



European
Commission



Energy Efficient Product Policy in the European Union

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Energy Community
Energy Efficiency Coordination Group

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EU policy framework for energy efficiency

**Energy
Efficiency
Directive**
2012/27/EU

**Energy
Performanc
e of
Buildings**
Directive
2010/31/EU

Ecodesign
Directive
2009/125/EC

**Energy
Labelling**
Directive
2010/30/EU

Energy Star
EU-US
agreement


**Tyre
Labelling**
Regulation
2009/30/EU

Financing Energy Efficiency

European Structural Investment Fund; Horizon 2020; LIFE + funding;
European Fund for Strategic Investments; Member State programmes;
etc.

A brief history of EU product efficiency policy (I)

- 1979: 1st Energy labelling framework directive.
- 1980: Failed Commission proposals for implementing directives.
- Framework Directive requested additional Implementing Measures.

	
Electric oven Abcdefgh	XYZ00
Usable volume	00 l
Preheat consumption to 200 °C	0,0 kWh
Steady state consumption (one hour at 200 °C)	0,0 kWh
TOTAL	0,0 kWh
Cleaning cycle consumption	n.a.
Standard: CENELEC	HD 376



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A brief history of EU product efficiency policy (II)

- 1992: 2nd Energy labelling framework directive on household appliances.
- Multilingual and modular.
- Various implementing directives.

Energy		Washing machine
Manufacturer		
Model		
More efficient		
	A	
	B	
	C	
	D	
	E	
	F	
	G	
Less efficient		
Energy consumption kWh/cycle <small>(based on standard test results for 60°C cotton cycle)</small> <small>Actual energy consumption will depend on how the appliance is used</small>		0.95
Washing performance <small>A: higher G: lower</small>	A B C D E F G	
Spin drying performance <small>A: higher G: lower</small> Spin speed (rpm)	A B C D E F G	1400
Capacity (cotton) kg		5.0
Water consumption /		55
Noise (dB(A) re 1 pW)	Washing Spinning	5.2 7.0
Further information is continued in product brochures		



A brief history of EU product efficiency policy (III)

Minimum energy efficiency requirements 1992-2002

- Three independent Council directives between 1992 and 2000.
- 2003 proposal for Ecodesign Framework Directive.
- 2009 and 2010: revision of both Framework Directives.

Ecodesign and Energy Labelling: A combined effort

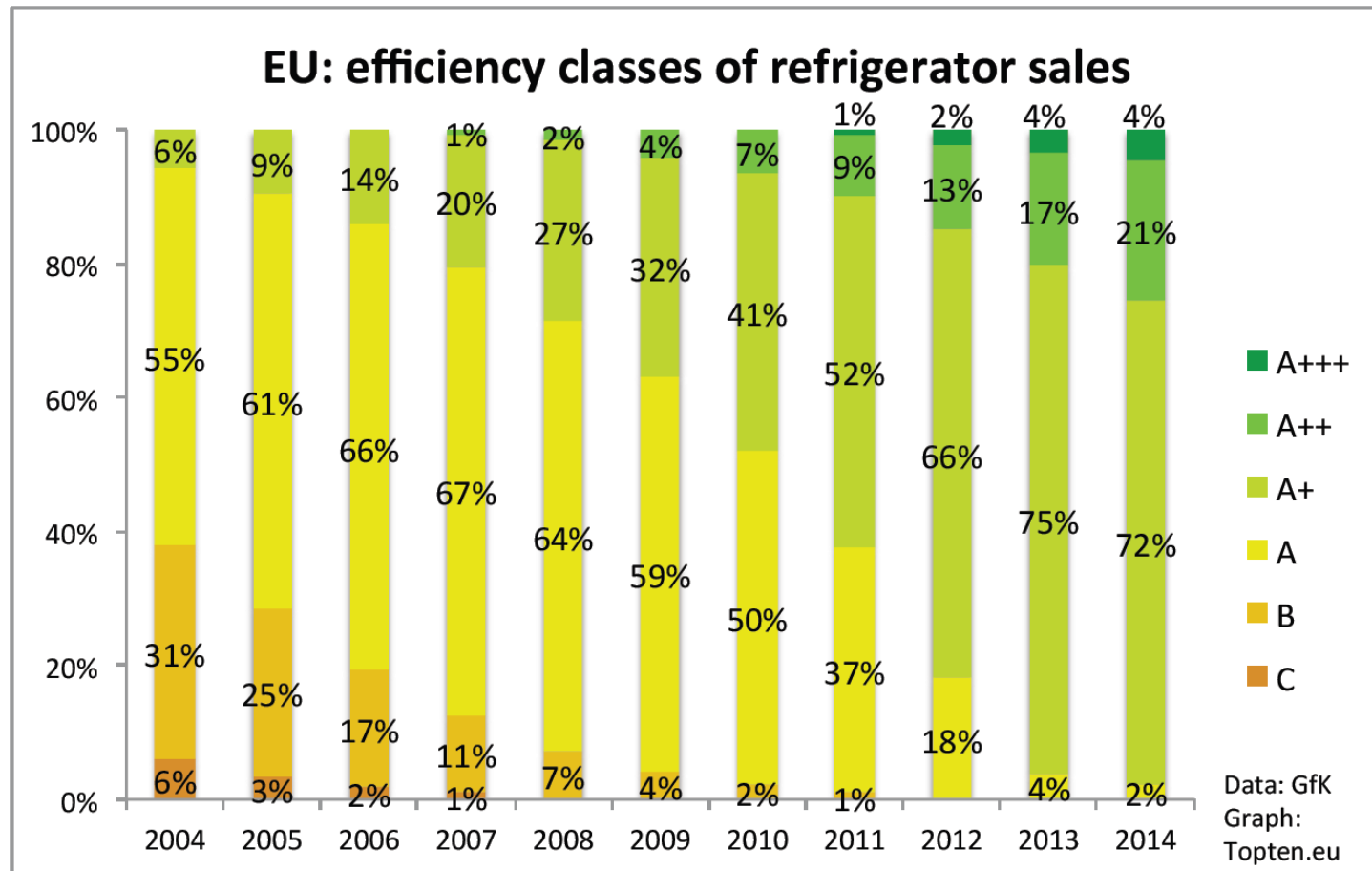
Combined effect
ensures a dynamic improvement of the market:



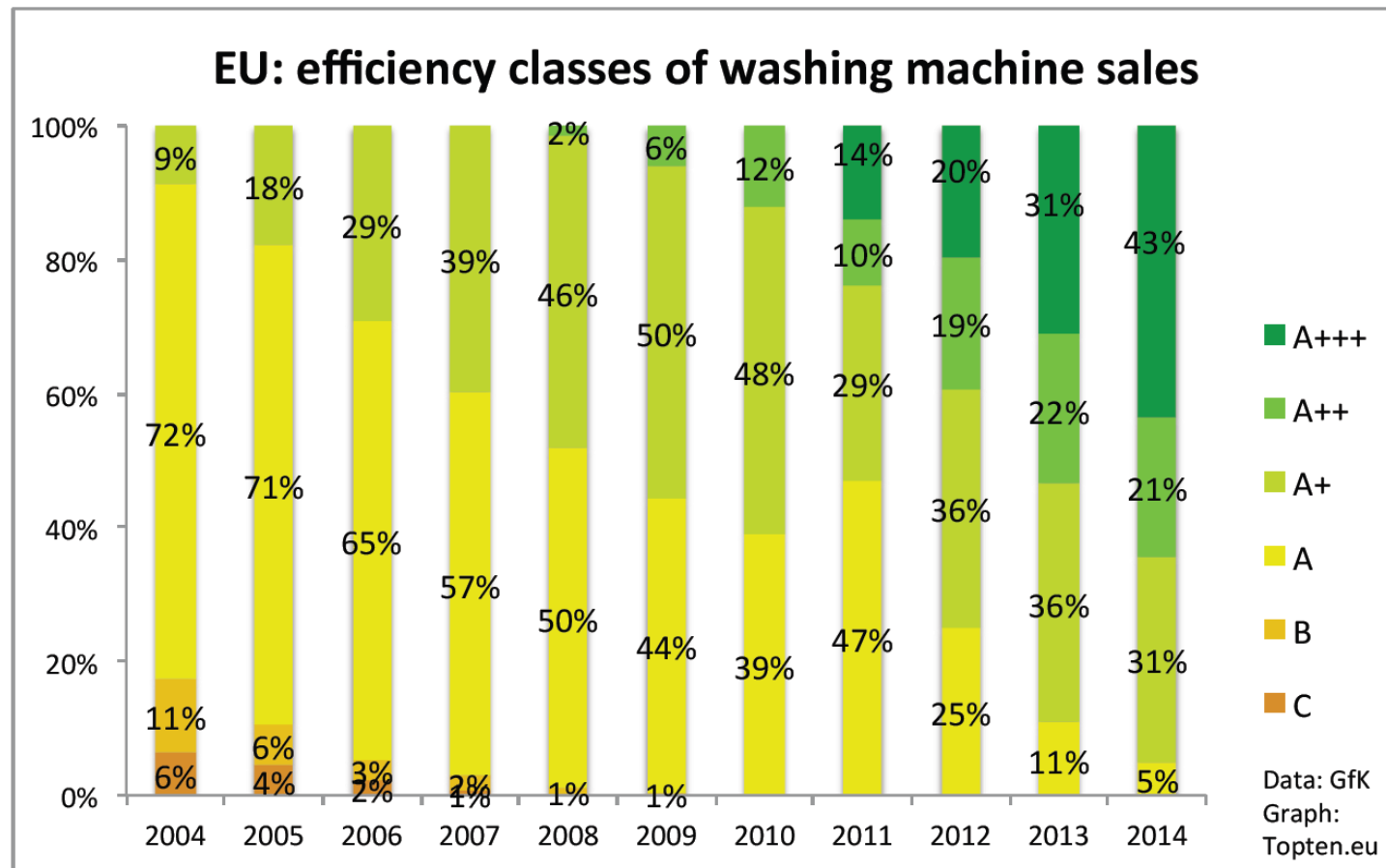
Ecodesign and Energy labelling: Results achieved

- **Half of the 20% energy efficiency target** for 2020.
- 175 Mtoe primary energy savings per year by 2020.
- 320 Mt CO₂ equiv. greenhouse gas emission reduction.
- Savings of around **€ 500 per household per year**.
- **€ 55 billion extra revenue** for industry, wholesale and retail sector.

