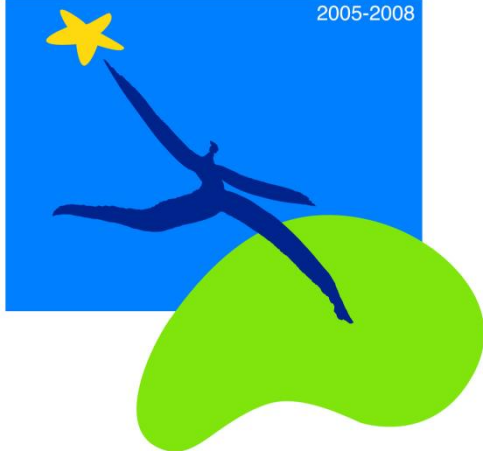




Fondazione per l'Ambiente
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SUSTAINABLE ENERGY EUROPE
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The role of economic and behavioural parameters affecting energy microeconomic choices

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- 1) Families of choices**
- 2) Understanding “standard” microeconomics**
- 3) Open questions**
- 4) Hints for policies**



Slippery definitions



- Rational (?) use of energy?
- What is conservation (a stock/asset from a flow-investment ?) and what forces drive it
- Doing more with less?
- Doing the same with less?
- Doing less? (Latouche and happiness)

A proposal to simplify



- Efficiency: changing technologies
- Carefulness; changing behaviour
- Frugality: changing moral preferences



Energy use depends on behaviour and technologies



$$Q_e = \beta Q_s + v$$

Where

Q_e = energy consumption

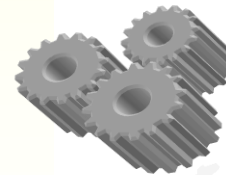
Q_s = service needs

β = technical parameter

v = behavioural parameter

Efficiency:
new technologies

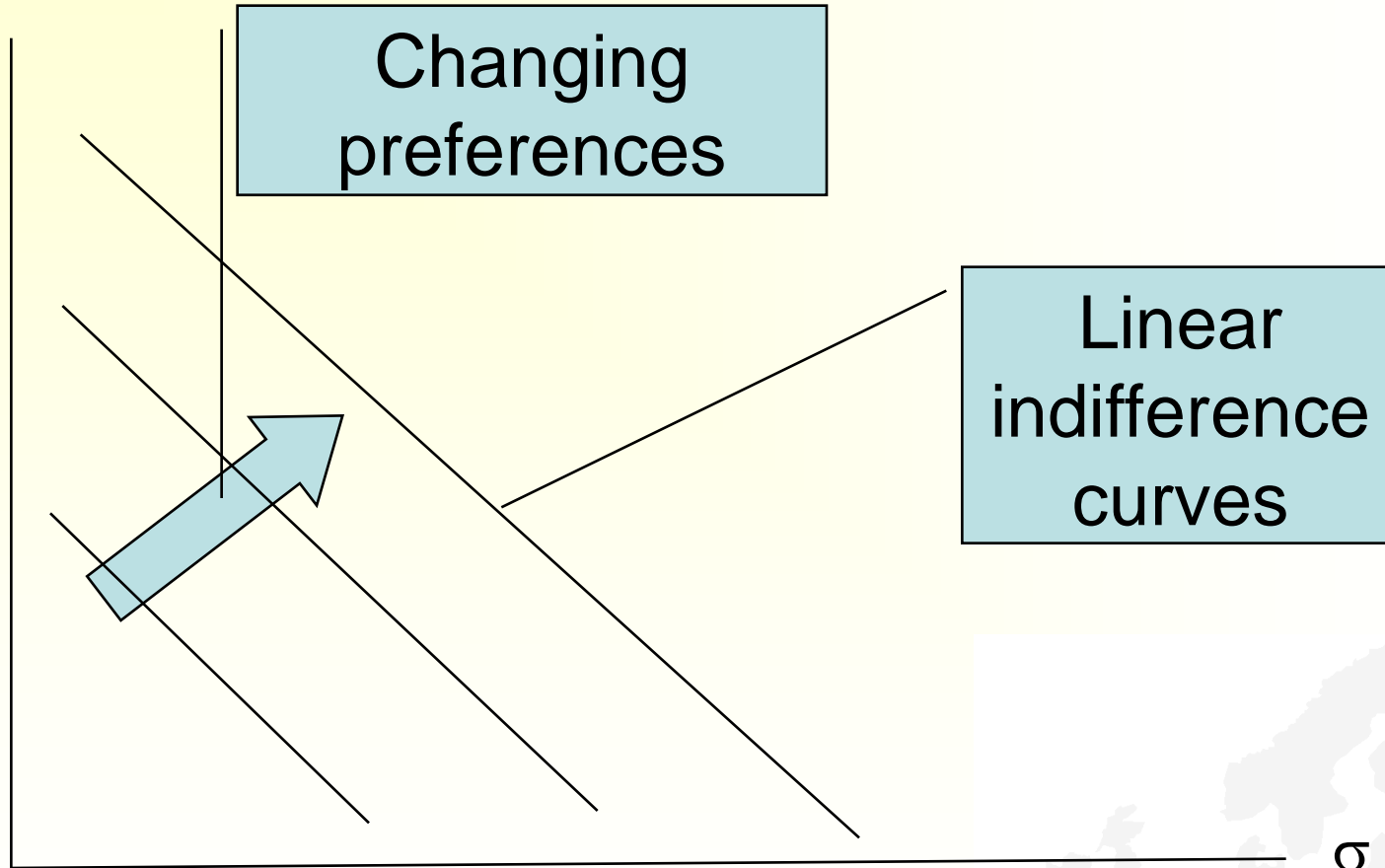
Carefulness:
change behaviour
and just
eliminate/reduce
unuseful energy
consumptions



