



Don't just press the button! The importance of appliance settings

Co-Authors:

Rainer Stamminger
Edouard Toulouse
Chris Spiliotopoulos

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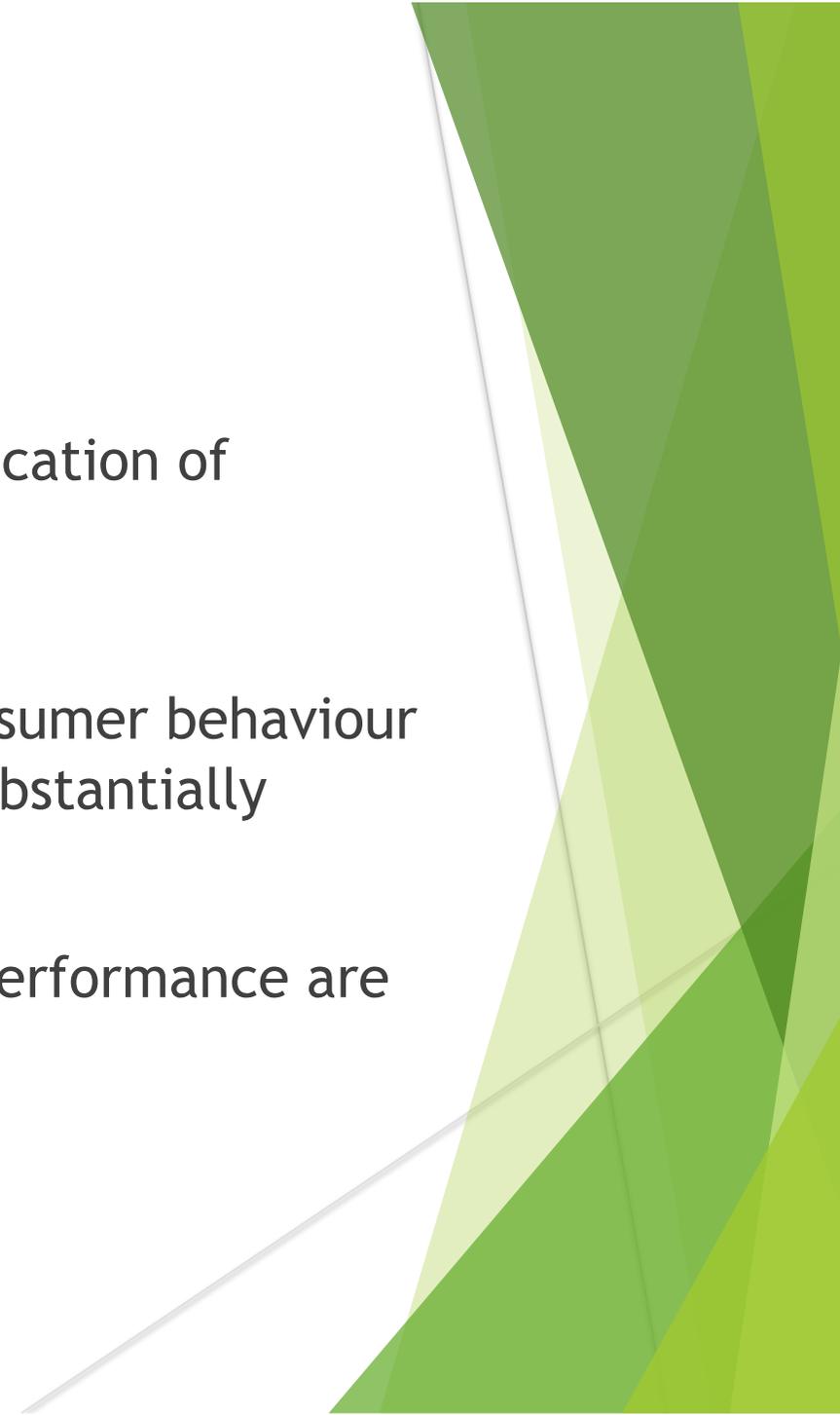
Overview

- Introduction and motivation
- Extent of the issue
- ‘Eco-modes’ in washing machines/ water heaters
- Policy recommendations



Introduction

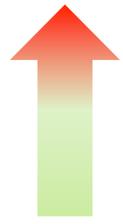
- ▶ Appliances are more sophisticated with a multiplication of programmes and auxiliary features
- ▶ Users pay little attention to product settings/consumer behaviour understudied; real life energy use may diverge substantially
- ▶ Risk that the standard test methods for energy performance are not representative of actual use