Market transformation



Market transformation





European Commission

ENERGY LABEL
能源標籤

more efficient 效益較高
1
2
3
4
5
less efficient 效益較低

Grade 1 1星

Annual Energy Consumption (kW/h/cooling)
每年耗電量 (千瓦小時/製冷)
Based on ISO 14543 regulation
依據標準 ISO 14543 計算

1106

Cooling Capacity (kW) 製冷量 (千瓦)

2.54

Refrigerant 製冷劑

R410A

Room Air Conditioner 空調機

Brand 品牌: ABC

Model 型號: HK1234

Reference Number / Year 參考編號 / 年份: U1-C000123 / 2014

Information Provider 資料提供者: XYZ 某某某

機電工程署 EMSD

B
A-
A
A+
A++
A+++

Energy Efficiency

ENERJİ KİMLİK BELGESİ

Energy Efficiency

Annual Energy Consumption (kWh/year)

1106

Cooling Capacity (kW)

2.54

Refrigerant

R410A

中国能效标识
CHINA ENERGY LABEL

耗電低 1
2
3
4
5
耗電高

2星

生产单位名称: 品牌

规格型号: AAA-000

能效指标

其他性能指标

依据国家标准: GB 20000-2000

ENERG
ENERGIA ENEPIPIR ENERPIA ENERPIA ENERPIA ENERPIA ENERPIA

A+++
A++
A+
A
B
C
D

A++

XYZ kWh/annum

VWXYZ cm
YZ cm
ABCDEF
YZ cm

كفاءة الطاقة
Energy Efficiency

5

123

Annual Energy Consumption kWh / Year

Emirates Authority for Standardization & Metrology

Energia (Solar)

Produção Manual de Energia

Per m² de coletor (kWh/m².m²)

00.0

Per coletor (kWh/m².m²)

00.0

Classificação Energética Nacional (EN)

