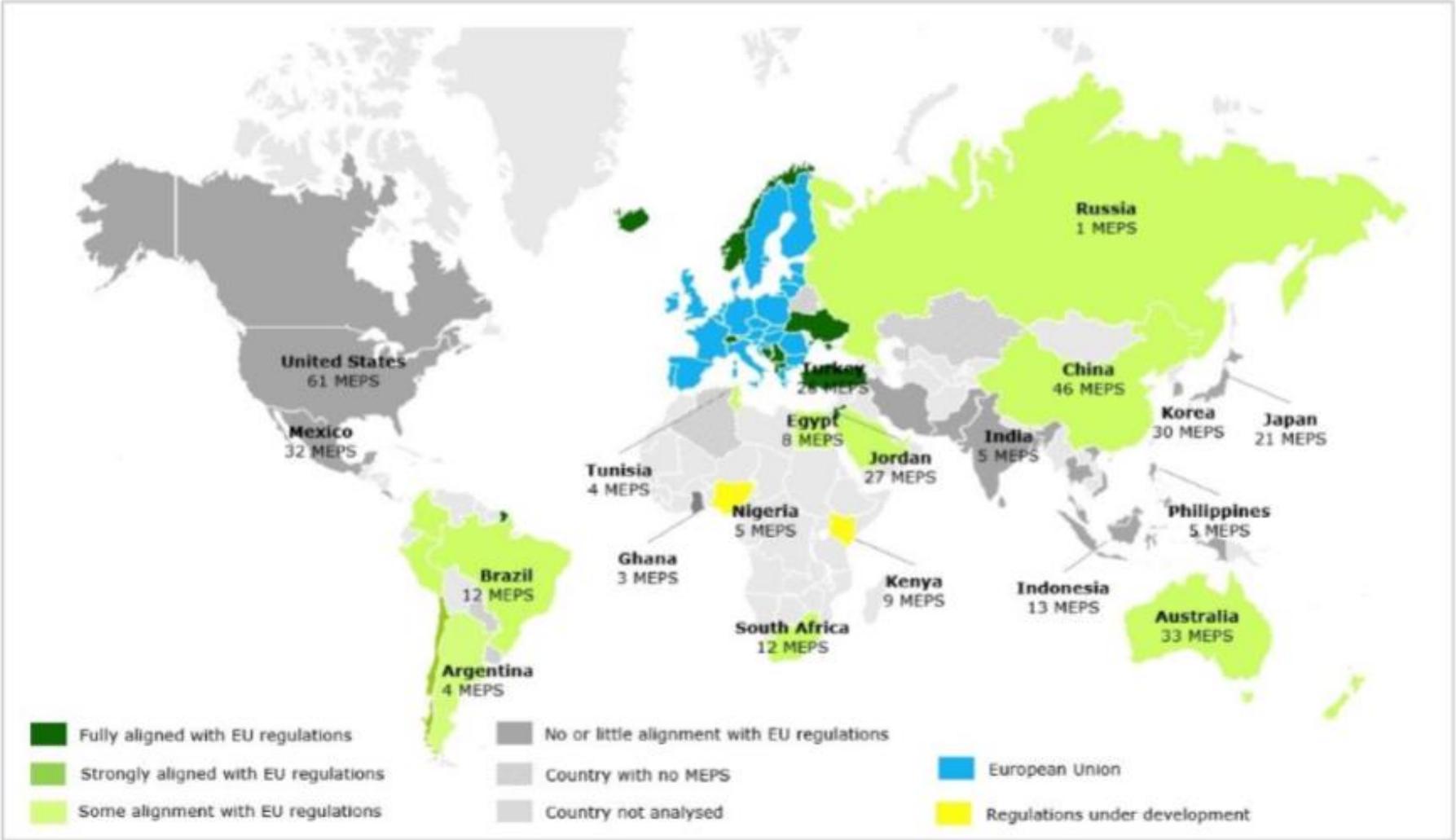
# DEGREE OF ALIGNMENT OF PRODUCT ENERGY PERFORMANCE TEST PROCEDURES WITH EUROPE – CIRCA 2014



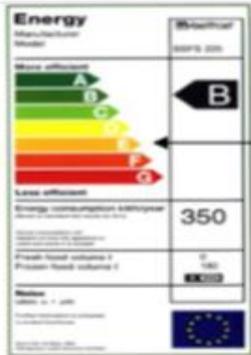
# DEGREE OF INTERNATIONAL ALIGNMENT TO THE EU'S ENERGY LABELLING SCHEME – CIRCA 2014



