



Products efficiency

The Ecodesign and Energy Labelling EU framework



EU policy framework for energy efficiency

Energy Efficiency

Directive 2012/27/EU

Energy Performance of Buildings

Directive (EU) 2018/844

Ecodesign

Directive 2009/125/EC

Energy Labelling

Regulation (EU)
2017/1369

Tyre Labelling

Regulation (EU)
2020/740

Financing Energy Efficiency

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

Ecodesign/Labelling synergy

Ecodesign

- Targets products manufacturers
- Sets minimum efficiency and other requirements for energy-related products (ErP), which they have to meet to be allowed to be placed on the EU market
- First rules date from 1992, currently over 30 product groups covered

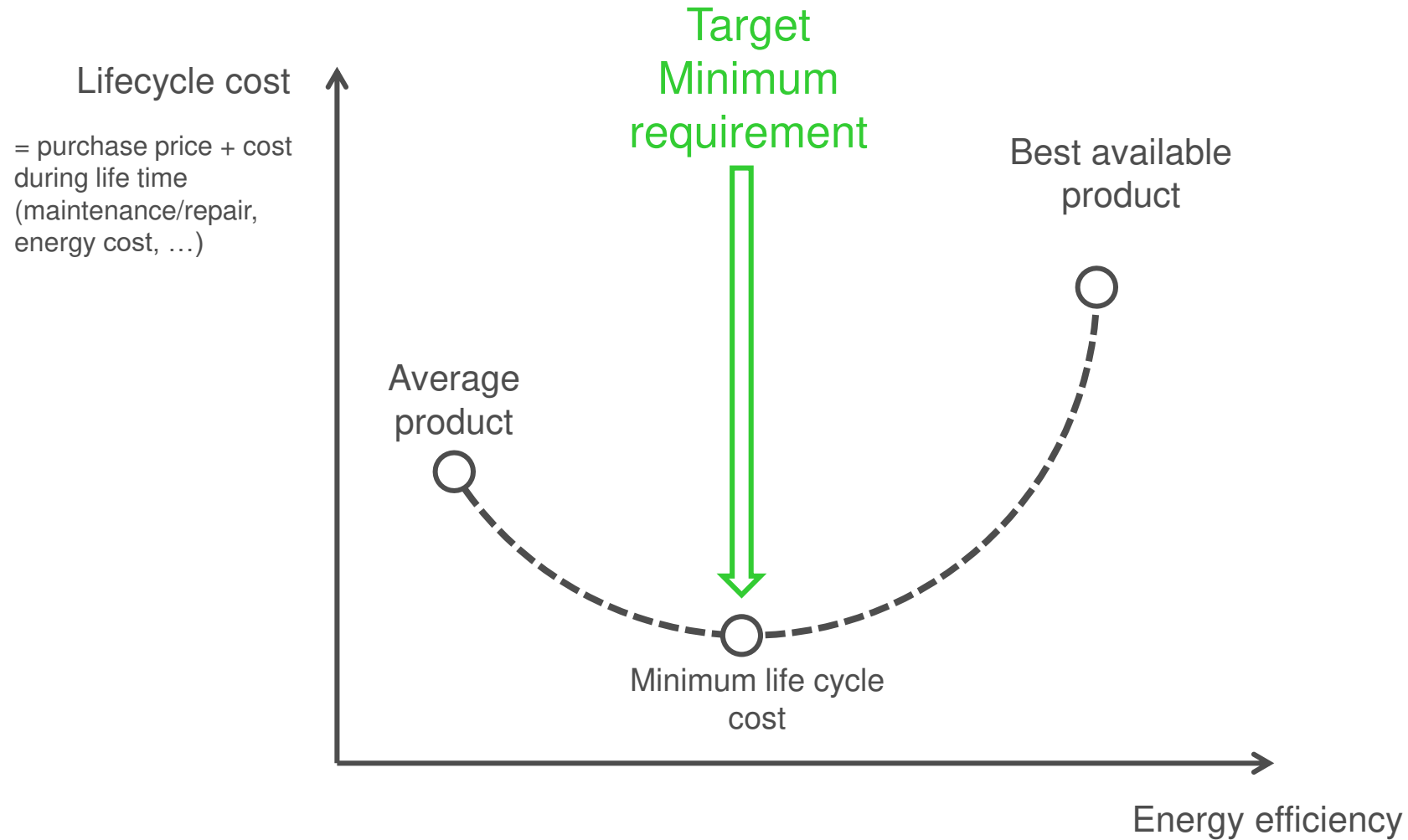
Energy labelling

- Targets products users
- Provides information on energy efficiency and other performance criteria (mostly for the use-phase)
- First labels date from 1979; currently 25 product groups covered

Framework rules are complemented by product-specific regulations



Minimum lifecycle costs



Measures in place

30 Ecodesign regulations

1275/2008	Electric power consumption standby and off mode
107/2009	Simple set-top boxes
641/2009	Circulators
327/2011	Industrial fans
206/2012	Air-conditioning products and comfort fans
547/2012	Water pumps
932/2012	Household tumble driers
617/2013	Computers
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
548/2014	Power transformers
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
2019/424	Servers and data storage products
2019/1782	Electric motors
2019/1782	External power supplies
2019/1784	Welding equipment
2019/2019	Household refrigerating appliances
2019/2020	Lighting sources
2019/2021	Electronic displays (televisions)
2019/2022	Household dishwashers
2019/2023	Household washing machines
2019/2024	Commercial refrigeration



