

International cooperation. Lessons learnt

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What can we learn from each other (and why)?

- Can energy efficiency at all contribute **significantly** to solve the climate problems?
- If it is so good why isn't it **applied** already and everywhere (or at least somewhere)?
- Is not our country so **different** from others that there is nothing to learn?

Potential and significance



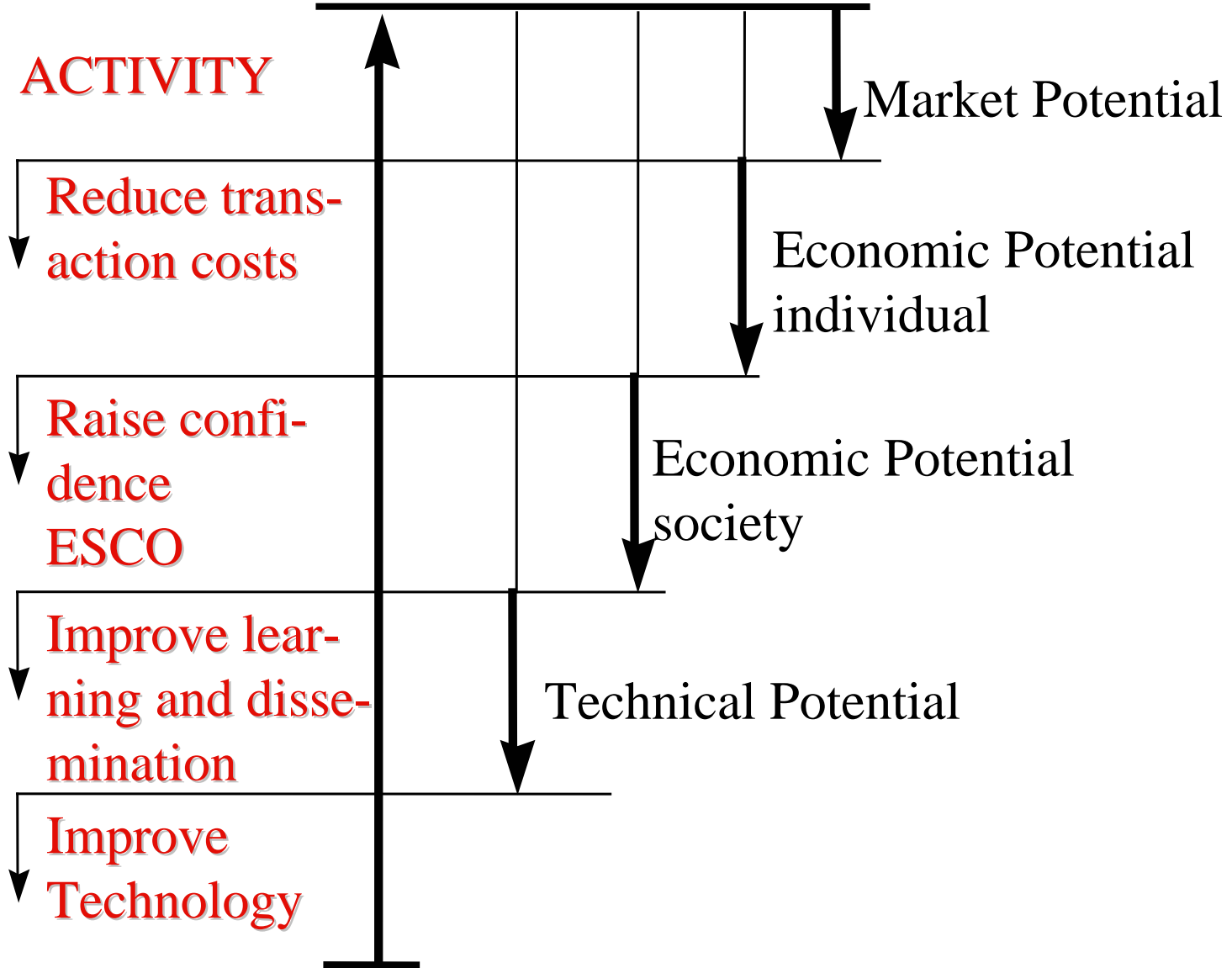
POTENTIALS (according to WEA)*

Region	Potential for economic savings in sector (%)		
	Industry	Buildings	Transport
Western Europe	15	20	20
North America	10	30	15
Australia	15	20	10