# DEGREE OF INTERNATIONAL ALIGNMENT TO THE EU'S MEPS – CIRCA 2014



# THERE IS A HIERARCHY OF TECHNICAL STEPS THAT HAVE TO BE ADDRESSED TO DEVELOP MEPS AND LABELLING



MEPS

**Common surveillance**

**Performance thresholds**

**Efficiency Metrics**

**Product categories**

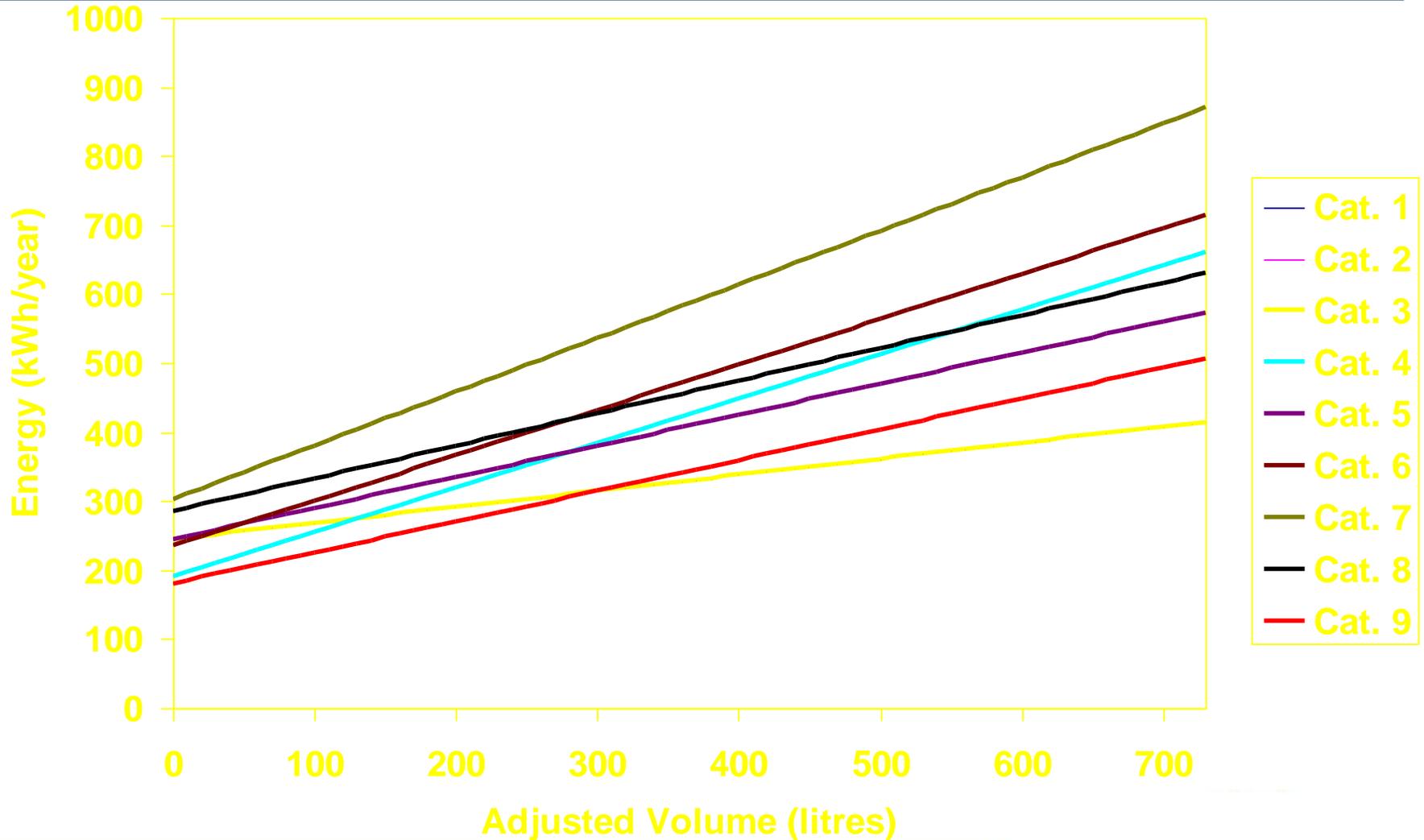
**Test methodology**

# TEST PROCEDURES, CATEGORISATION AND EFFICIENCY METRICS

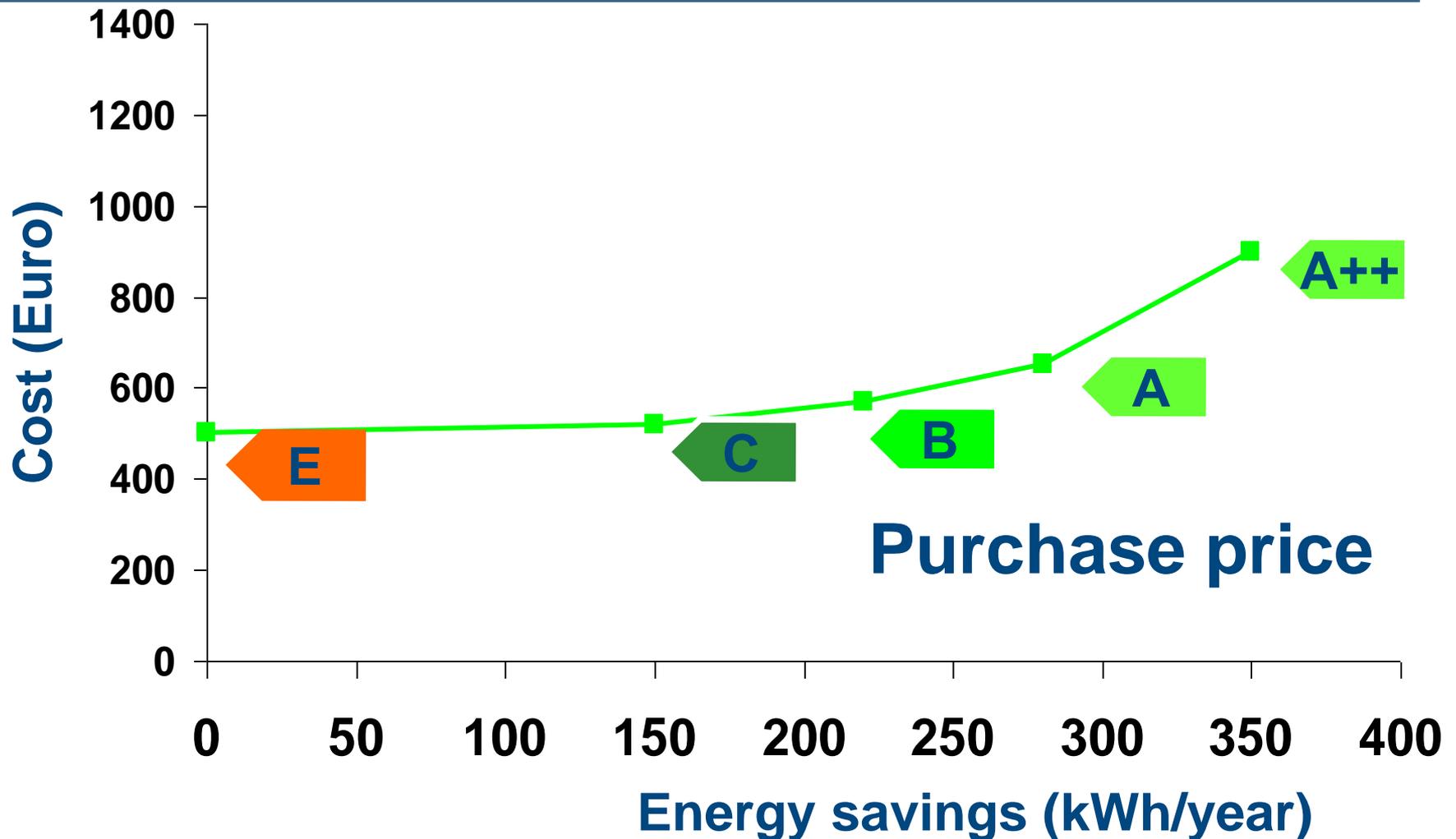
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- Test procedures measure energy consumption and the service provided by the product e.g. light output for lamps, or cold storage capacity for refrigerators
- Efficiency metrics measure the ratio of the energy consumed to the service provided – when energy varies consistently with the service they can apply a simple ratio to take account of this e.g. kWh consumed per kilogram of clothes washed (for washing machines), but sometimes energy use varies non-linearly with the service and then formulae to express the way it varies are needed
- Categorisation (splitting product groups into sub-groups) is used a) when the product sub-types have to be tested in a different way, b) when the service they provide is different

