

# Part 1 Eco design requirements

## 1) List of input / Measurements tolerance & limits between efficiency classes

→ What to be measured?

→ What tolerance would be acceptable in regard of:

- The labeling design (difference between classes)
- The minimum requirements control (market surveillances)
- Other new measures (ECO labeling dir.)
- The end user expectations

# PARAMETERS NEEDED FOR ECODESIGN?

## BOILER

- Full load efficiency
- Part load efficiency
- NO<sub>x</sub>
- Standby loss
- Electricity consumption

## HOT WATER APPLIANCES

- Hot water efficiency. Tank losses
- Other parameter = same as above

## mCHP

- El. Efficiency

## EI & GHP

- Noise / COP + more

# PARAMETERS NEEDED FOR ECODESIGN?

	Efficiency	N Ox	SBY loss	El.	Noise	Other		
CH Boiler	<ul style="list-style-type: none"> <li>• <math>\eta</math> 80/60</li> <li>• <math>\eta</math> 30 %</li> </ul>	NOx	Pstby	Elmax Elmin Elsby	Lwa	Pign		
Hot water appliance		NOx	Pstby	Elmax Elmin Elsby	Lwa	Pign		
mCHP	<ul style="list-style-type: none"> <li>• <math>\eta_{\text{CHP100+Sup0}}</math></li> <li>• <math>\eta_{\text{CHP100+Sup100}}</math></li> <li>• <math>\eta_{\text{el,CHP100+Sup0}}</math></li> <li>• <math>\eta_{\text{el,CHP100+Sup100}}</math></li> </ul>	NOx	Pstby	Elmax Elmin Elsby	Lwa			
GHP	<ul style="list-style-type: none"> <li>• SCOP</li> <li>• SPER</li> <li>• CC</li> </ul>	NOx	Pstby	Elmax Elmin Elsby	Lwa			
EHP								

**Details to be given in the next part of the workshop by TC chairs**

# HOW can measurement uncertainty impact Eco design?

- 1) Wrong labeling class
- 2) Non respect of the minimum requirement
- 3) Wrong information to the end user