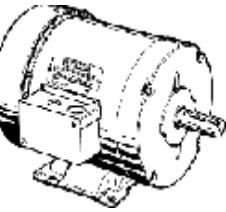

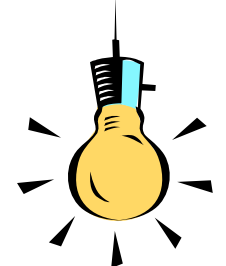
*World Energy Assessment, UNDP

LEVEL OF ENERGY USE

ACTIVITY



European Carbon Saving Potential (1)

	Electricity end-use technologies	Savings potential identified in the ECCP (in MtCO₂)	Ex. of specific contacts for data refinement
	Electric motor driven systems	39	Motor Challenge pgm stakeholders (co-ordinated by JRC)
	Office equipment	34	EU Energy Star pgm stakeholders
	Lighting	24	GreenLight pgm stakeholders (co-ordinated by JRC)

Source: Vincent Berutti,
EU JRC Ispra, Italy

European Carbon Saving Potential (2)

Electricity end-use technologies

Savings potential as identified in the ECCP (in MtCO₂)

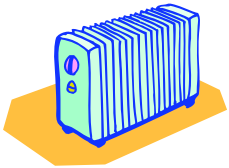
Ex. of specific contacts for data refinement



Consumer electronics

14

IEA; Industry (ee codes of conduct are managed by JRC)



Electric heating, ventilation and A/C

8

Key experts



Domestic refrigeration and other appliances

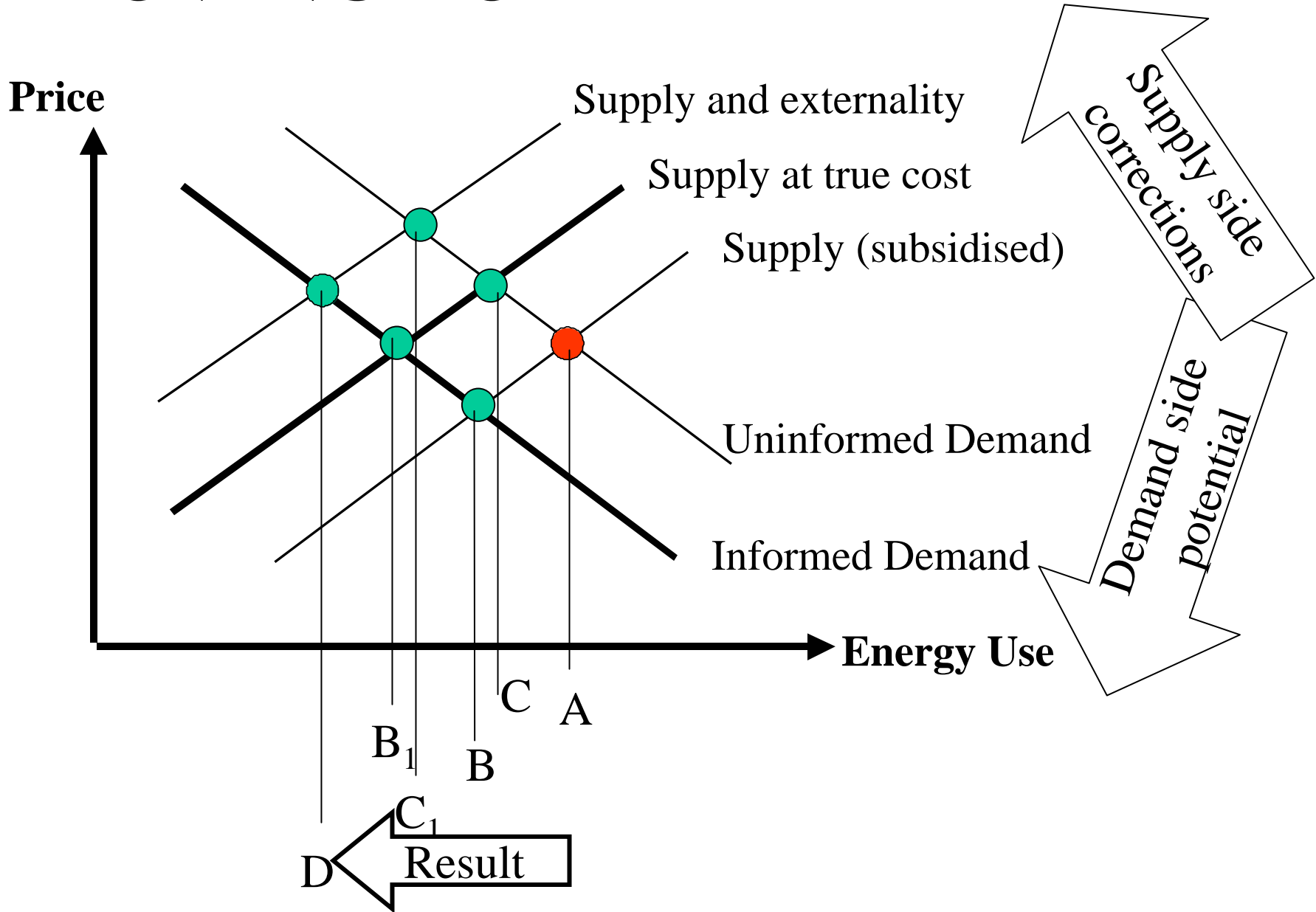
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GEA network; CECED