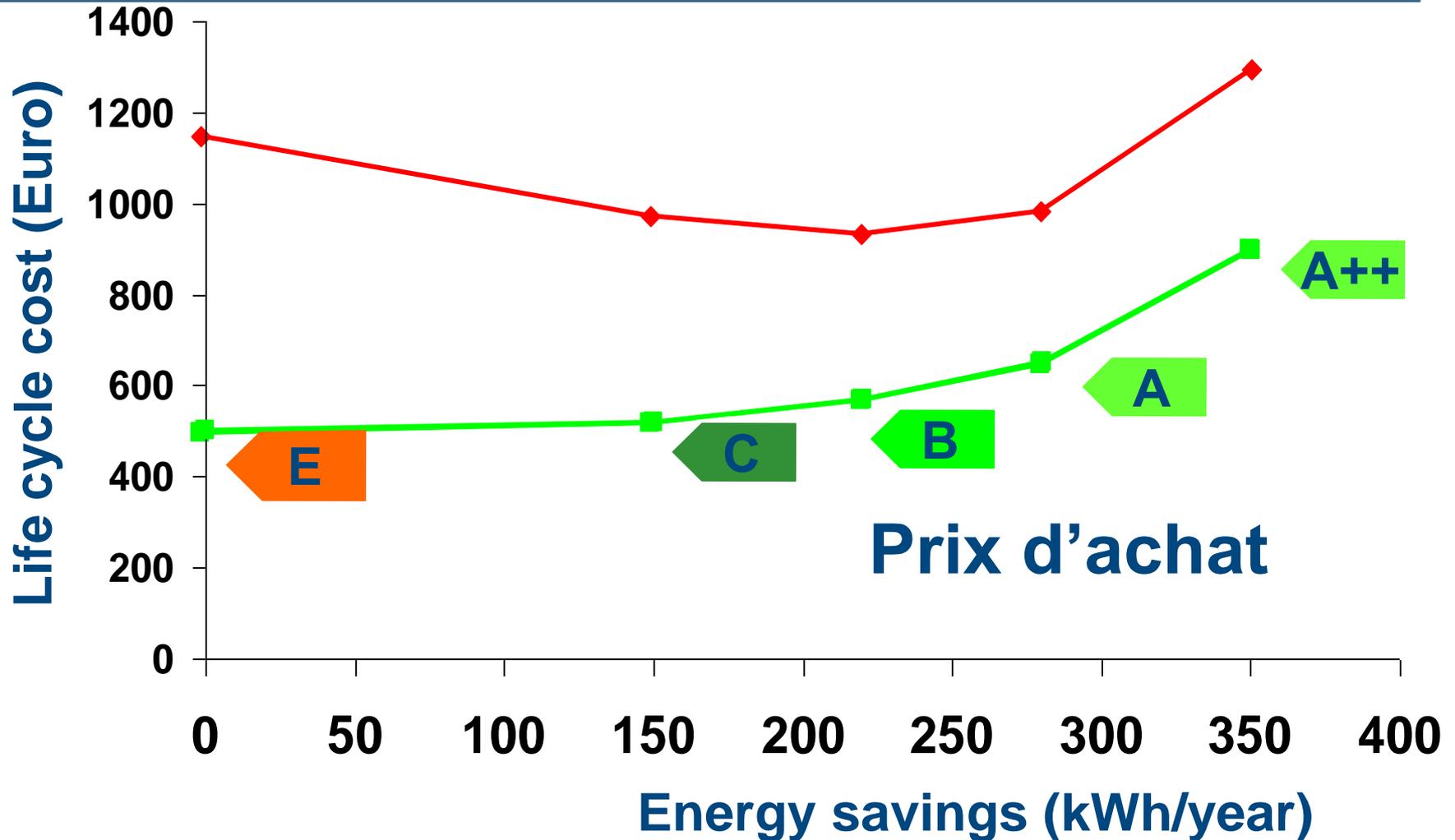
# E.G. ENERGY PERFORMANCE REFERENCE LINES FOR SUB-CATEGORIES OF REFRIGERATORS IN THE EU MEPS REGULATIONS