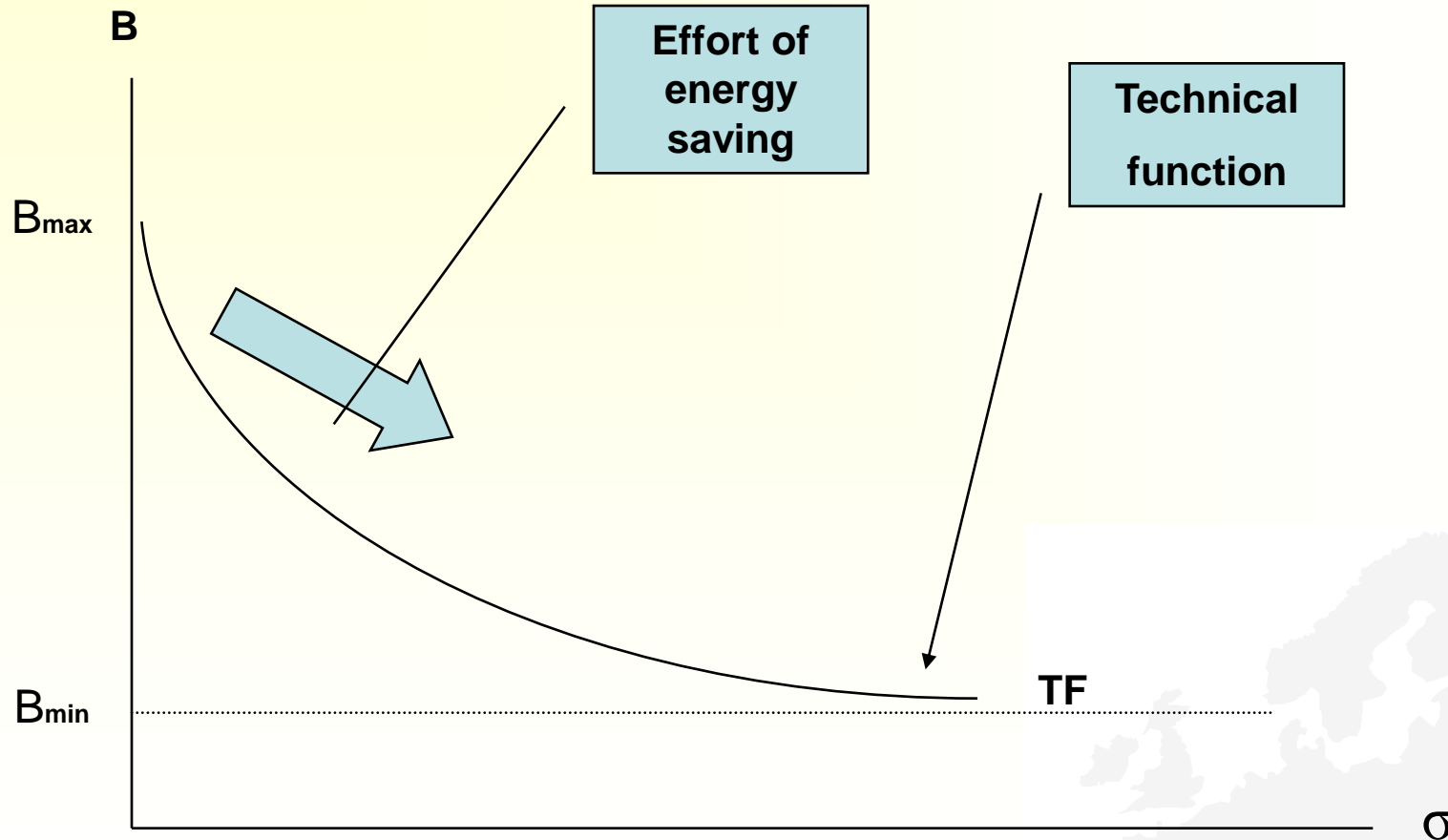
Indifference curves of two "bads"