16 Energy labelling Regulations (25 product groups)

626/2011	Air conditioners
392/2012	Household tumble driers
811/2013	Space heaters
812/2013	Water heaters & storage tanks
65/2014	Domestic ovens, hobs and range hoods
1254/2014	Residential ventilation units
2015/1094	Professional refrigeration
2015/1186	Local space heaters
2015/1187	Solid fuel boilers
2019/2013	Electronic displays (televisions, monitors, signage)
2019/2014	Household washing machines
2019/2015	Lighting sources
2019/2016	Household refrigerating appliances
2019/2017	Household dishwashers
2019/2018	Commercial refrigeration
2020/740	Tyres labelling



[For up-to-date info:](https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign_en)

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Ecodesign: typical minimal requirements

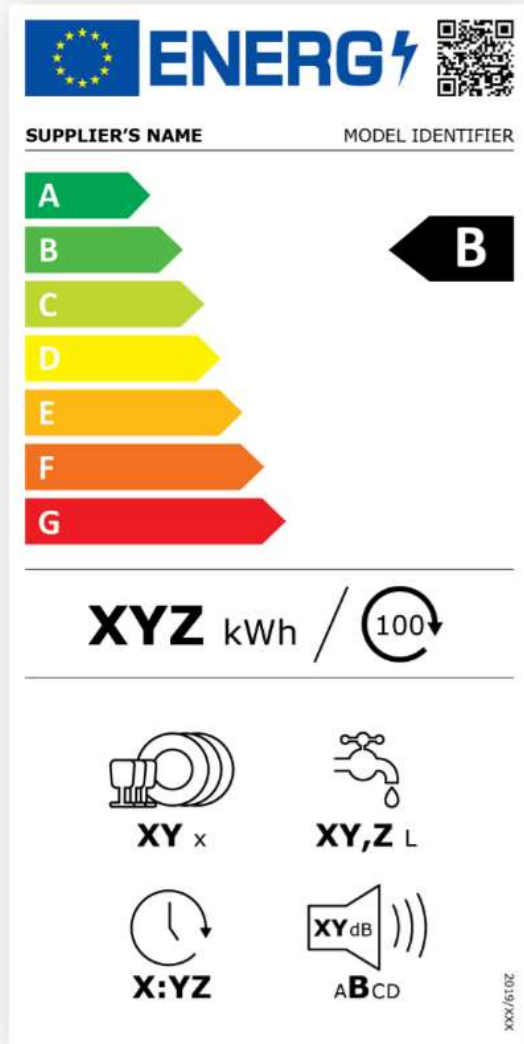
- **Energy efficiency in use and in stand-by modes**
- Environmental aspects: e.g. water use, noise emissions, ...

Embodied energy (and carbon):

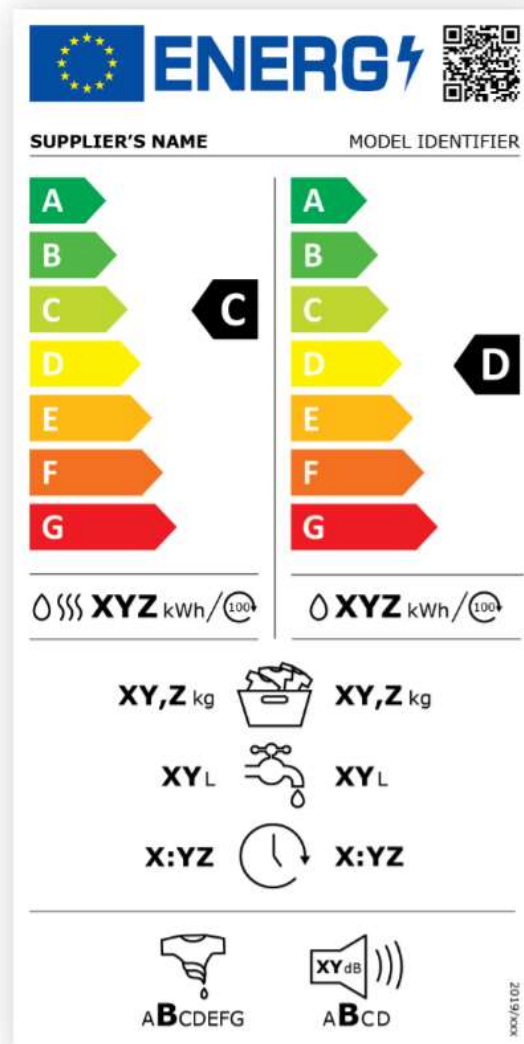
- Durability/reliability: working hours in lamps, battery recharge cycles, ingress protection
- Reparability:
 - Provision of spare parts for professional repairers and end-users, minimum spare part delivery times
 - Removability (reversible operation) with commonly available tools
 - Availability of software/firmware updates, reset software
 - Repair information
- Recyclability, reusability, end-of-life (WEEE):
 - Dismantling (irreversible operation) information
 - Restrictions on substances that hamper recyclability