User settings affecting energy consumption



+ 70%



+ 30%



+ 16%



+ 10%



+ 30% to
+ 100%



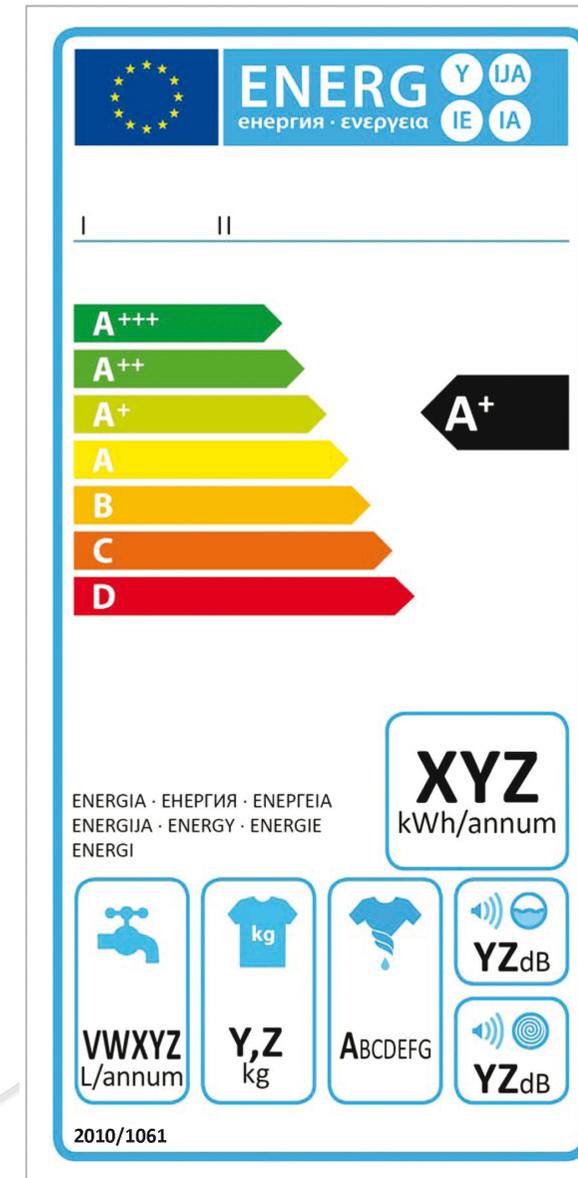
Actual use of different dishwashing programmes

of households using mainly this programme	Intensive	Energy saving / Eco	Automatic	Glass/Care	Short	Normal 50-55 °C	Normal 60-65 °C	Other programmes
Cherrier (2010a) (n = 1209)	12,4	17,0	14,8	7,8	11,3	29,1		7,7
Wamminger and Streichardt (2009) (n = 2599)	8,9	17,7	7,8	--	8,7	27,7	29,1	6,0
Cherrier (2015) – Online-study (n = 3836)	14,5	18,7	14,3	6,4	12,2	17,0	16,9	--
Cherrier (2015) - Usage diary study (n = 202)	13,7	22,4	25,7	0,5	11,5	8,2	16,9	1,0

'Eco mode' in washing machines

Programmes	Load (Kg)	Energy consumption (kWh)	Water consumption (litre)	Approximate programme duration (minutes)	Remaining moisture (%) ¹⁾
Cottons 60 °C	9	1.55	79	170	52
Cottons 40 °C	9	0.97	79	164	52
Synthetics 40 °C	3	0.55	54	109	35
Delicates 40 °C	3	0.60	59	89	35
Wool/Hand wash 30 °C	2	0.35	58	60	30
Standard cotton programmes					
Standard 60 °C cotton	9	0.64	58	226	52
Standard 60 °C cotton	4.5	0.35	40	185	52
Standard 40 °C cotton	4.5	0.35	40	199	52

Instruction manual for a washing machine (AEG L89495FL)



Result: possible misleading claims



Water Heaters (WH) and the 'eco-mode'



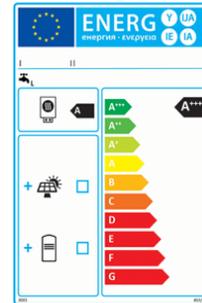
Water Heaters often offer multiple operating modes!

Test can take place in the most favourable mode for the manufacturer!

TEST LAB



WARNING: TESTING IN ECO-MODE



Test results demonstrate good performance!

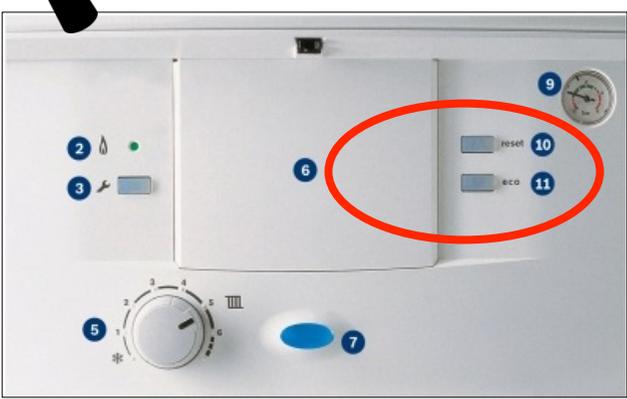
BUT...

REAL LIFE

In reality, consumers at home may not use the eco-mode!



Lower performance in normal mode...



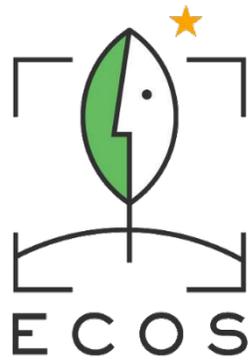
WH compromise: 'out-of-the-box' mode

EC Communication on transitional methods for water heaters

Specifies that each water heater shall be tested in the "out of the box-mode"

Recommendations

1. Clear test conditions, representative of real life use; **add safeguard principle to the Energy Labelling Directives**
2. Inform consumers of basis for Energy Label rating and display important parameters (eg. T) - opportunities through **digitalisation of the energy label**
3. Deliver products **with energy management features enabled by default**
4. **Educate/inform on energy saving behaviours** through improved manuals, campaigns, as well as consumer organisations
5. **Research systematically real life user behaviour** with energy related products (eg. in revisions of Ecodesign and Energy Labelling white goods regulations)



THANK YOU!

Stamatis SIVITOS

Senior Policy Officer

ECOS, Rue d'Edimbourg 26, B-1050 Brussels

Tel: +32 2 894 46 56

Stamatis.sivitos@ecostandard.org

<http://www.ecostandard.org>

www.twitter.com/ECOS_Standard

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