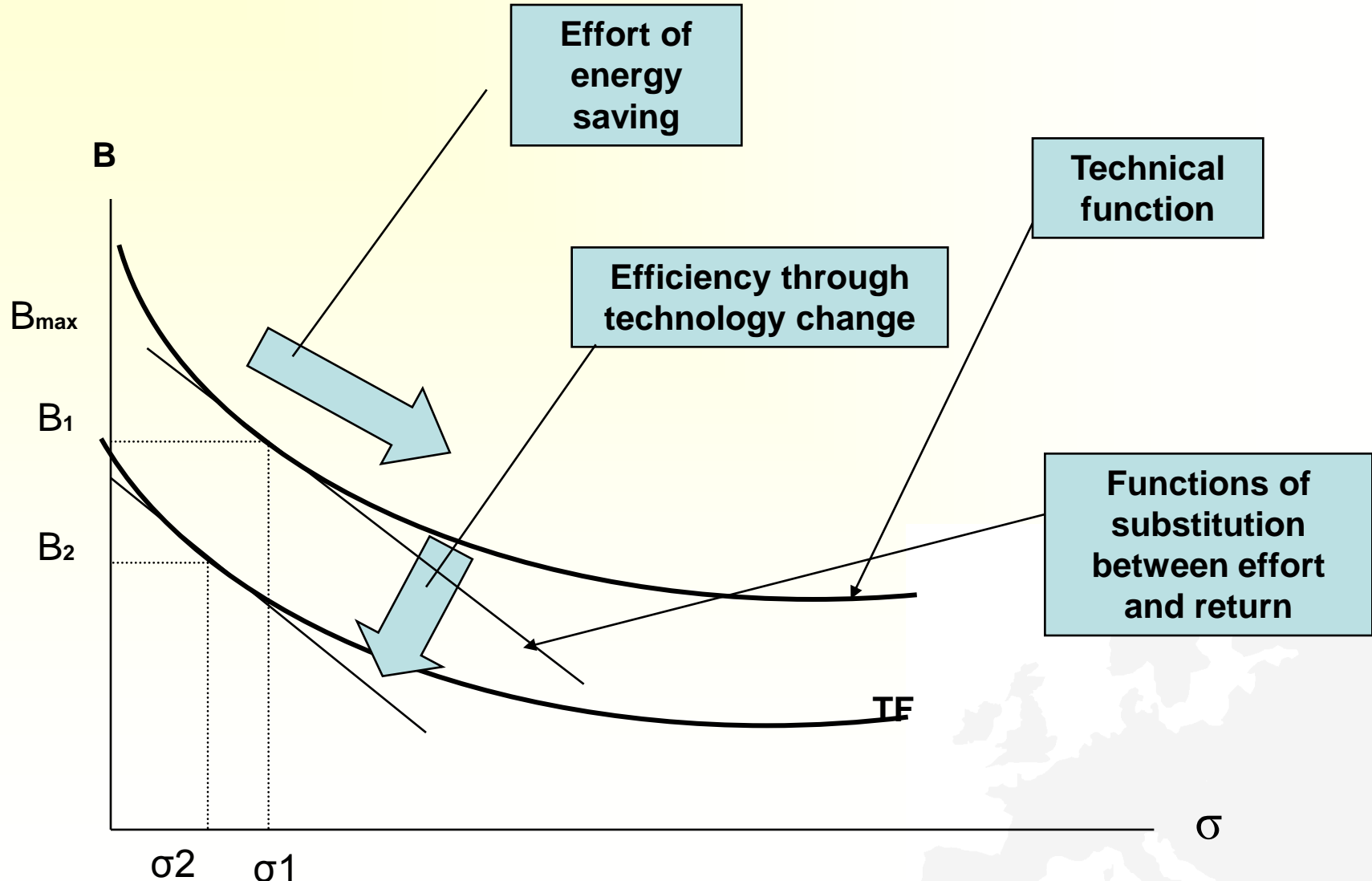
B



Technical function and changing behaviour