C

PROCEL

中国能效标识
CHINA ENERGY LABEL

耗電低 1
2
3
4
5
耗電高

2星

能效比 3.20

输入功率 (瓦) 1000

制冷量 (瓦) 3200

依据国家标准: GB 12021.3-2004

Air conditioners

ENERG
ENERGIA ENEPIPIR ENERPIA ENERPIA ENERPIA ENERPIA ENERPIA

A+++
A++
A+
A
B
C

A++

XYZ kWh/annum

VWXYZ cm
YZ cm
ABCDEF
YZ cm

Washing machines

ENERG
ENERGIA ENEPIPIR ENERPIA ENERPIA ENERPIA ENERPIA ENERPIA

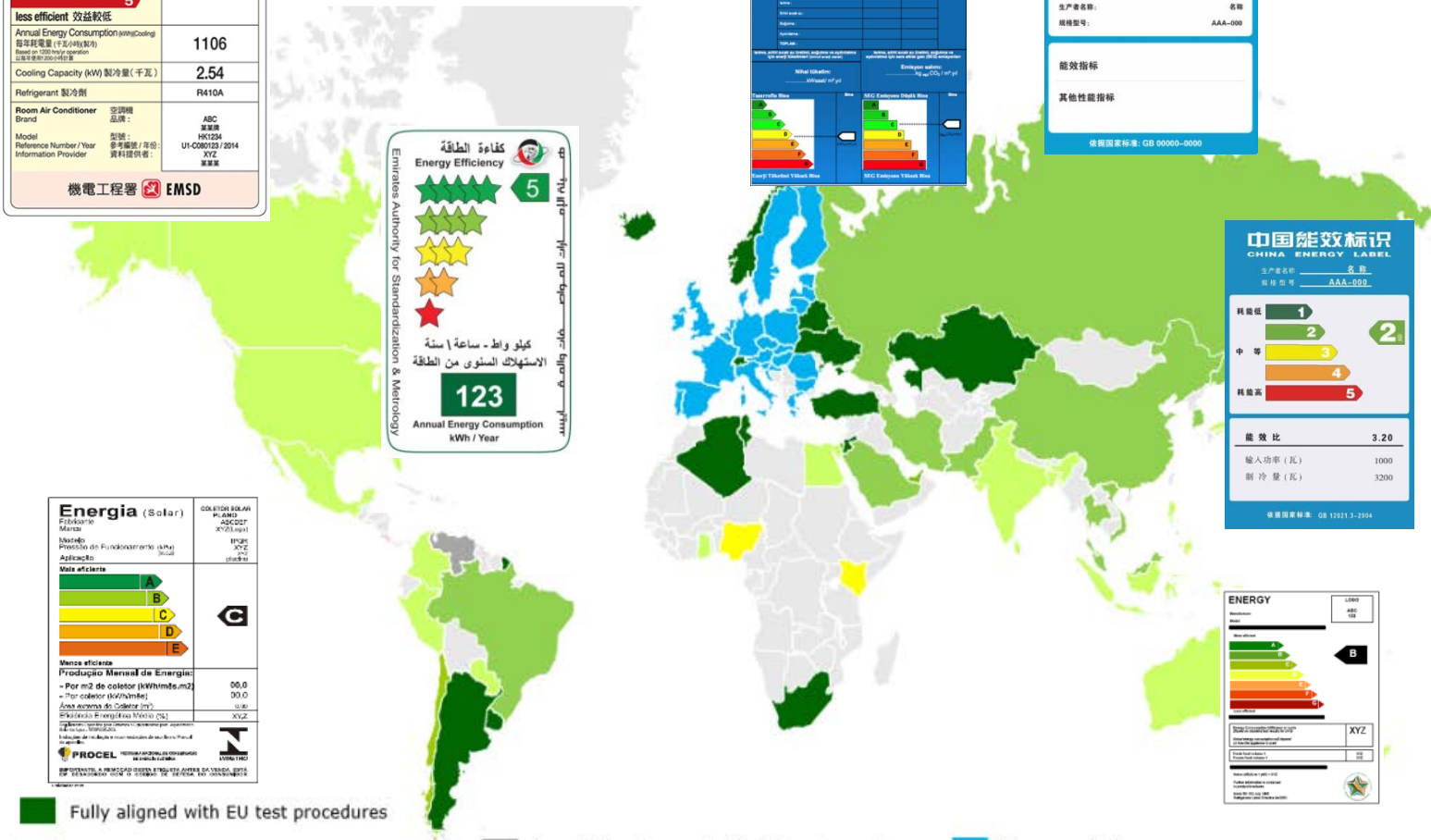
A+++
A++
A+
A
B
C
D

A+++

XYZ kWh/annum

XYZ cm
XYZ inch

2010/1062-2020



- Fully aligned with EU test procedures
- Strongly aligned with EU test procedures
- Some alignment with EU test procedures
- No or little alignment with EU test procedures
- Country not analysed
- European Union
- Regulations under development

Ecodesign (Directive 2009/125/EC)

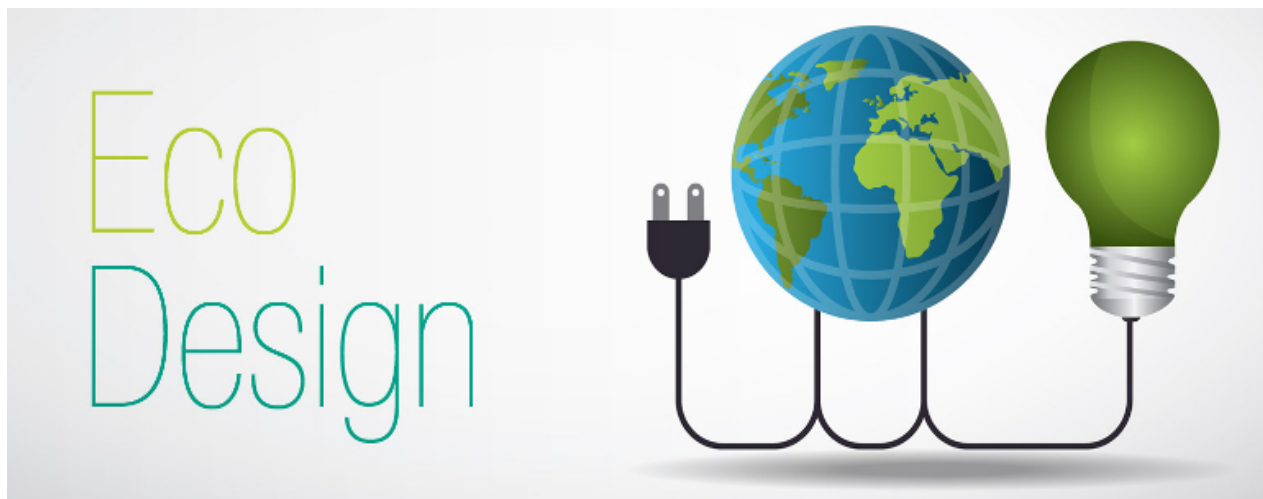
Setting of mandatory requirements for energy-related products to improve their environmental performance.



Criteria for action

What products?

No (significant) negative impact on a series of requirements.



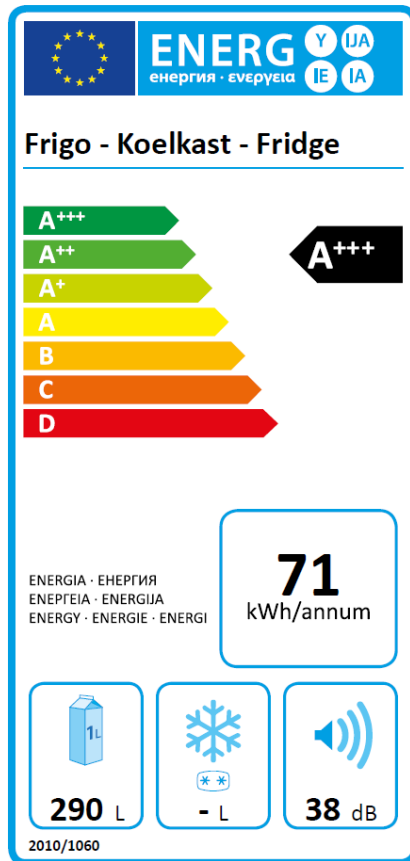
Energy Label (Directive 2010/30/EU)

Sets mandatory labelling requirements for energy-related products to enable consumers to make informed choices.