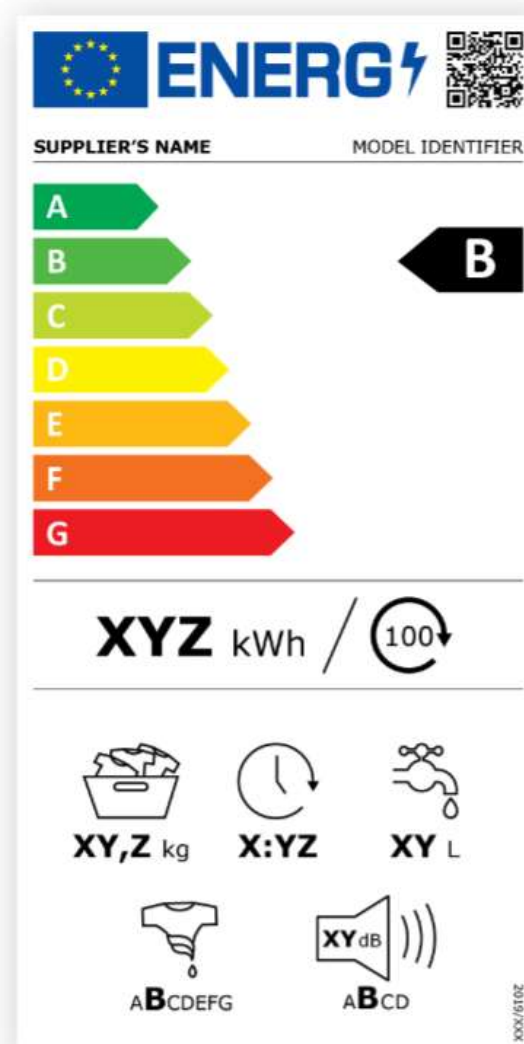
Energy label: examples



Dishwashers



Washer-Driers



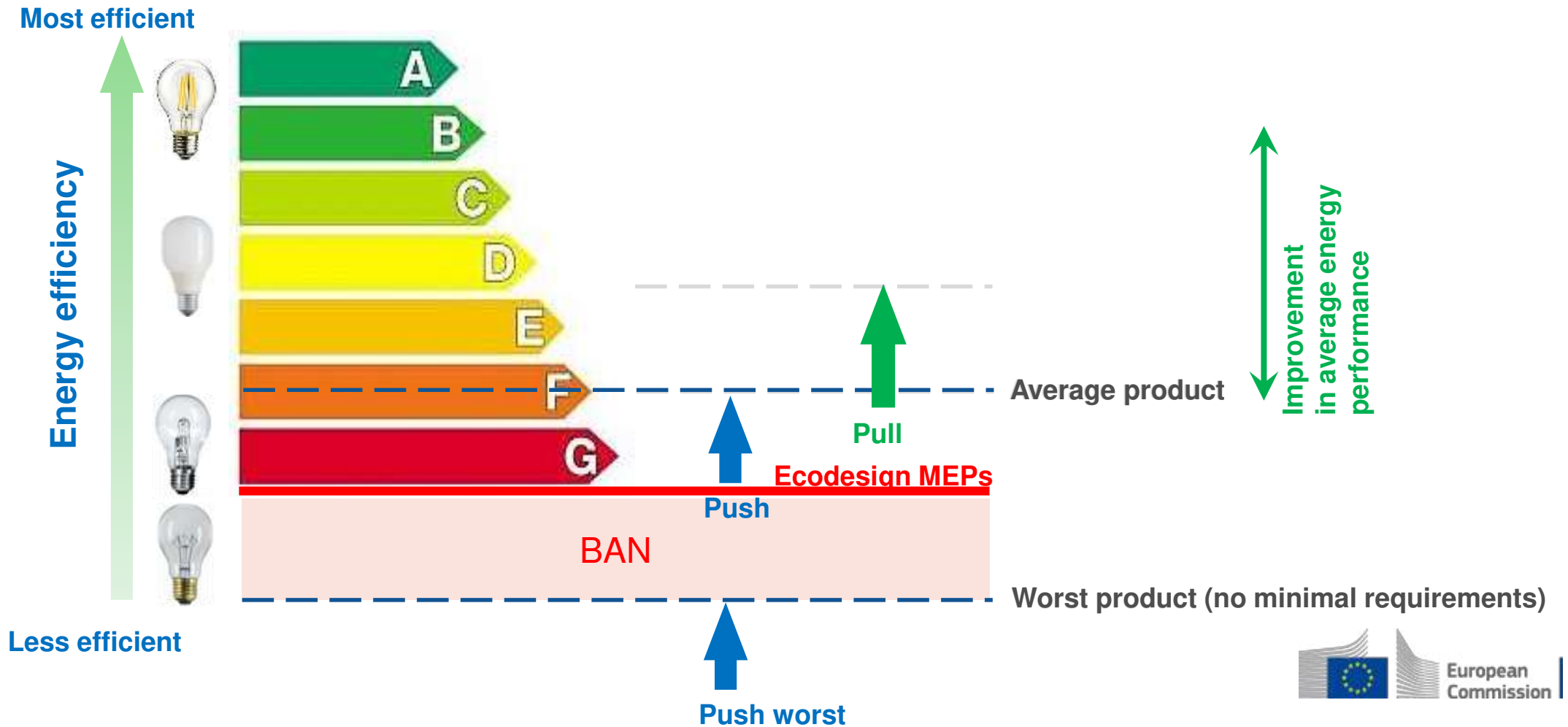
Washing machines



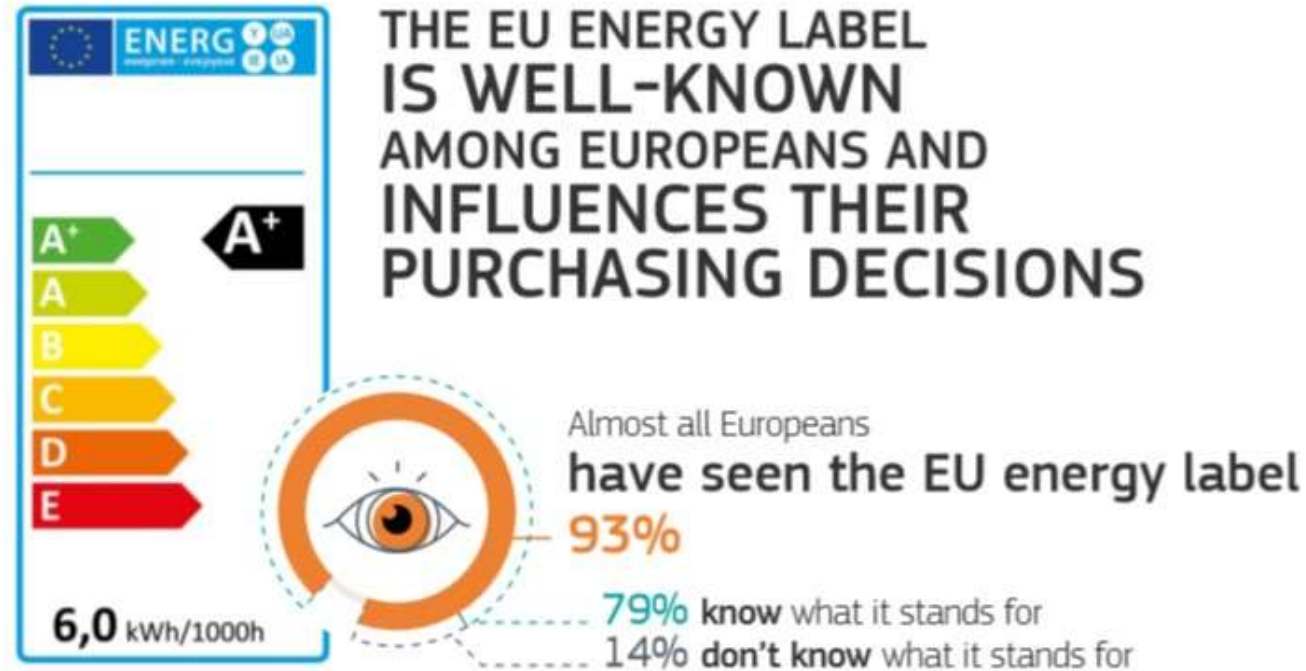
Ecodesign + labelling: push-pull combined effect

Ecodesign:
Targets **manufacturers**
Pushes the market (models)

Labelling:
Targets **users**
Pulls the market (sales)



Almost the most known EU symbol



Only the '€' symbol better known

The label had an influence
in **79%**
of Europeans' purchase choices
when buying appliances

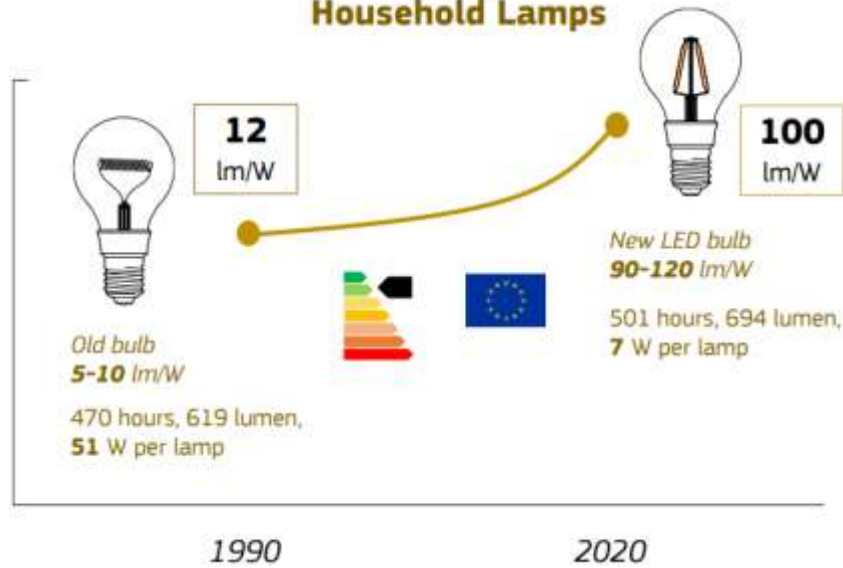