Total savings potential = 126 MtCO₂ = ~ 30% of Kyoto target

Source: Vincent Berutti,
EU JRC Ispra, Italy

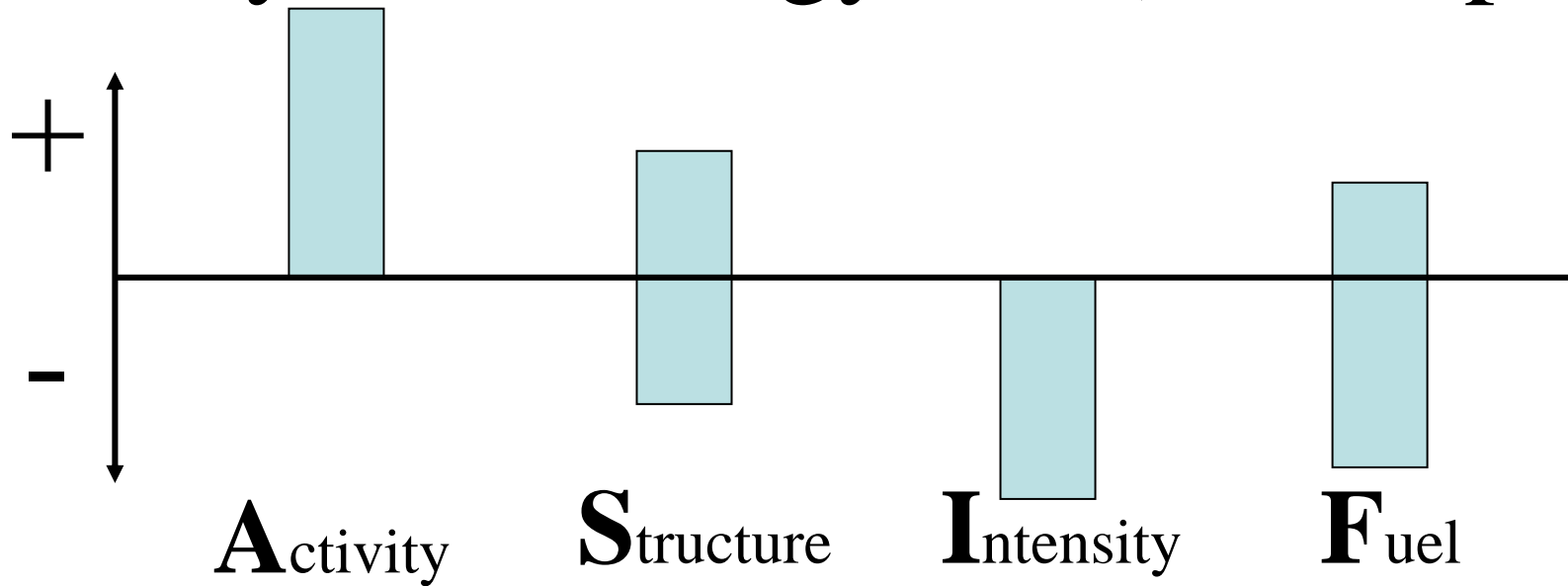
MOVING TO THE BETTER



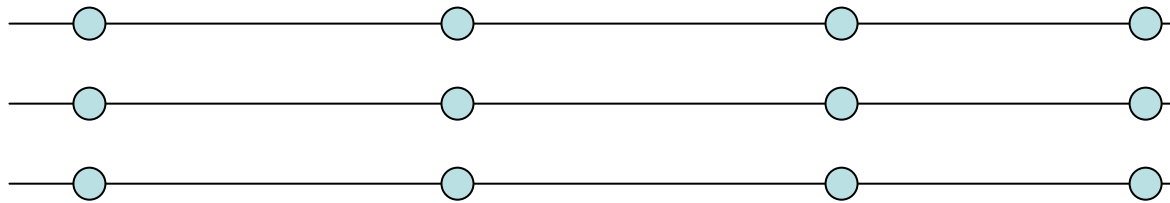
Application



Analysis of energy use (and impact)