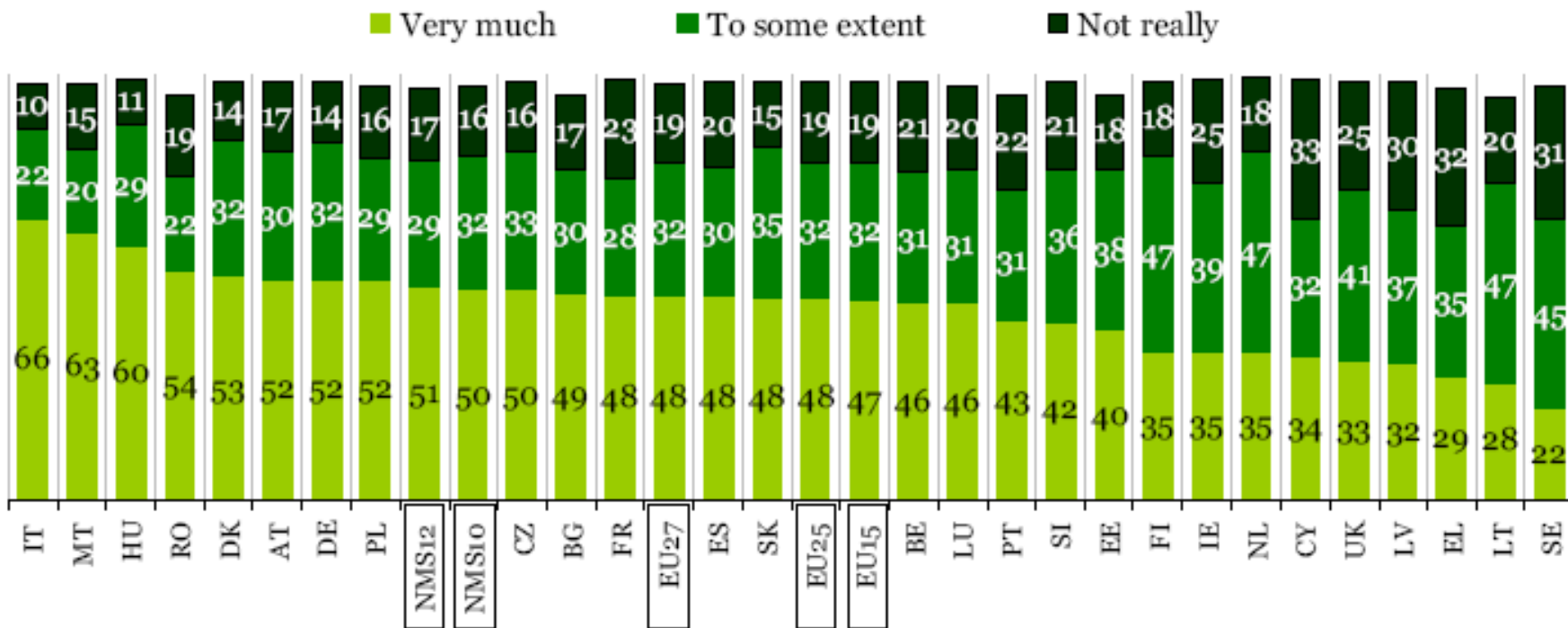


Technical function and changing technologies



Field battles...