# LABELING

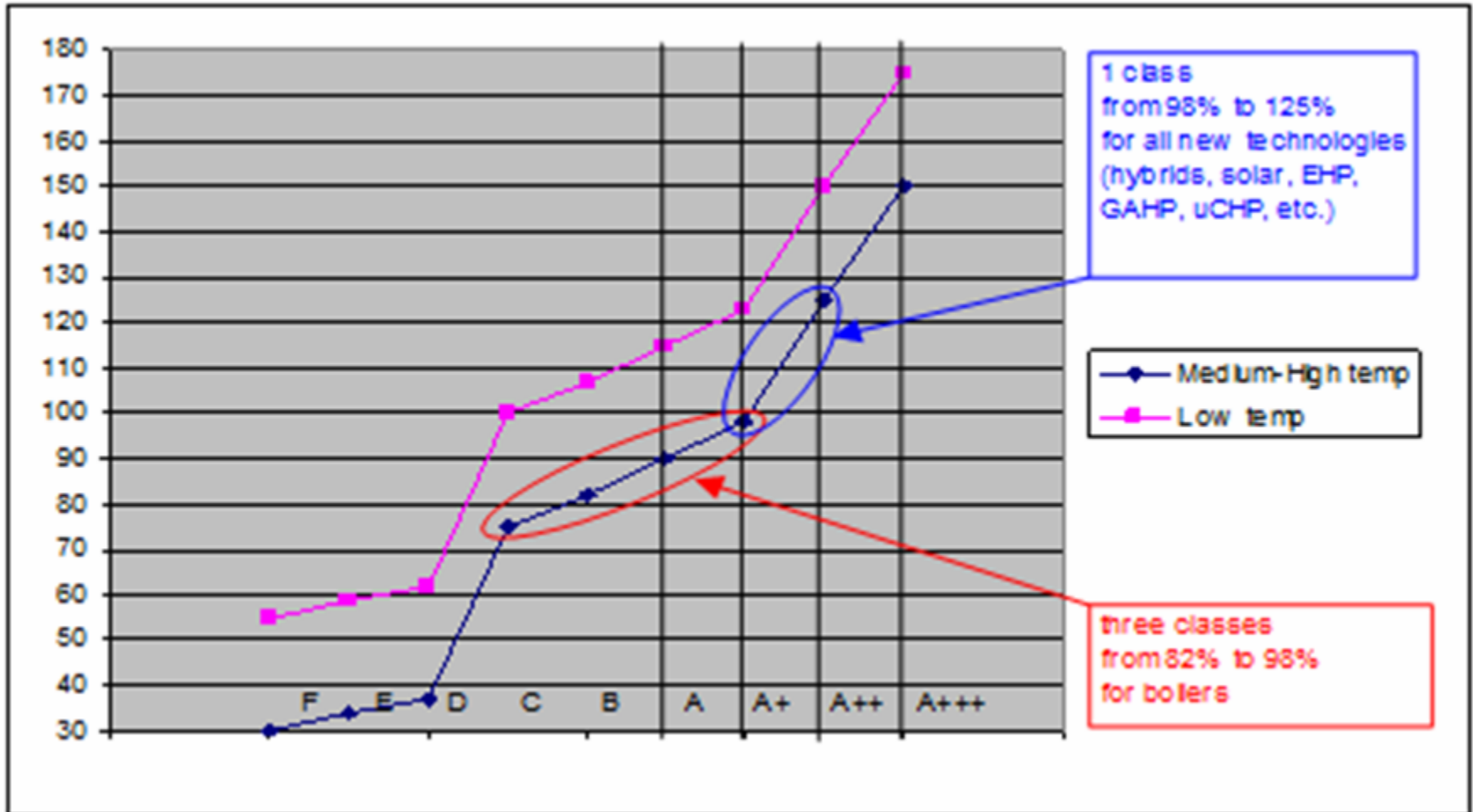
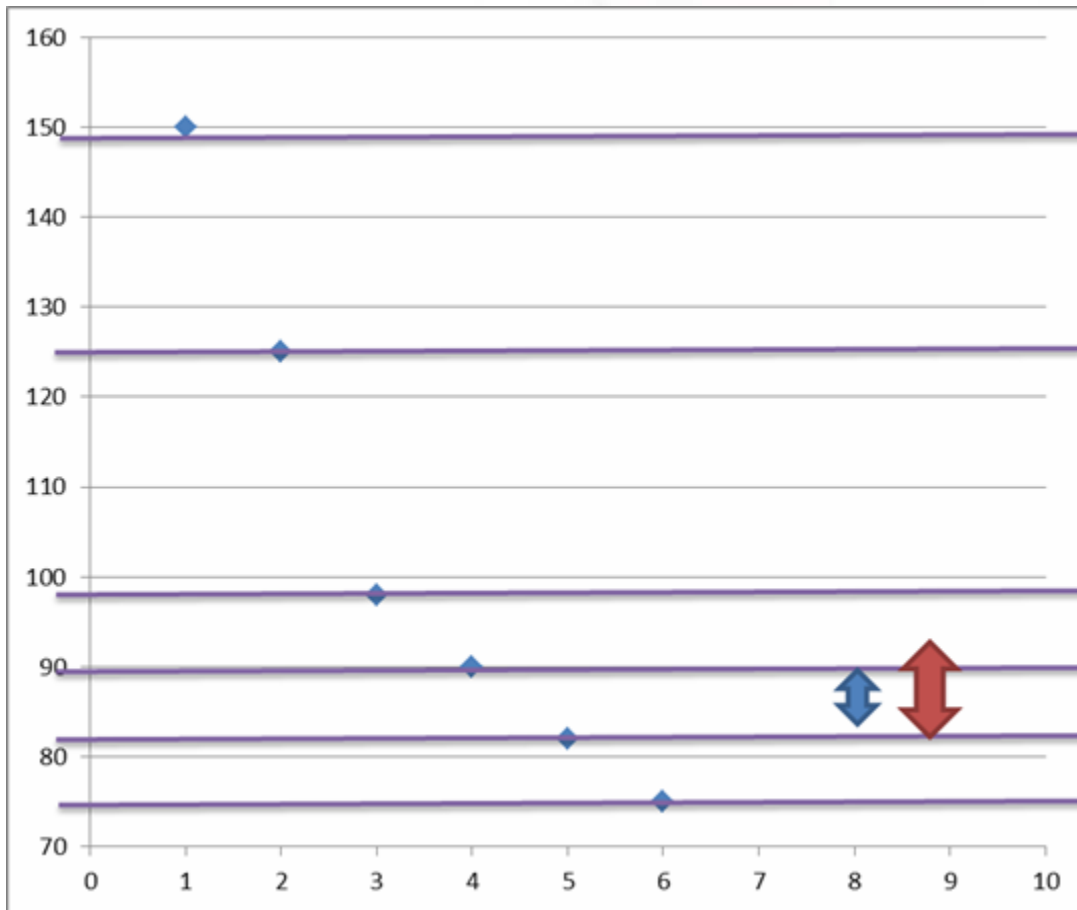


FIGURE FROM ROBUR

Seasonal space heating energy efficiency class	Seasonal space heating energy efficiency $\eta_s$ in %	GAP (%)
A+++	$\eta_s \geq 150$	
A++	$125 \leq \eta_s < 150$	25%
A+	$98 \leq \eta_s < 125$	27%
A	$90 \leq \eta_s < 98$	8%
B	$82 \leq \eta_s < 90$	8%
C	$75 \leq \eta_s < 82$	7%
D	$37 \leq \eta_s < 75$	
E	$34 \leq \eta_s < 37$	
F	$30 \leq \eta_s < 34$	
G	$\eta_s < 30$	

**Table 1:** Seasonal space heating energy efficiency classes of heaters, with the exception of low temperature heat pumps and heat pump space heaters in low temperature application