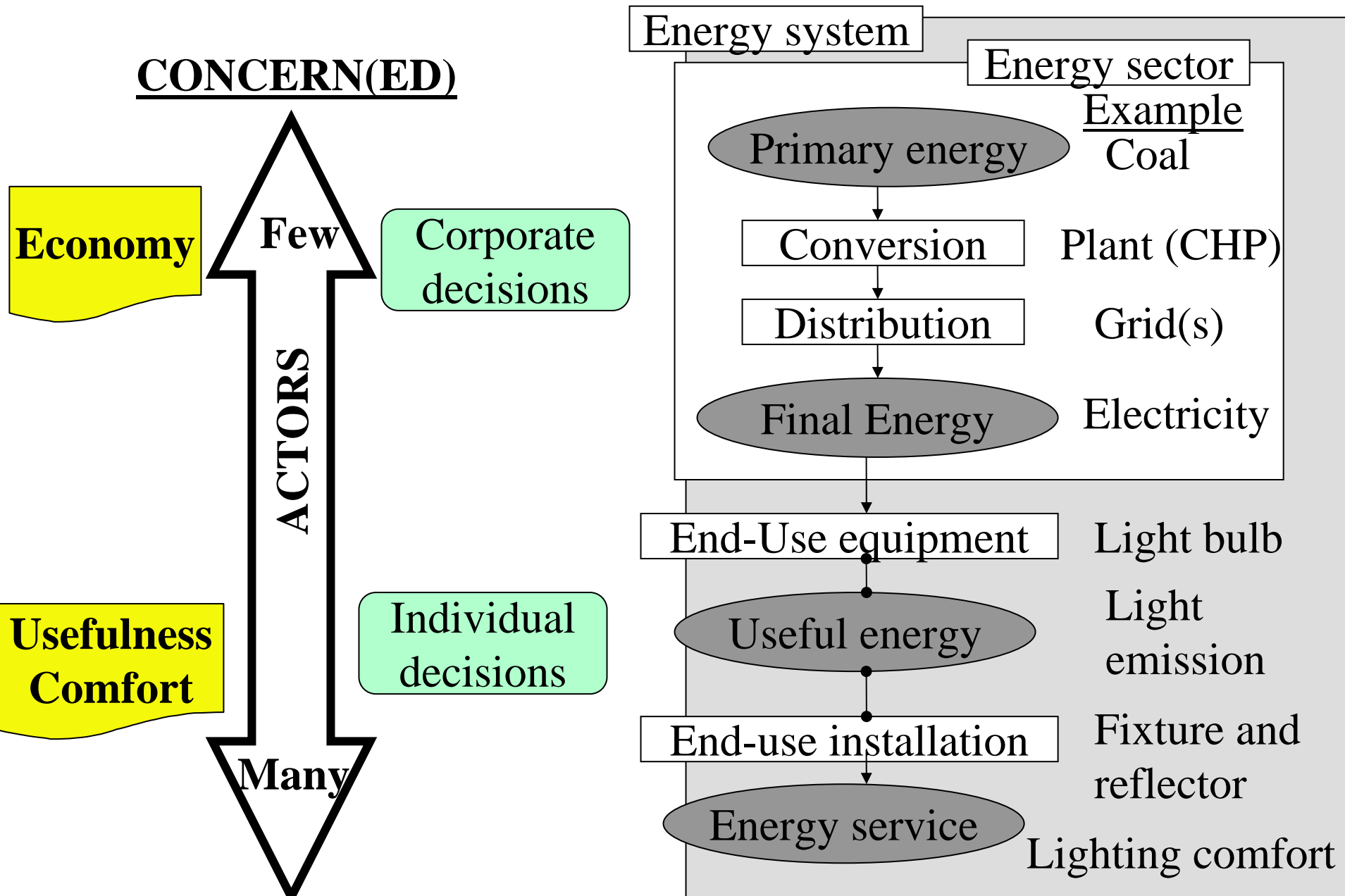
Buildings
Industry
Transport



<http://www.iea.org/envissu/cop7sus.pdf>

<http://www.odyssee-indicators.org/>

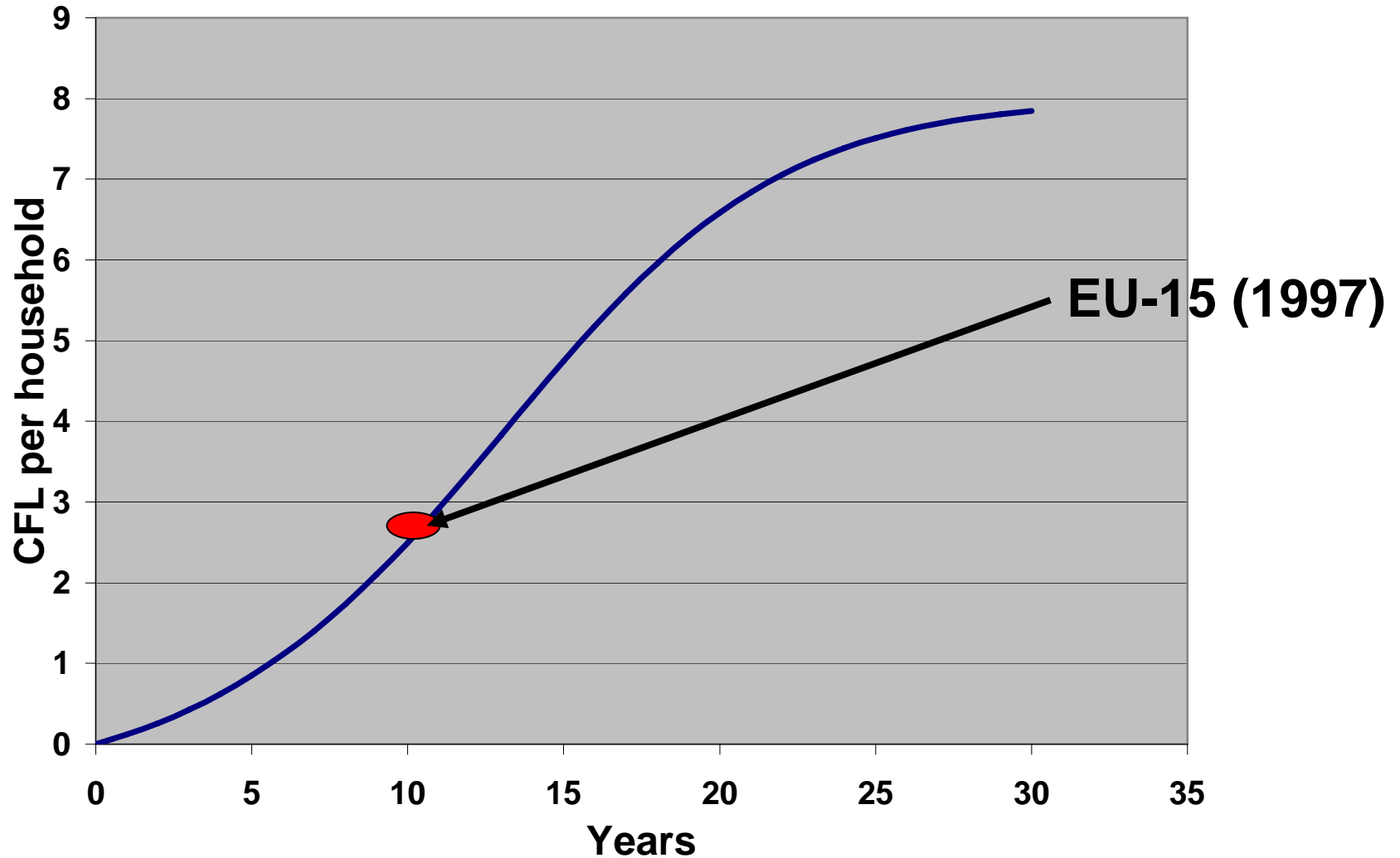
Structure for decisions



Individual decisions are biased

Unit size	Frequency of Change	Basis for choice of replacement	Energy and savings as objective	End-Use Activity Type	Decision strategy
Very small (20-100 W)	Often	Habit	Never	Household lamps	Mainly along Heuristic rules (if not purely by habit and tradition)
Small (100-1000 W)	Regular	Routine	Occurs	Small appliances	
Small (1-10 kW)	Normal	Planned	Important	Commercial maintenance, (e.g. motors)	
Big by unit size or aggregation (10-5000 kW)	Not often	Calculated	Important	Industrial & Commercial. Retrofit (e.g. lighting)	Rational within delegated responsibilities
					Rational in context of purpose
Huge (>2 MW)	Seldom	Investment	Depends	Production and process technology (e.g. casting)	