Influence of energy efficiency on buying household appliances

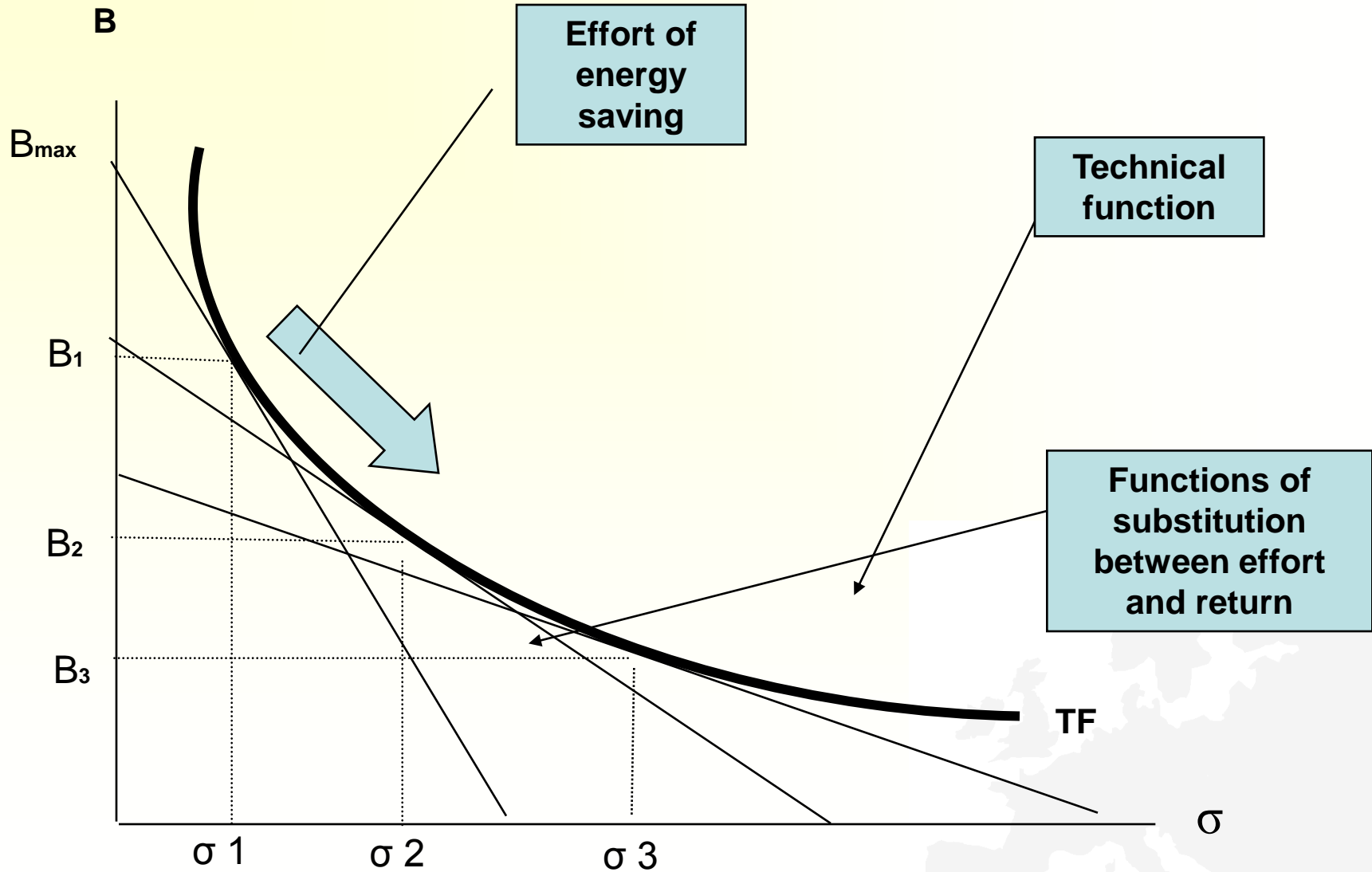


Q6. Does energy efficiency influence your decision when you buy household appliances?

