



# Controls and the user

**Bill Bordass**

*The Usable Buildings Trust (UBT)*

**Roderic Bunn**

*BSRIA and UBT*

# Usable room controls: *Why do they matter?*

- Where occupiers and building interact  
*"If I'm in a machine for living,  
I'd prefer to be in the driving seat".*
- Improve occupant satisfaction,  
*where systems respond directly to user needs,  
with rapid response to "crises of discomfort".*
- Save management time, *if individuals and  
groups can look after their own requirements.*
- Reduce unintended consequences *"The BMS  
may know the temperature, but it doesn't sit  
in the draught it causes!" ... BUILDING USER.*
- Avoid wasteful operation - ***Default to ON is the  
scourge of today's buildings. It squanders  
energy and increases CO<sub>2</sub> emissions.***

# How well are we doing?



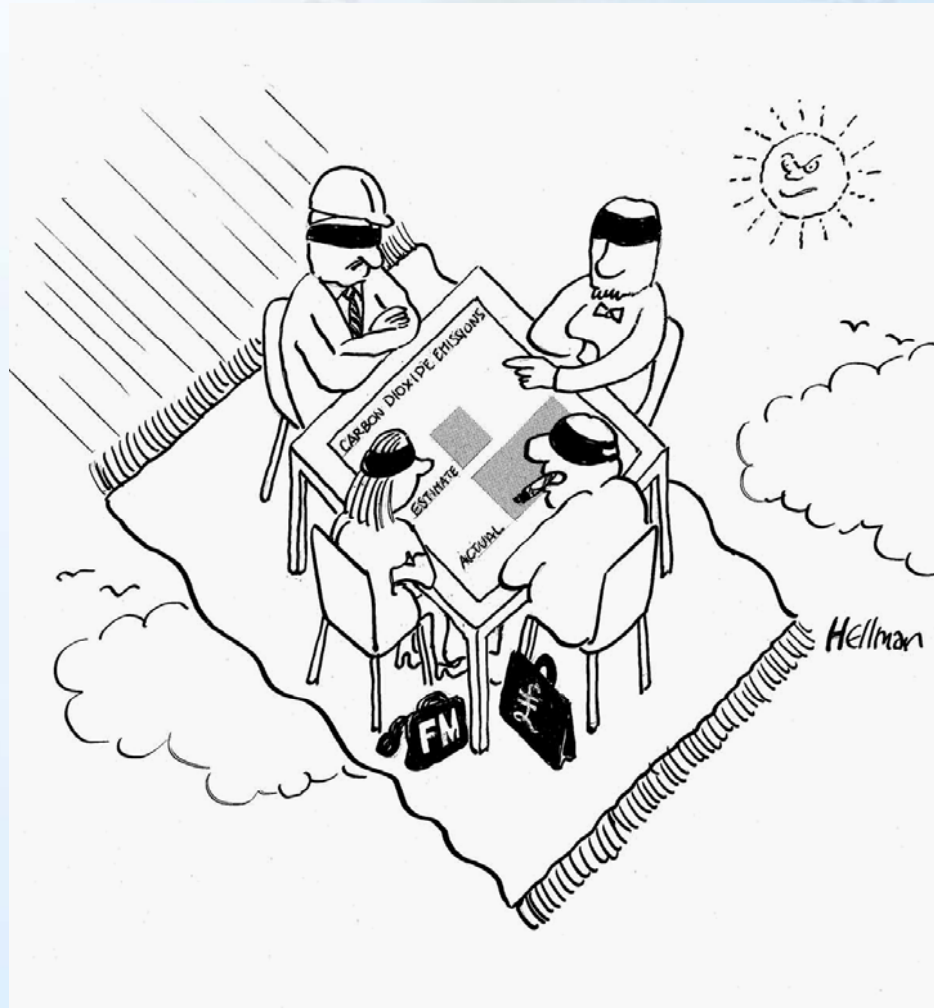
# How well are we doing?