Ecodesign and Energy labelling - Results Achieved

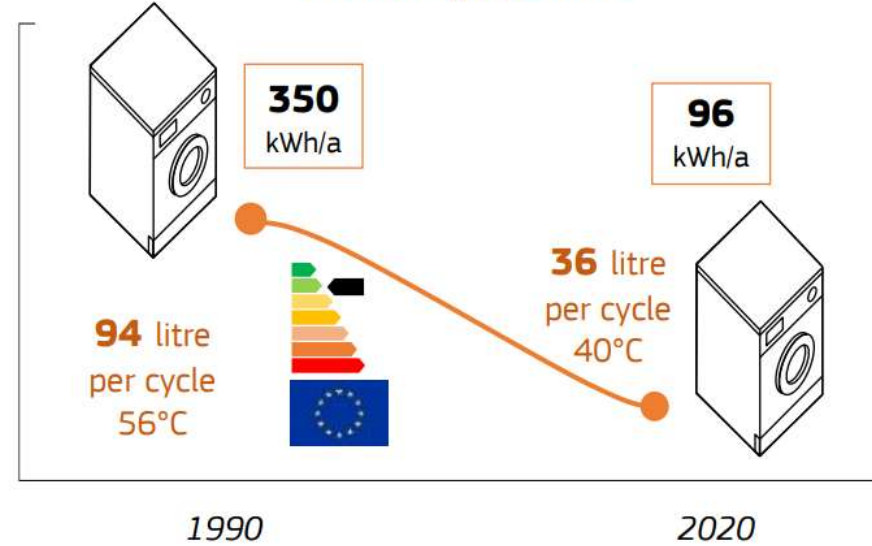
- 175 Mtoe primary energy savings per year by 2020, more than the annual primary energy consumption of Italy
- 340 Mt CO₂ equivalent less greenhouse gas emissions, more than 7% of EU total emissions in 2010
- € 102 billion net saving on consumer expenditure, equivalent to € 465 per household per year
- € 55 billion extra revenue for industry, wholesale and retail sector
- 800.000 extra direct jobs for industry, wholesale and retail sector
- Close to half of the 2020 target (20%)