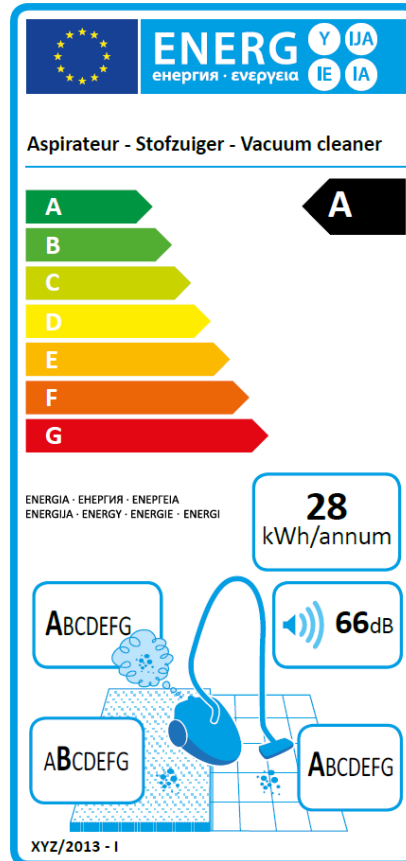


Energy Labelling – Examples

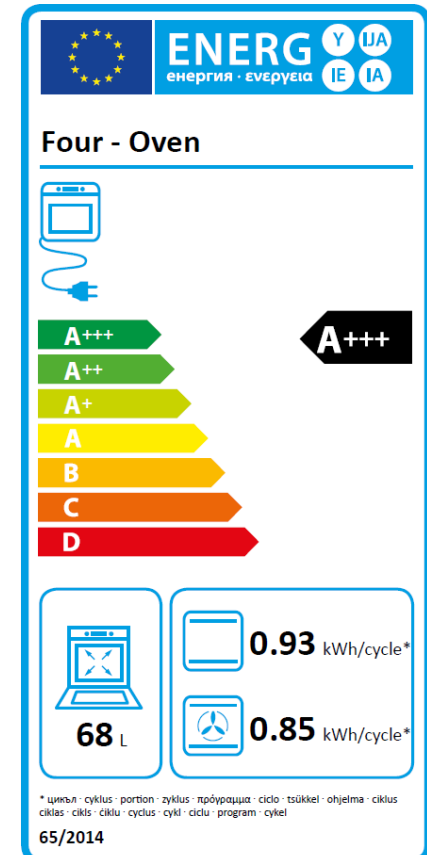
Refrigerators



Vacuum cleaners



Ovens





Measures in place

29 Ecodesign regulations

- 1275/2008 Electric power consumption standby and off mode
- 107/2009 Simple set-top boxes
- 244/2009 Non-directional household lamps
- 245/2009 Fluorescent lamps for high intensity discharge lamps
- 278/2009 External power supplies
- 640/2009 Electric motors
- 641/2009 Circulators
- 642/2009 Televisions
- 643/2009 Household refrigerating appliances
- 1015/2010 Household washing machines
- 1016/2010 Household dishwashers
- 327/2011 Industrial fans
- 206/2012 Air-conditioning products and comfort fans
- 547/2012 Water pumps
- 932/2012 Household tumble driers
- 1194/2012 Directional lamps
- 548/2014 Power transformers
- 617/2013 Computers and servers
- 666/2013 Vacuum cleaners
- 801/2013 Networked standby
- 813/2013 Space heaters
- 814/2013 Water heaters & storage tanks
- 66/2014 Domestic ovens, hobs and range hoods
- 1253/2014 Ventilation units
- 2015/1095 Professional refrigeration
- 2015/1185 Solid fuel local space heaters
- 2015/1188 Local space heaters
- 2015/1189 Solid fuel boilers
- 2016/2281 Air heating and cooling products, process chillers

16 Energy labelling Regulations

- 1059/2010 Household dishwashers
- 1060/2010 Household refrigerating appliances
- 1061/2010 Household washing machines
- 1062/2010 Televisions
- 626/2011 Air conditioners
- 392/2012 Household tumble driers
- 874/2012 Electrical lamps and luminaires
- 665/2013 Vacuum cleaners
- 811/2013 Space heaters
- 812/2013 Water heaters & storage tanks
- 65/2014 Domestic ovens, hobs and range hoods
- 518/2014 Internet energy labelling
- 1254/2014 Residential ventilation units
- 2015/1094 Professional refrigeration
- 2015/1186 Local space heaters
- 2015/1187 Solid fuel boilers

3 Voluntary agreements

- COM (2012) 684 Complex set top boxes
- COM (2013) 23 Imaging equipment
- COM (2015) 178 Game consoles