*"Clients are the crash-test dummies of the design world"* - **Sam Cassells**



# In buildings, is anybody monitoring the crash-tests?



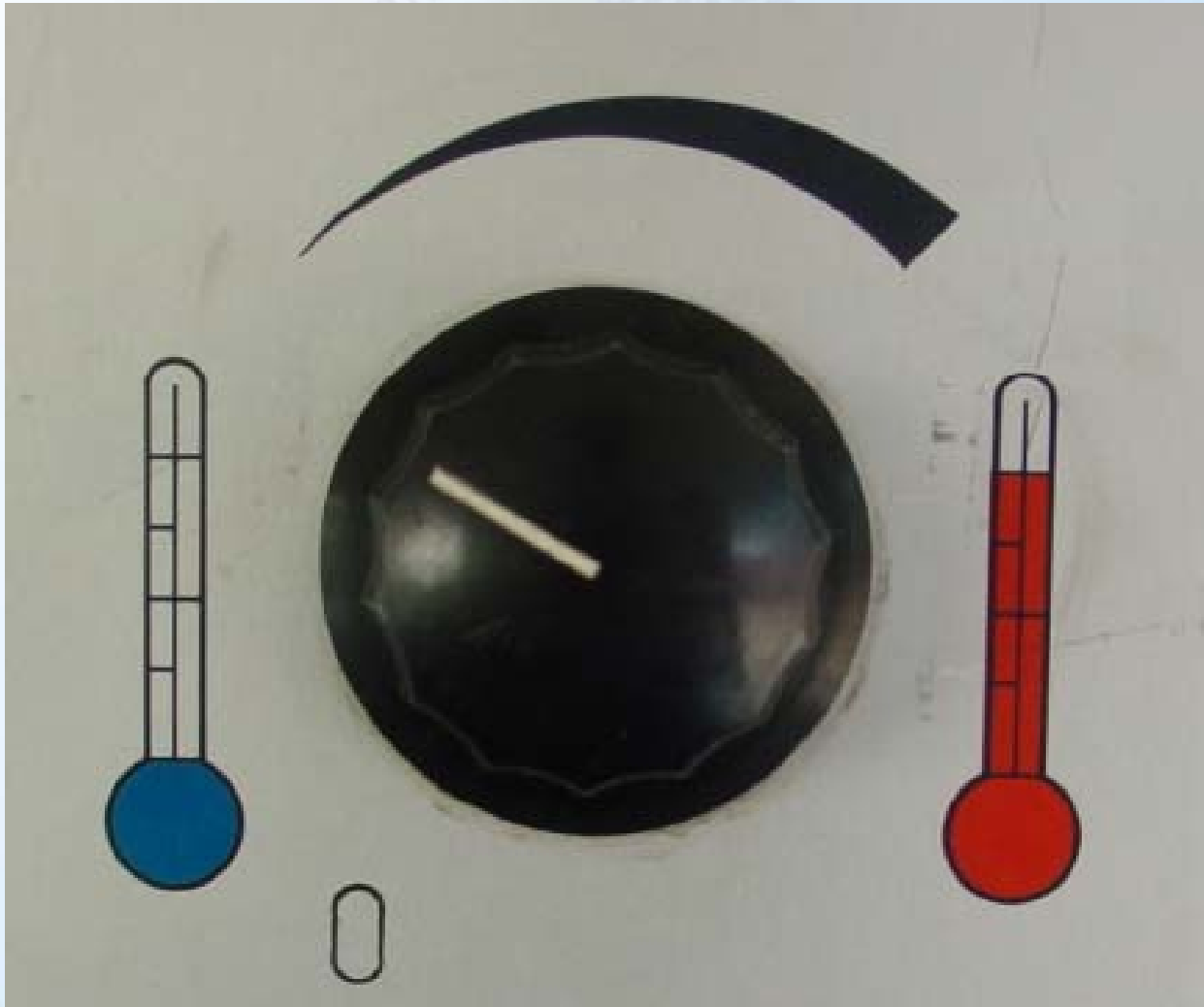
## Why do things go wrong?

- Usability is not regarded as important enough, *by designers or their clients.*
- Control interfaces may not be well considered, integrated, or specified.
- Devices are often multi-functional and multi-lingual, *but not well customised.*
- Liable to cost-cutting and price-gouging
- Not enough involvement of end users.
- More features, more “intelligence” ...  
**but** *often less intelligible to users?*
- Getting it right seems simple,  
*but can actually be quite difficult!*

## Getting it right

- Context of use:
  - What is it for? *Review functions*
  - Who is it for? *Many different users*
  - Where should it go? *Points of need*
- What should it do? *Technical needs*
- Is its function clear? *User experiences*
- Can the context change? *e.g. with time*
- Does it acknowledge user action?
- Does it make clear what is happening?
- How long should an over-ride last for?

# Make the function clear



# Can the context of action vary?



# Is user action acknowledged?



# Can users see what is happening?

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# How long should interventions last for?

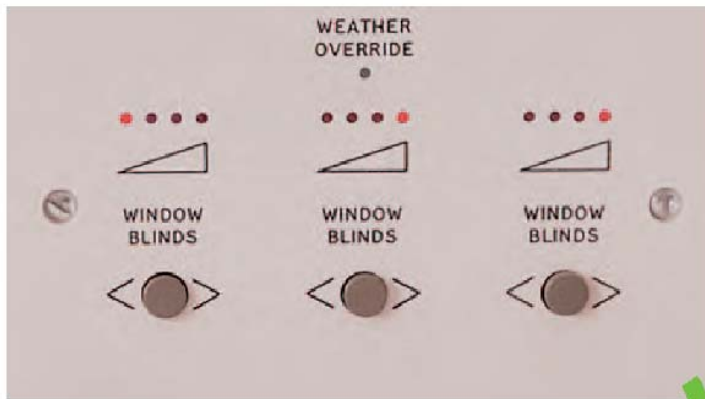


**GENERAL RULES:** *Manual ON,  
Manual and auto OFF or STANDBY.  
Don't require intervention too often.*

**We have produced a guide**  
*with support from the Carbon Trust*

# Controls for End Users

a guide for good design and implementation



# How can we make the next generation better?

- More thoughtful briefing and design.
- Clearer use of symbols.
- Versatile but customisable devices, *properly customised for use.*
- Better implementation, handover and feedback processes, e.g. *"Soft Landings"*.
- Better management and user information.
- Good controls must be seen as essential to good buildings - *vital for cost-effective energy and emissions savings to spend properly on them before, say, onsite renewable energy.*
- See technology as the means, not the end  
*"An intelligent building is one that doesn't make its users look stupid." ADRIAN LEAMAN*

**Thank you, and  
*over to you ...***