# PRODUCT PRICE WILL VARY WITH EFFICIENCY



# LIFE CYCLE COSTS WILL VARY WITH EFFICIENCY

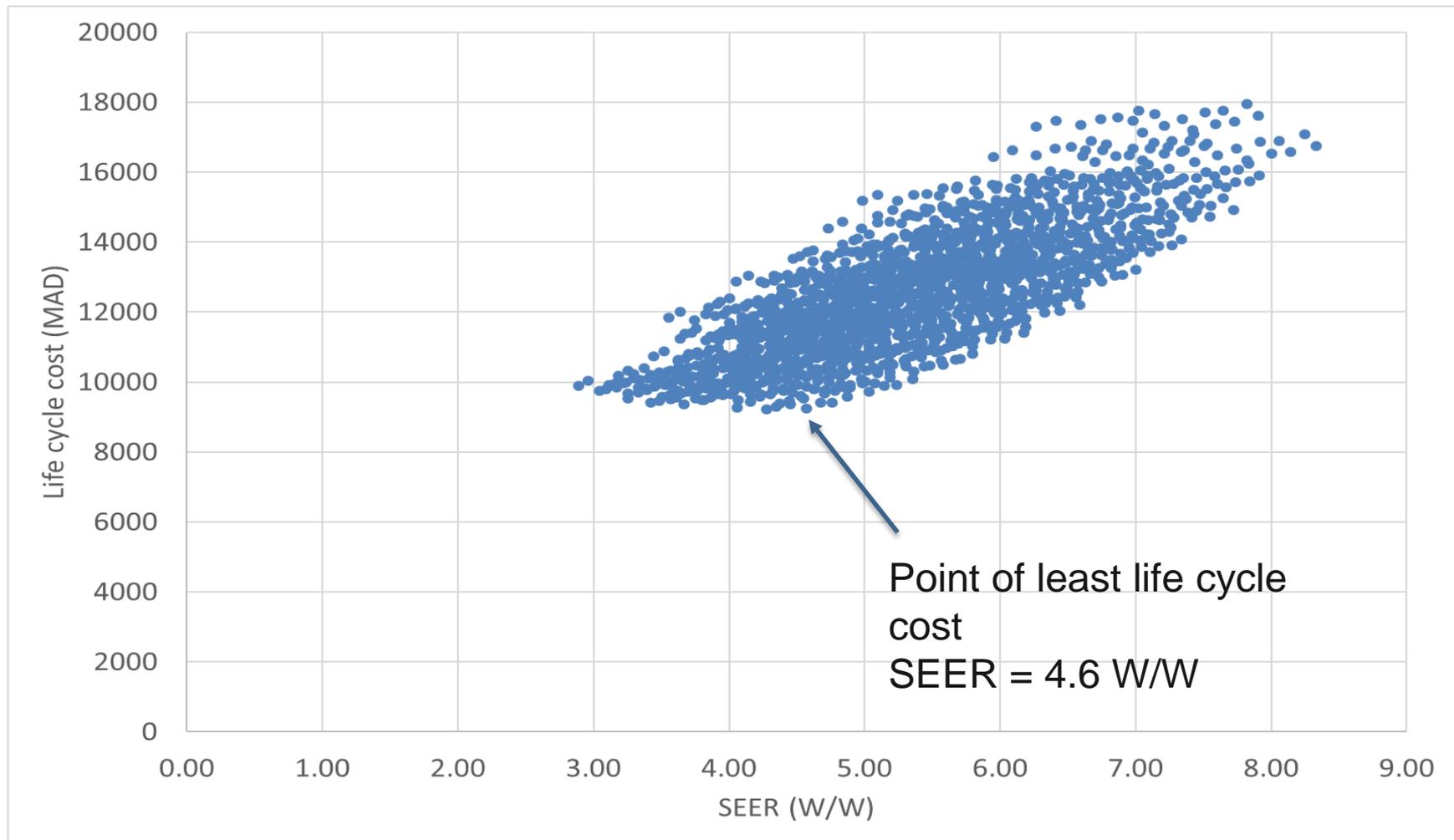


# NECESSARY ANALYTICAL STEPS TO DEVELOP MEPS

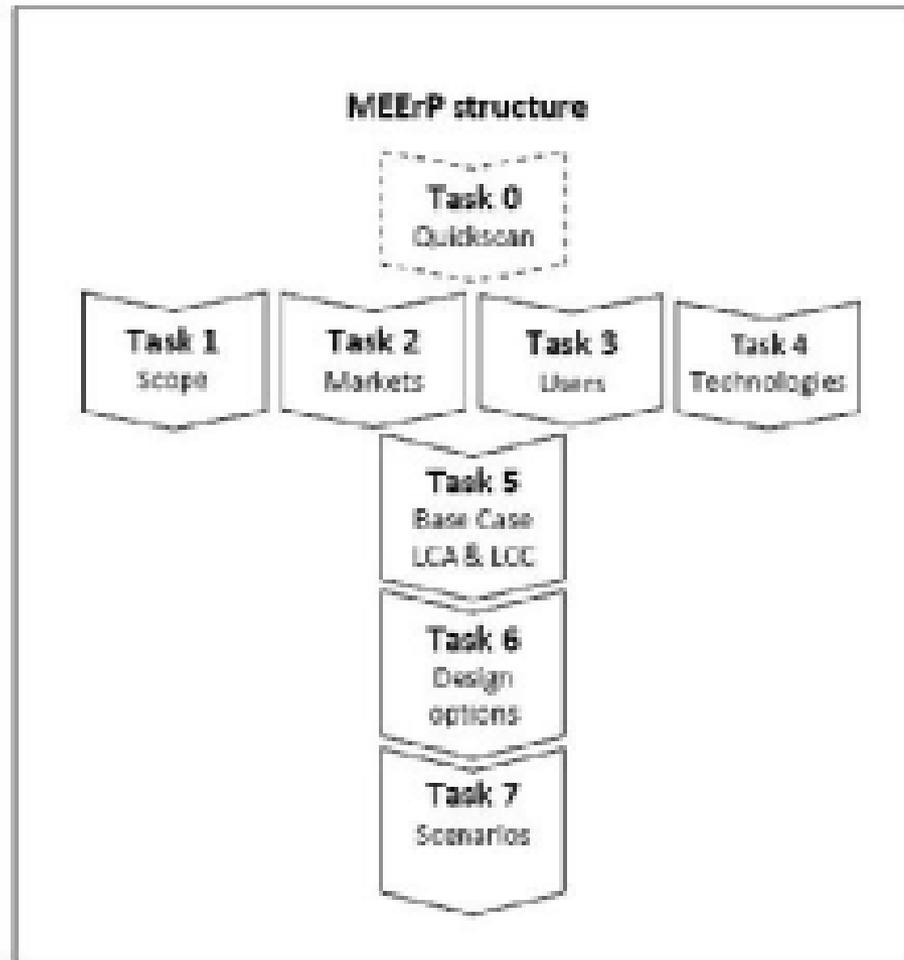
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- Clarification of measurement standards for energy and functionality
- Categorisation of the products to ensure a level playing field
- Development of an energy efficiency metric (index)
- Determination of energy efficiency thresholds while taking into account:
  - the local context – local industry, usage, ownership and purchasing patterns; affordability constraints; energy prices; importation, distribution & retail networks; conformity infrastructure and market surveillance
  - national, regional and international markets and trade agreements
  - the ease and viability of local regulations being adopted and respected by imported products
  - the need to apply the same technical system for energy labelling and MEPS