Main ongoing activities

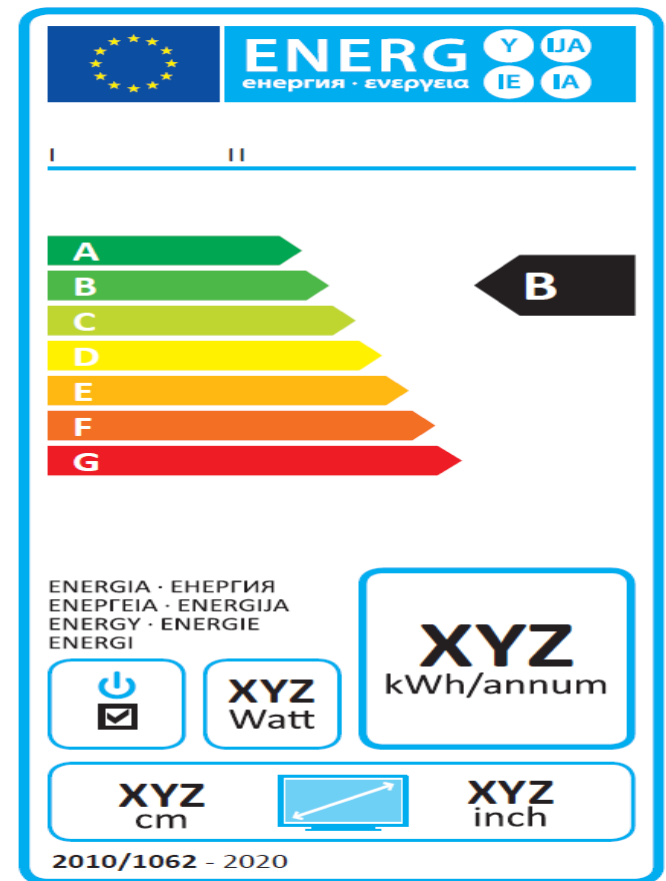
- Review Energy Labelling Directive
- Review Energy Star agreement
- Review tyre labelling regulation
- Review of several implementing measures

Commission proposal energy label (I)

Effectiveness.

Limit confusion.

Limit costs.



Commission proposal energy label (II)

- Rescaling
- Database
- Working plan and consultation forum
- Delegated acts





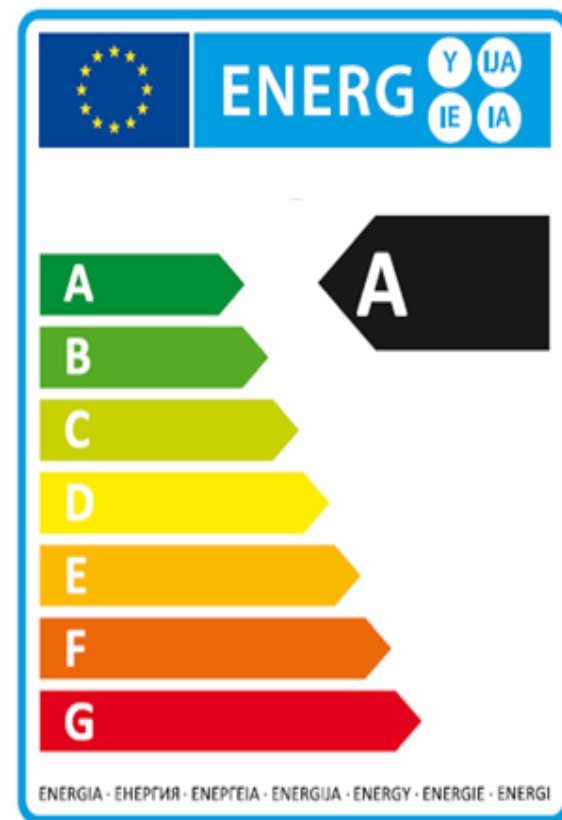
Product registration database

- Registration of label and compliance information.
- Direct access for authorities.
- Direct access for consumers.