Results achieved: popular examples

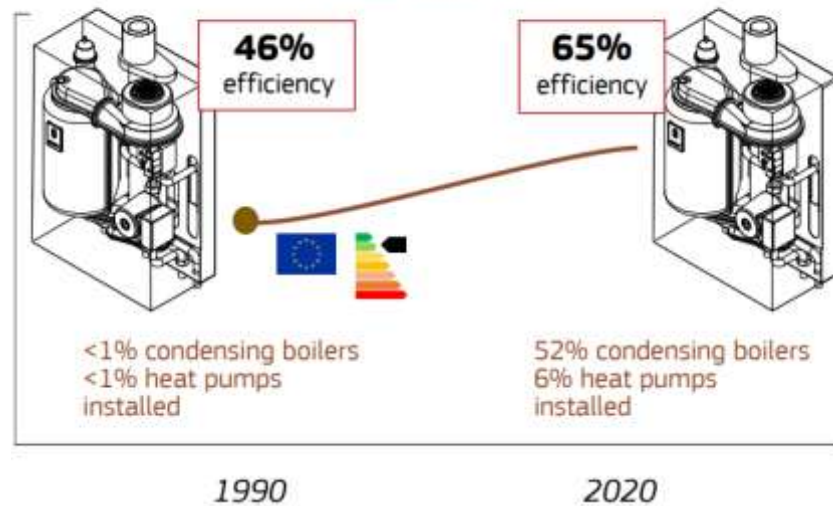
Household Lamps



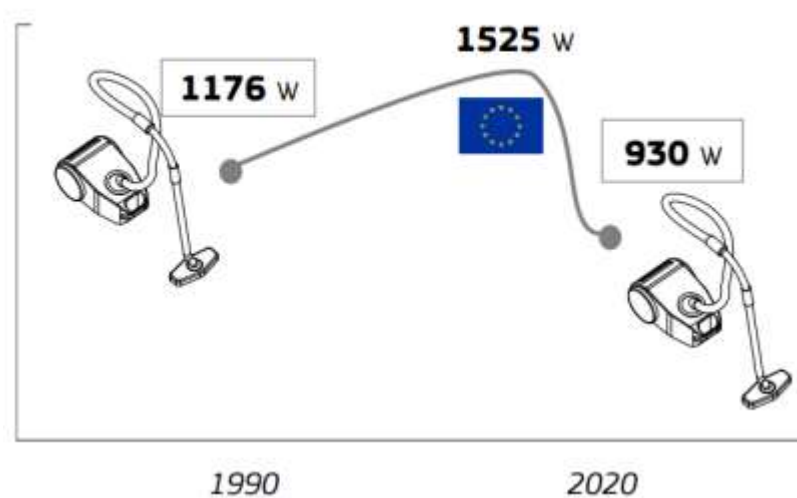
Washing Machine



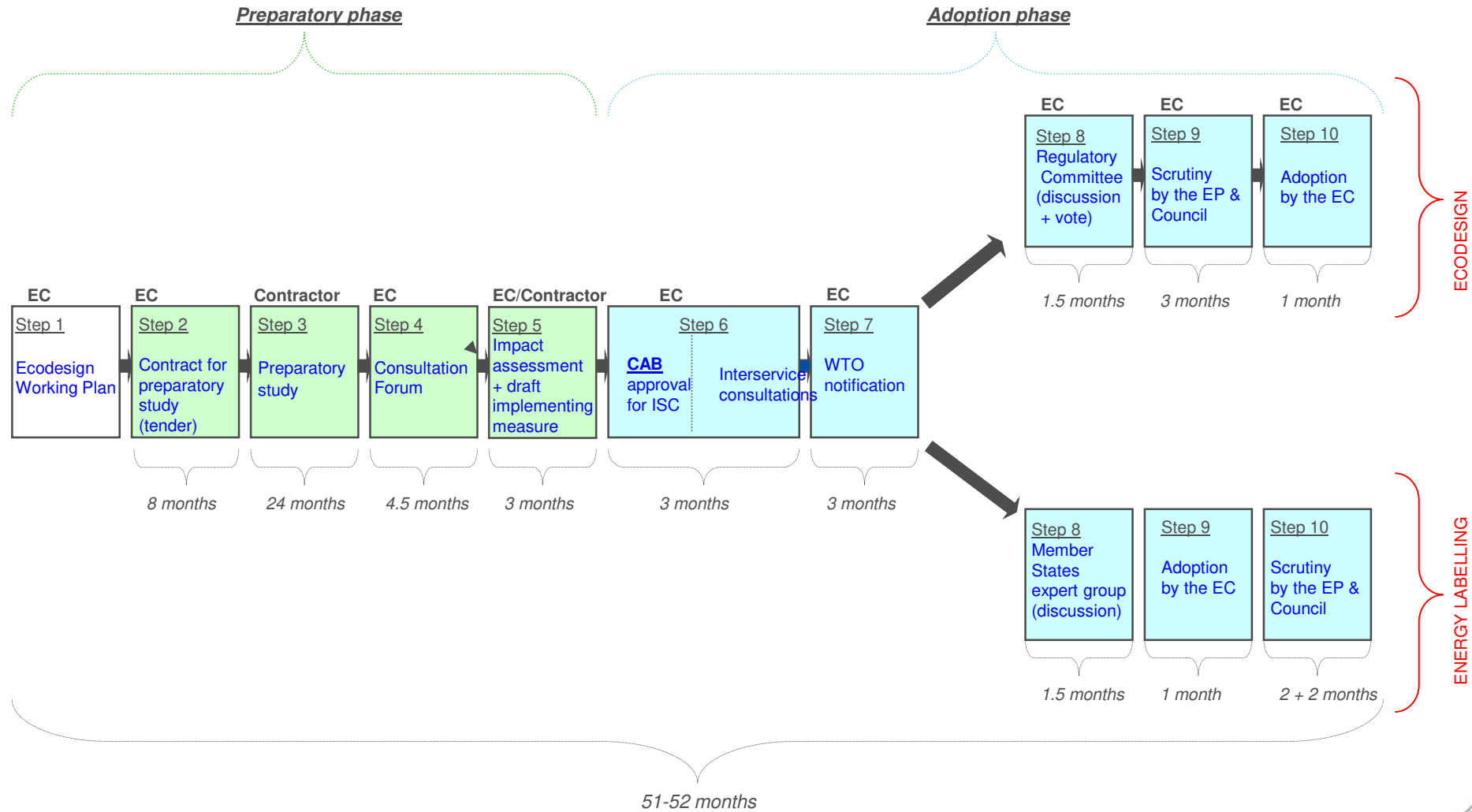
Hydronic central space heaters < 400 kW (excl. solid fuel)