FROM : Working Document on a Draft COMMISSION DELEGATED REGULATION (EU) No .../... of XXX supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar-only system and packages of combination heater, temperature control, solar-only system and passive flue heat recovery device (FEB 2012)

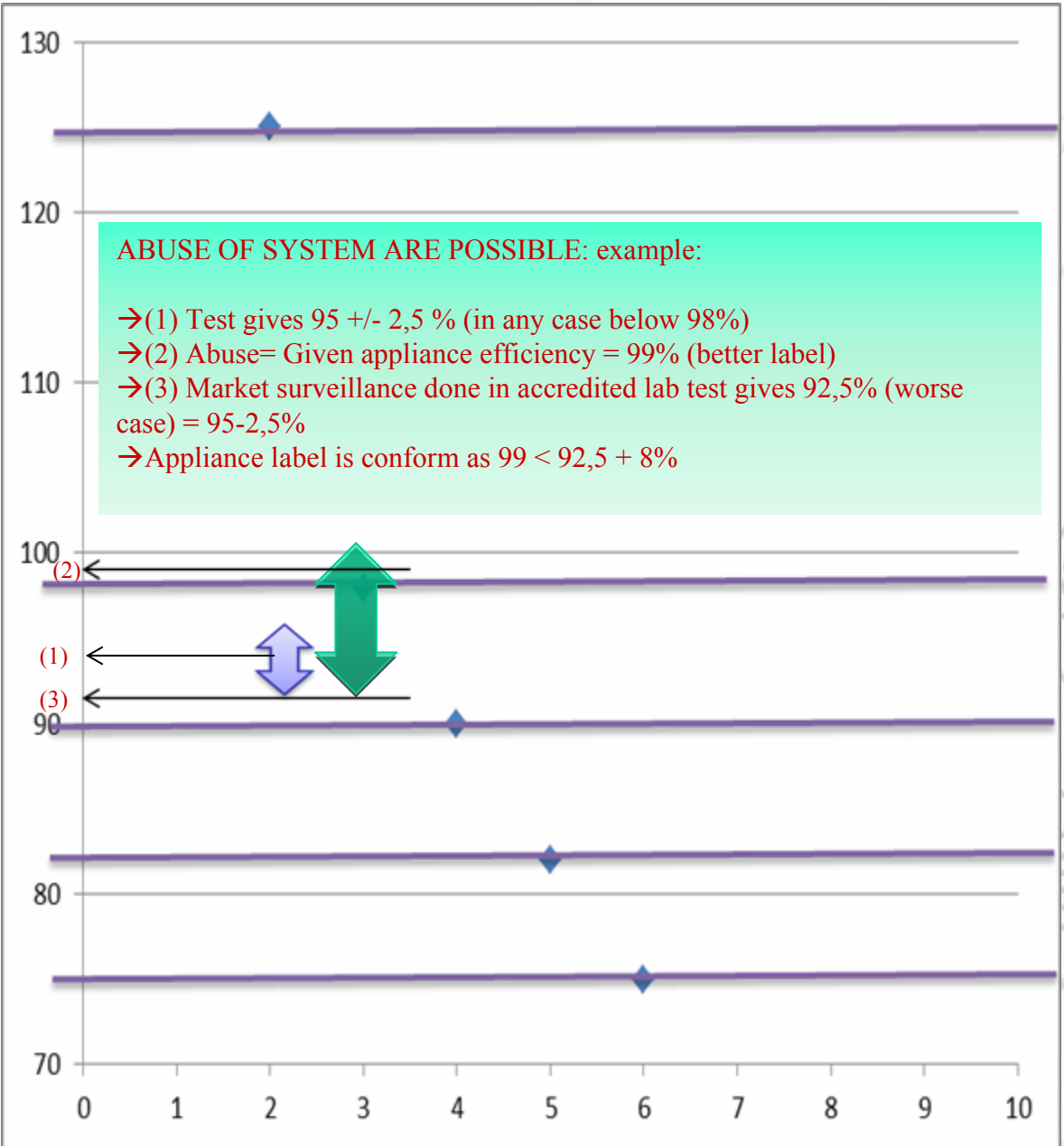


**1) Wrong labeling classe**

**2) Non respect of the minimum requirement**

If the uncertainty of measurement of the lab is too high; measuring on the same appliance can give

- 1) A wrong labeling
- 2) A wrong conclusion on the respect of the minimum requirement
- 3) An inaccurate information to the end user



**Market surveillance tolerances = 8% for efficiency.**

**This is about twice the actual Reproducibility of Labs for CH boilers**



# Conclusions on Measurements tolerance & limits between efficiency classes

- Considering
  - the gaps between the classes,
  - the market surveillance tolerances,
  - the lab actual quality

The actual system (no mandatory third part) may lead to system abuse.

Labs & CEN shall work further to keep the high quality build up in the last 20 years and defend accuracy in testing not only for ECO design directive, but also for

- Other new measures (ECO labeling dir.)
- The end user fair information
- The society benefit