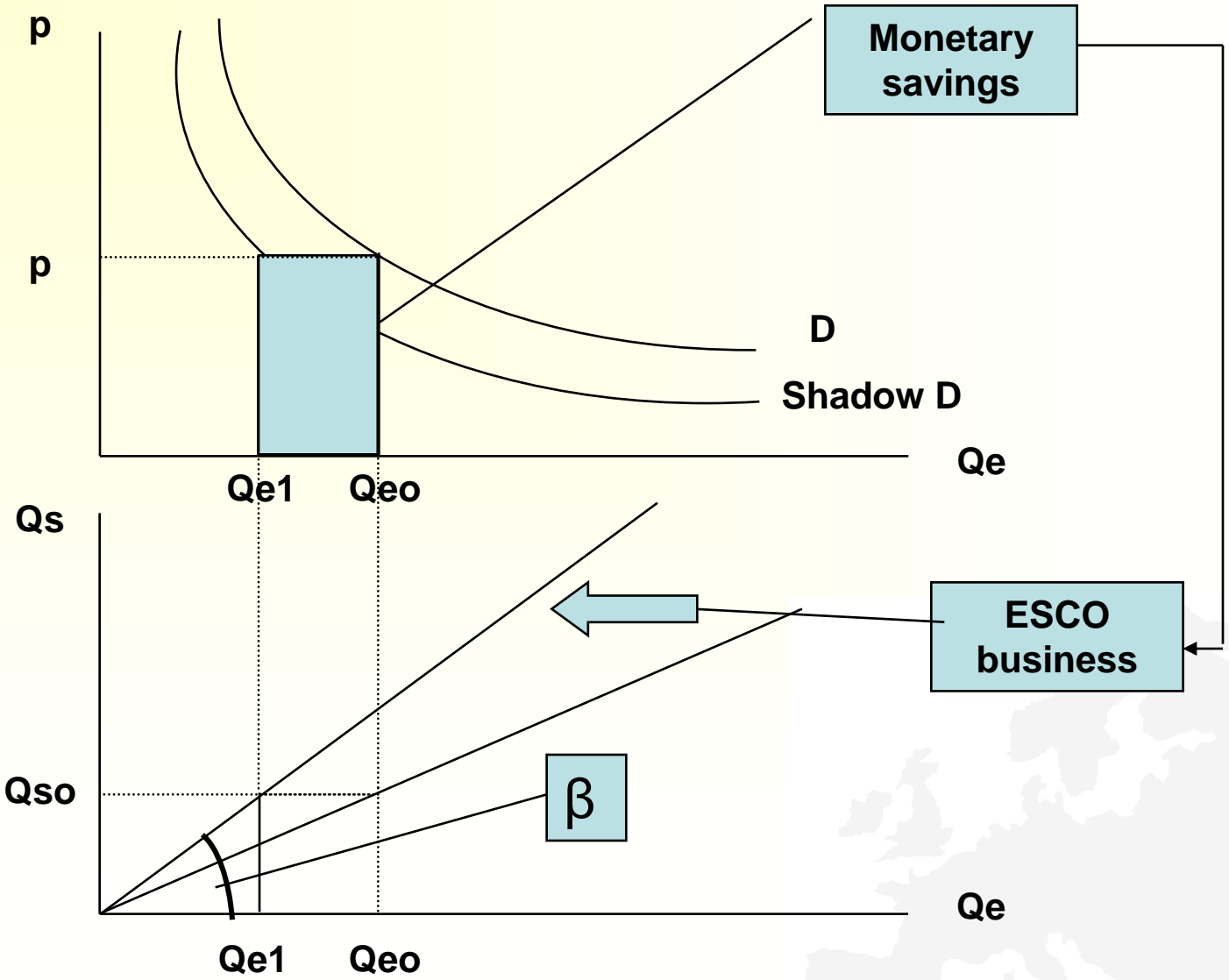
Data from Flash Eurobarometer 206a - The Gallup Organization - 2007



Technical function and preferences



Energy Efficiency As a *Caveau*?



- Getting information
- Assessing alternatives
- Contact and bargaining
- Implementing
- Following-up
- Litigation



Field battles....inertia



- sticking on asset/choices/habits (status-quo effect, neuroeconomics)
- Delaying energy efficiency decisions: an option? (with a price...)
- Ancillary effect and scope economics?



- Frequent market choices with direct link between cost and benefit (pay-as-you-consume, oil)
- Indirect, periodical bills (gas and electricity)



Rebound effect



Sector	Energy service	Rebound Effect estimate
Consumers	Space Heating	10-30%
	Space Cooling	0-50%
	Water Heating	10-40%
	Residential lighting	5-12%
	Appliances "White goods"	0%
	Firms	Process uses (short run)
Lighting (short run)		0-2%
Long run aggregate impacts		
Economy wide effects		
	Change in total output growth	0.48%

hints for policies



1. Info, inertia & TC play a major role
2. Scope-economies and the cycle effect
3. in the long term education drives more than money



my suggestion for domestic EE policies



- be prudent with models and...
- ...a bit of “street-economics”



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