Vacuum Cleaner



Process for regulations adoption



Market surveillance



- Incentive for manufacturers to comply
- Level playing field for industry
- Allows the energy savings to materialise

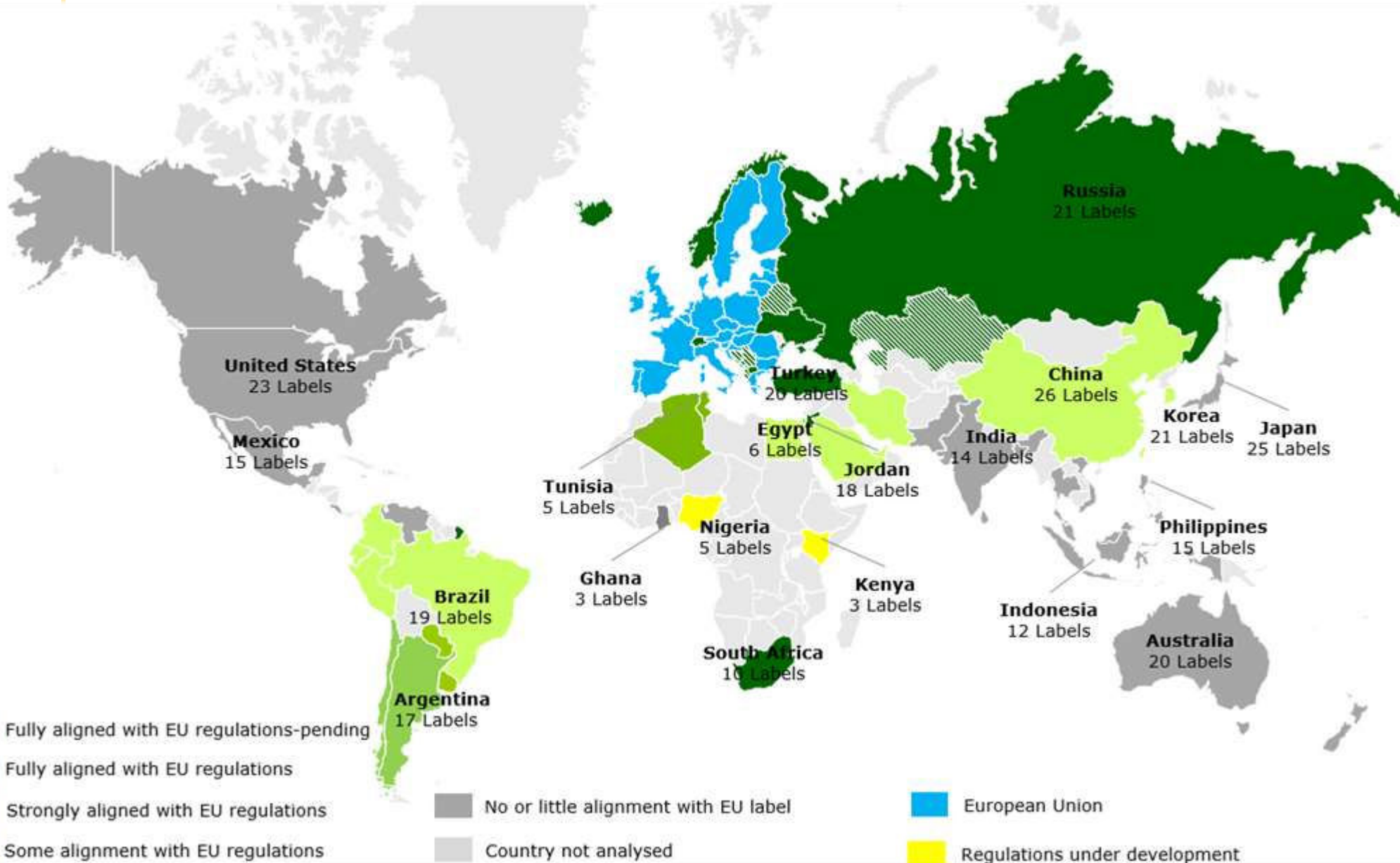
How ?