# LIFE CYCLE COST AS A FUNCTION OF ENERGY EFFICIENCY – AN EXAMPLE OF ROOM AIR CONDITIONERS IN MOROCCO



# WHAT ANALYTICAL STEPS ARE NECESSARY? THE EXAMPLE OF ECODESIGN STUDIES IN THE EU

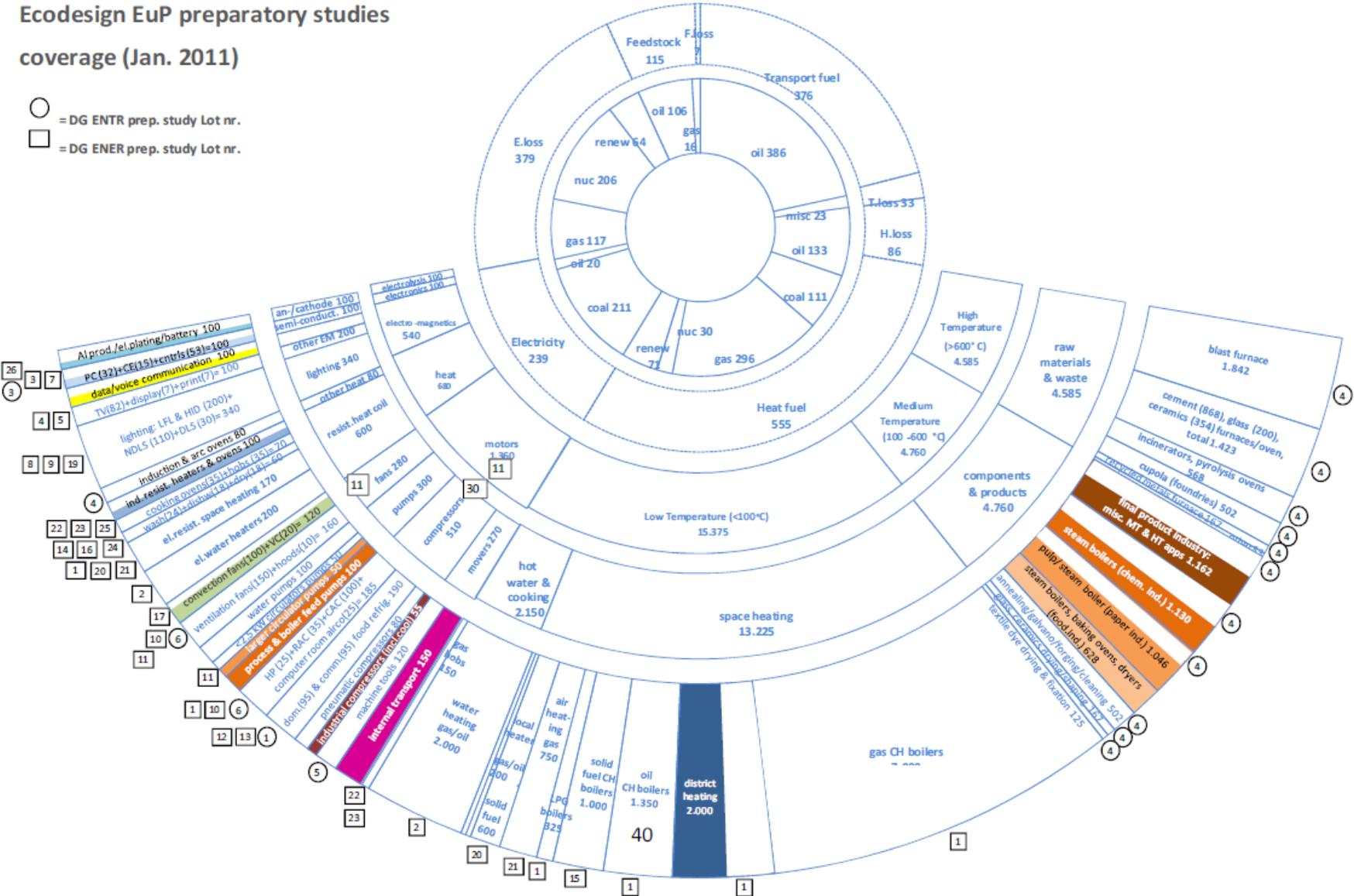




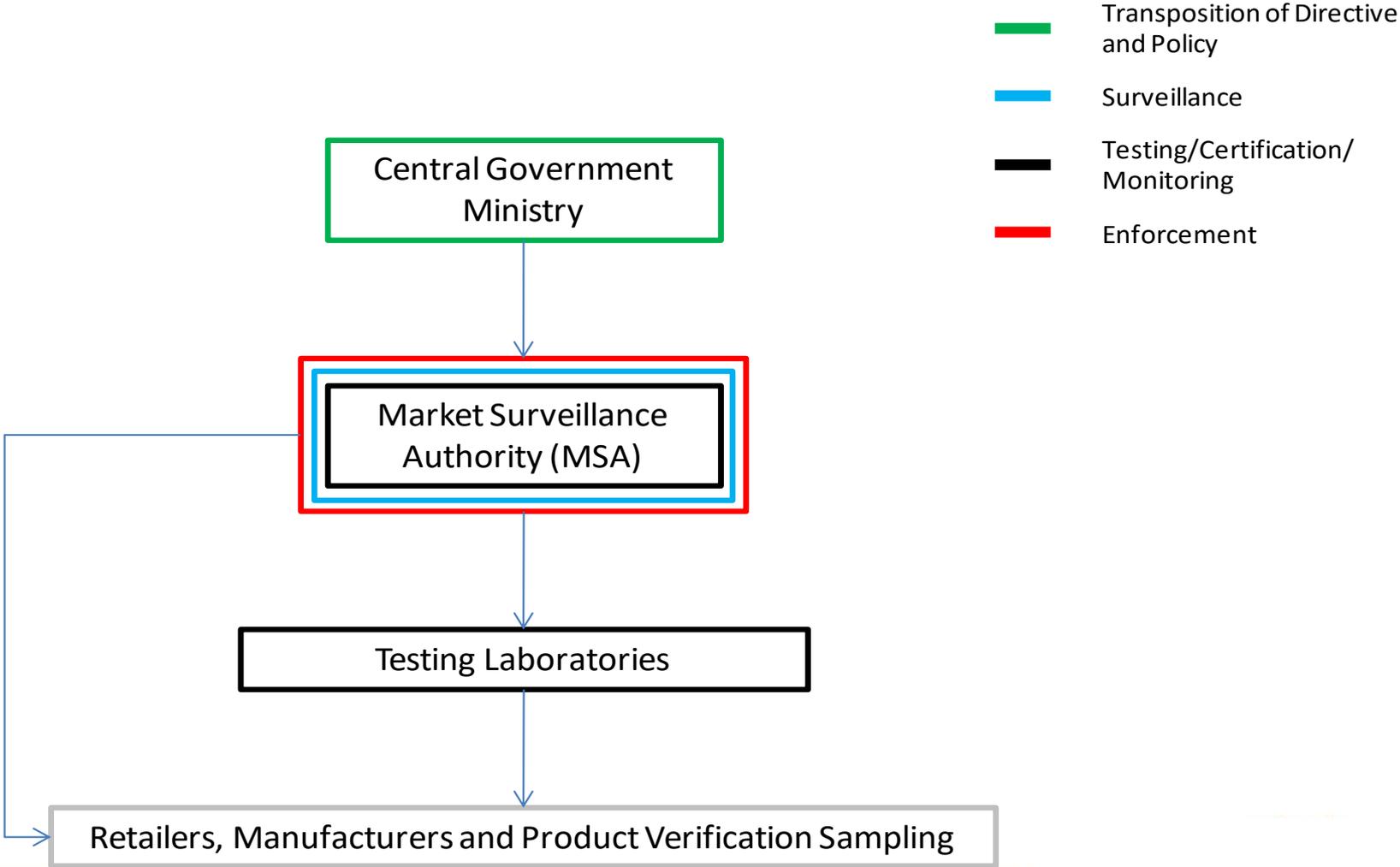
# EU ECODESIGN (MEPS) PRODUCT STUDIES CIRCA 2011

Ecodesign EuP preparatory studies coverage (Jan. 2011)

- = DG ENTR prep. study Lot nr.
- = DG ENER prep. study Lot nr.



# INSTITUTIONAL LINKAGES: A TYPICAL CASE



# BARRIERS TO COMPLIANCE: TYPICAL ISSUES FOR PRIVATE SECTOR ACTORS

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1. Lack of awareness that there are any energy efficiency requirements (MEPS and labelling)
2. Lack of knowledge of the technical aspects of the requirements
3. Lack of transparency about what the private sector needs to do to comply and the steps they need to go through to establish conformity
4. Lack of international harmonisation (especially in performance testing requirements) may require importers to do testing to a unique standard simply to establish conformity with the local requirements – note, this can add to product costs
5. Inconsistent application of the law may reward circumvention and stimulate the illegal goods market

# BARRIERS TO COMPLIANCE: TYPICAL ISSUES AMONG PUBLIC SECTOR ACTORS

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1. Lack of appreciation of the value proposition from investing in compliance
2. Insufficient staff assigned to equipment energy performance compliance activities
3. Insufficient budgets allocated to compliance
4. Inadequate testing infrastructure or resources/ability to send product for compliance testing elsewhere
5. Lack of centrally administered databases allowing easy comparison of compliance data between compliance officials
6. Lack of training of customs officials and enforcement officers
7. Lack of effective coordination among Member State compliance efforts in a common economic region



**ECONOLER**

**Merci!**  
**Questions?**