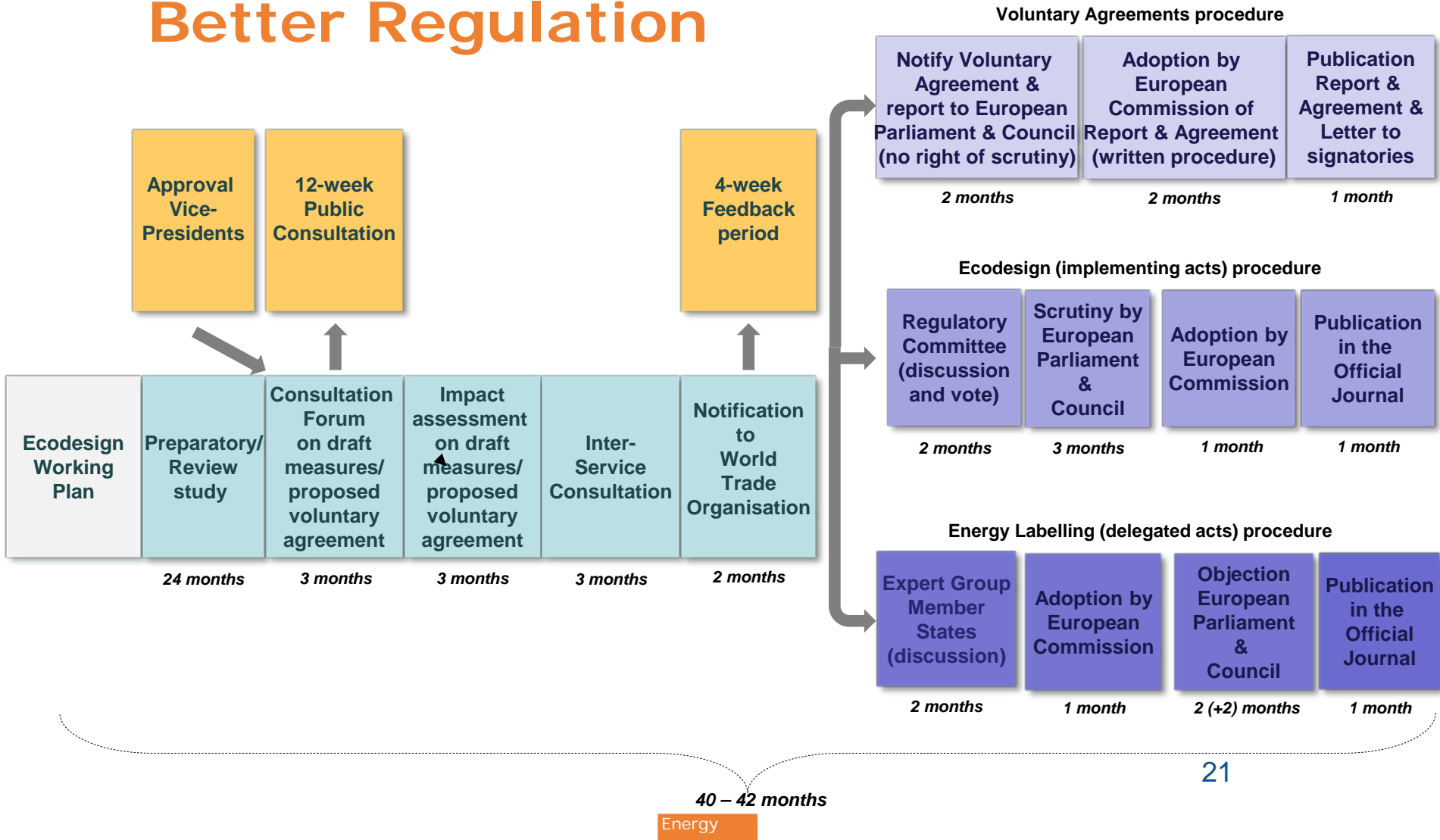
Commission proposal energy label (III)

Recent and future steps

- **Vote in Parliament**
- **Vote in Council**
- **Adoption on 26 June 2017**
- **Publication**
- **Entry into force**



Better Regulation



Ecodesign Working Plan 2016-2019

New measures under development

- Electronic displays (review of televisions)
- Commercial refrigeration
- Compressors
- Windows
- Welding equipment
- Professional washing machines, dryers and dishwashers
- Enterprise servers
- Water-related products (taps and showers)

Products under study

- Smart appliances
- Lighting controls/systems
- Uninterruptible power supplies

New products to be studied

- Building Automation and Control Systems
- Electric kettles
- Hand dryers
- Lifts
- Solar panels and inverters
- Refrigerated containers
- High-pressure cleaners

Measures under review/to be reviewed

- External power supplies
- Electric motors
- Fans
- Lighting products
- Household refrigerating appliances
- Household dishwashers
- Household washing machines
- Standby and off mode electric power consumption of electrical and electronic household and office equipment
- Water pumps
- Computers and computer servers
- Circulators
- Air conditioners and comfort fans
- Transformers
- Household tumble driers
- Vacuum cleaners
- Space and water heaters
- Local space heaters
- Ventilation units