- **Member States are responsible** & must designate Market Surveillance Authorities (MSAs).
- **Horizontal legislation** on market surveillance (EU) 2019/1020 (GROW CdF)
- Manufacturers issue **Declaration of Conformity + "CE marking" + technical documentation** proving compliance (alternatives exist e.g. 3rd party certif.)
- Compliance verified by MSAs through random, ex-post checks: sampling in shops, borders checks, ordering on line, web crawlers, documentation checks, products testing in laboratory, etc.
- **EU support:** Overall coordination and support from COM via different fora, joint actions, IT tools (EPREL, ICSMS), guidance etc...

Impact on other jurisdictions *

- Extensive EU policy influence in 3rd countries
- Greatest alignment in the area of test procedures (facilitated by extensive use of ISO/IEC standards in EU rulemaking)
- Key reasons for 3rd countries to adopt EU rules:
 - Avoid duplication of work, reducing development costs and time
 - Adopt measures that are tried and tested in a peer economy
 - Avoid becoming the market of below-standard products
 - Facilitate trade

Influence in the world (labels)



Russia



South Africa



China



Argentina



Brazil

International cooperation



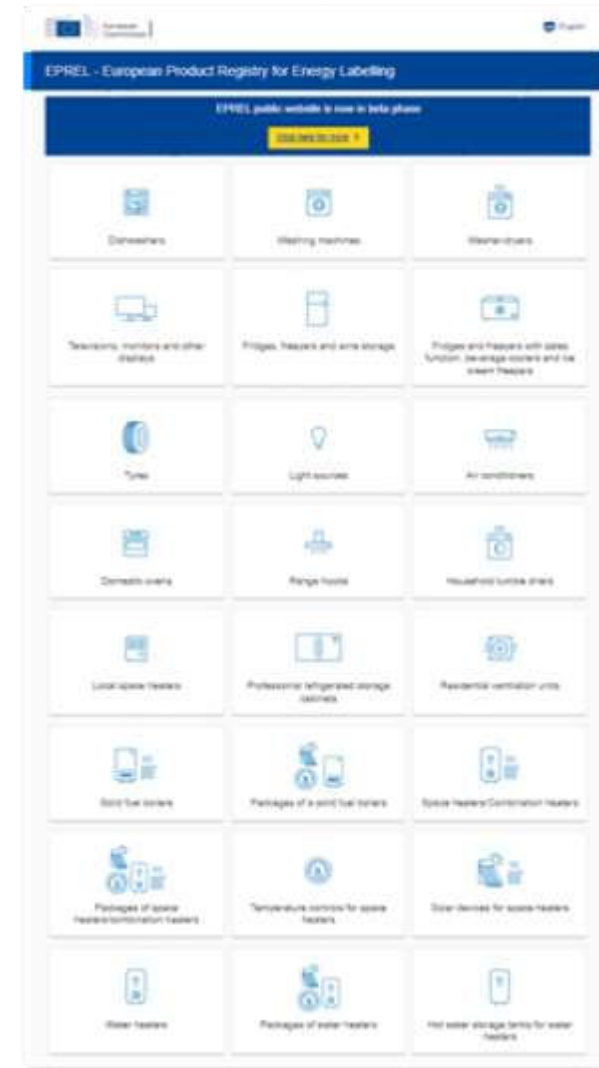
- An international organisation to create an integrated pan-European energy market.
- In force since 2006.
- Objectives:
- Extend the EU internal energy market rules and principles on the basis of a legally binding framework.
- Establish a stable regulatory and market framework capable of attracting investment in power generation and networks;
- Create an integrated energy market, enhance the security of supply, for economic development and social stability;
- Improve the environmental situation, foster energy efficiency and renewable energy
- Develop competition at regional level and exploit economies of scale.



<https://www.energy-community.org/>

The European Product Registry for Energy Labelling (EPREL)

- Legal basis: Framework Labelling Regulation (EU) 2017/1369
- Suppliers must register each product model prior to placing products on the EU market. Operational since 1 January 2019 (for suppliers)
- Information required is the Energy label, Product Information Sheet and technical (non-public, for compliance control)
- Crucial tool for market surveillance in EU-30 (+ Turkey, Energy Community and Switzerland asking – at least for some functionalities). EU National market surveillance authorities have access to non-public technical documentation).
- Consumers have access to public information (labels, product information), via QR scan 1 March 2021, search functionalities will be added in the course of the year. Helping finding the ‘minimum life cycle cost’ of products.



Statistics (March 2022)

Registered suppliers: $\approx 7\,300$

Registered products: $\approx 1\,300\,000$

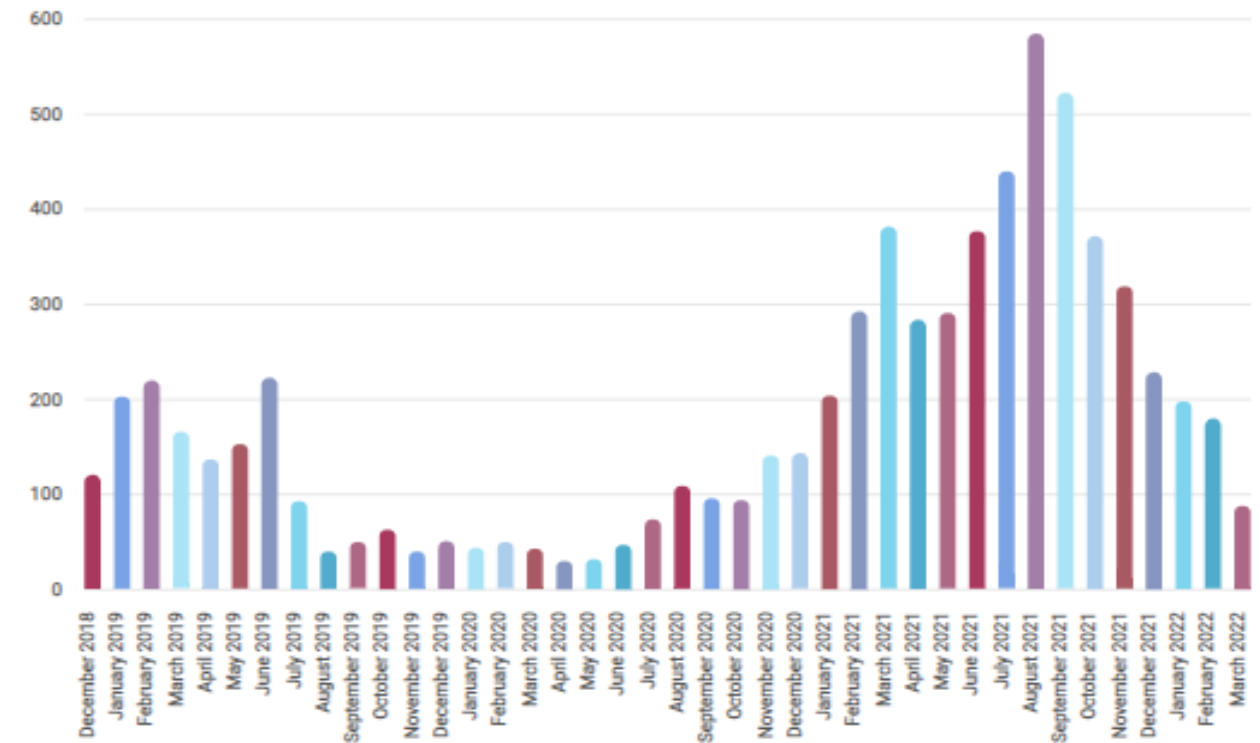
- Published: $\approx 883\,000$

In addition:

- $\approx 192\,000$ not placed on the market anymore or registered under Regulations now repealed
- $\approx 200\,000$ fully/partially registered (coming to the Market)

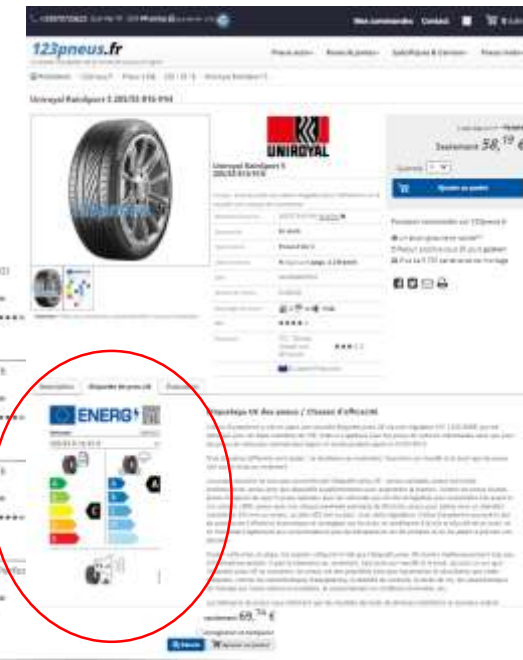
almost 10 000 new models published per week!

Total supplier organisations created: 7,229



Man impacts (ongoing)

- Boosting retailer compliance in e-commerce (thanks to APIs)



https://eprel.ec.europa.eu/api/products/refrigeratingappliances2019/311215/labels?format=PNG&supplier_label=true

<https://eprel.ec.europa.eu/api/products/refrigeratingappliances2019/311215/fiches?language=DE>

Main impacts with EPREL public access

Consumer tool – facilitating early appliance replacement in face of high energy prices, frontloading benefits of ecodesign/labelling

- Market data also of use in 3rd countries



- **Better targeting of public subsidies:** As per Art 7.2 of the ELR, MS shall only give incentives for products in the “*highest two significantly populated classes*”



- **Green public procurement facilitated:** Energy Efficiency Directive recast, Annex III refers to the same criteria

- The **Green taxonomy** (from 1 January 2022) also refers to the same criteria

- As does the **new VAT Directive** and **forthcoming EIF instruments**

The screenshot shows the 'EU taxonomy for sustainable activities' webpage. The page title is 'EU taxonomy for sustainable activities' and the subtitle is 'What the EU is doing to create an EU-wide classification system for sustainable activities'. The page contains several sections: 'Why do we need an EU taxonomy?', 'What is the EU taxonomy?', and 'Taxonomy Regulation and delegated acts'. The 'Why do we need an EU taxonomy?' section explains that the EU is doing this to support the EU's climate and energy targets for 2030 and to level the playing field for businesses across the EU. The 'What is the EU taxonomy?' section explains that the EU taxonomy is a classification system for sustainable activities, which will help businesses and investors to identify and invest in sustainable activities. The 'Taxonomy Regulation and delegated acts' section provides information on the EU taxonomy Regulation and the delegated acts that will be used to implement it.

Thank you for your attention

Paolo TOSORATTI, paolo.tosoratti@ec.europa.eu

Mail to:

ENER-EPREL-HELPDESK@ec.europa.eu

ENER-ENERGY-LABELLING@ec.europa.eu



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