Voluntary agreements under development

- Machine tools



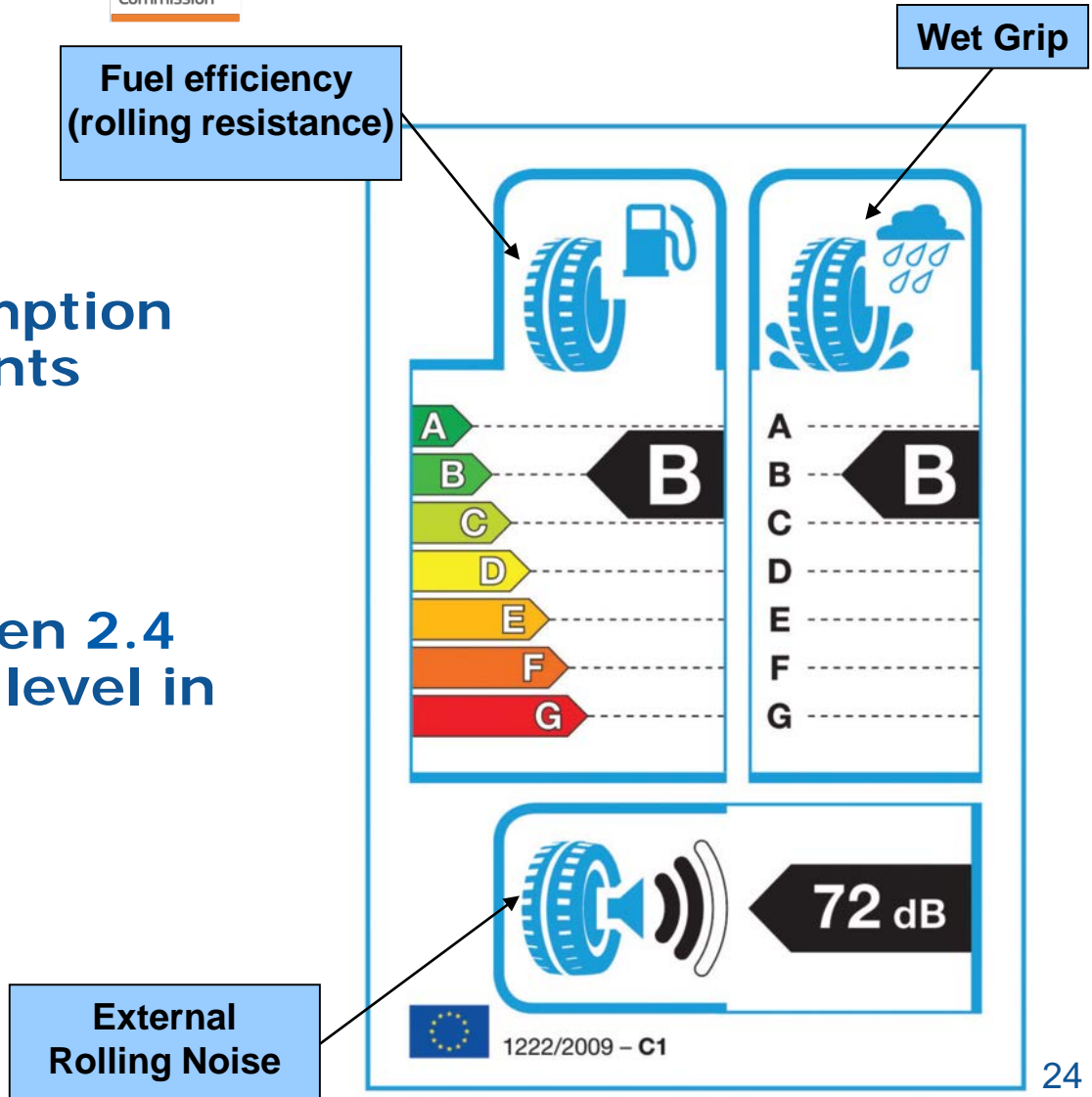
Energy Star

- Voluntary.
- EU programme based on international agreement with USA.
- EU Scope.
- Dynamic enhancement of specifications.
- Evaluation of programme.



Tyre labelling

- Reduce fuel consumption and related pollutants emissions.
- Fuel savings between 2.4 and 6.6 Mtoe at EU level in 2020.





Further information (I)

Products on Europa (including products pages)

<http://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products>

List of ecodesign measures:

https://ec.europa.eu/energy/sites/ener/files/documents/list_of_ecodesign_measures.pdf

List of energy labelling measures:

https://ec.europa.eu/energy/sites/ener/files/documents/list_of_energy_labelling_measures.pdf

Further information (II)

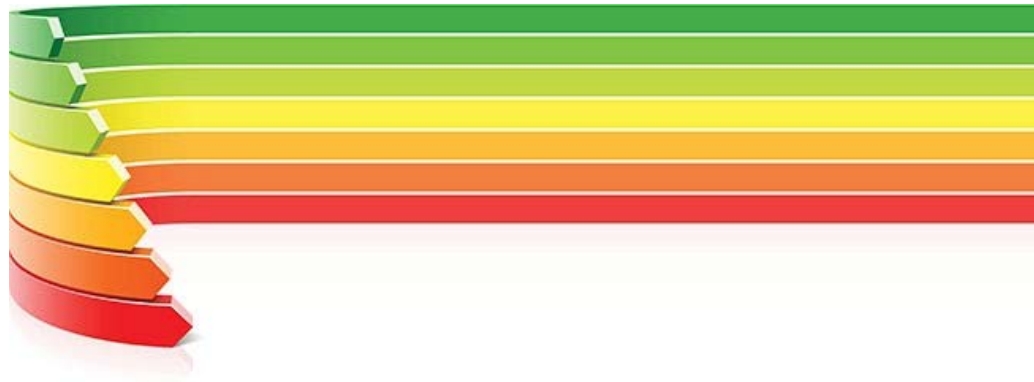
"Energy Label Generator":

<http://ec.europa.eu/energy/en/energy-labelling-tools>

Market surveillance authorities in the Member States can be found here:

<http://ec.europa.eu/growth/industry/sustainability/ecodesign/>

Many thanks for your attention



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DG ENER, European Commission

Website: http://ec.europa.eu/energy/efficiency/index_en.htm