Dissemination (CFL in Europe)



Difference and context

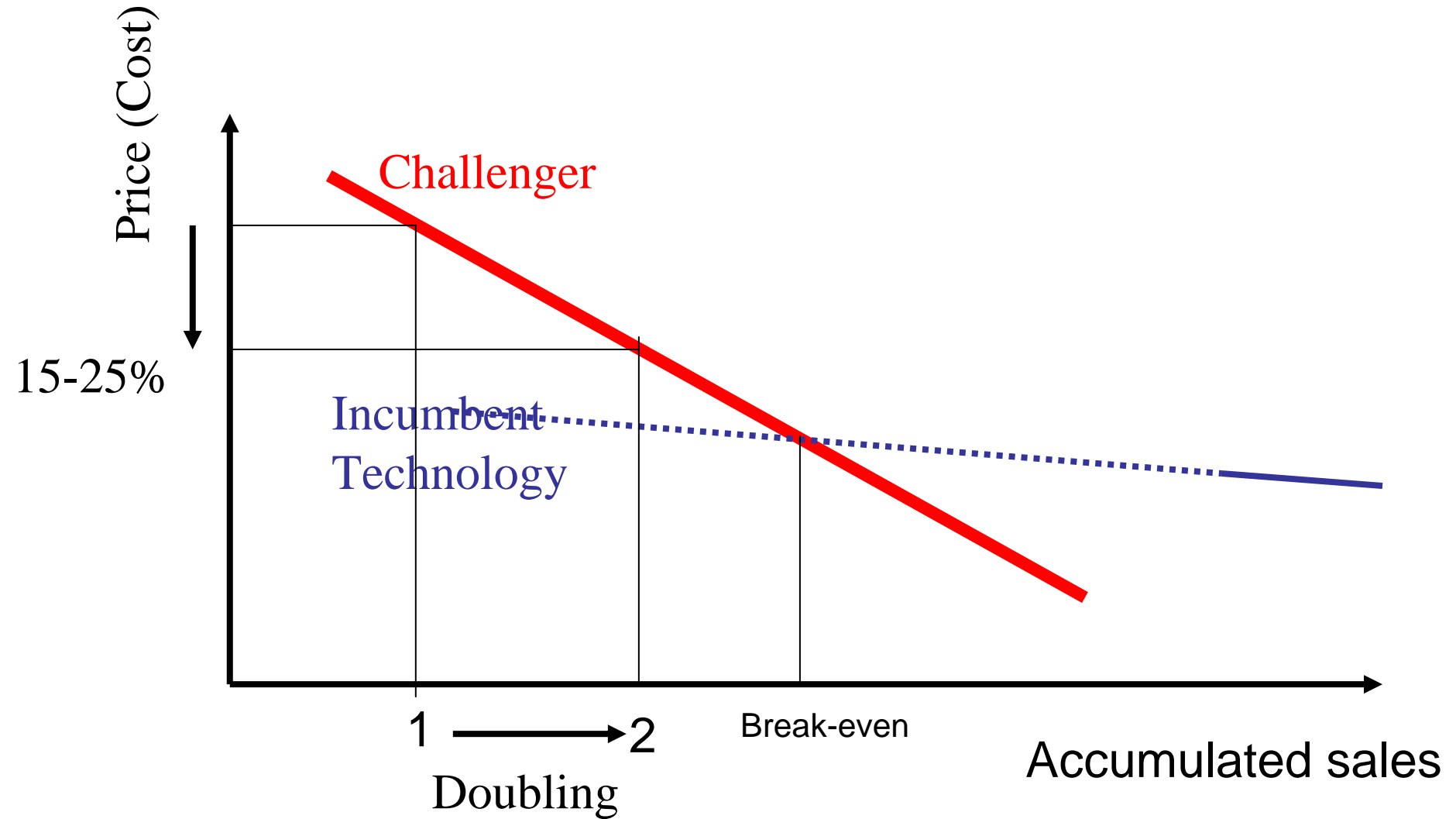


Creating Markets

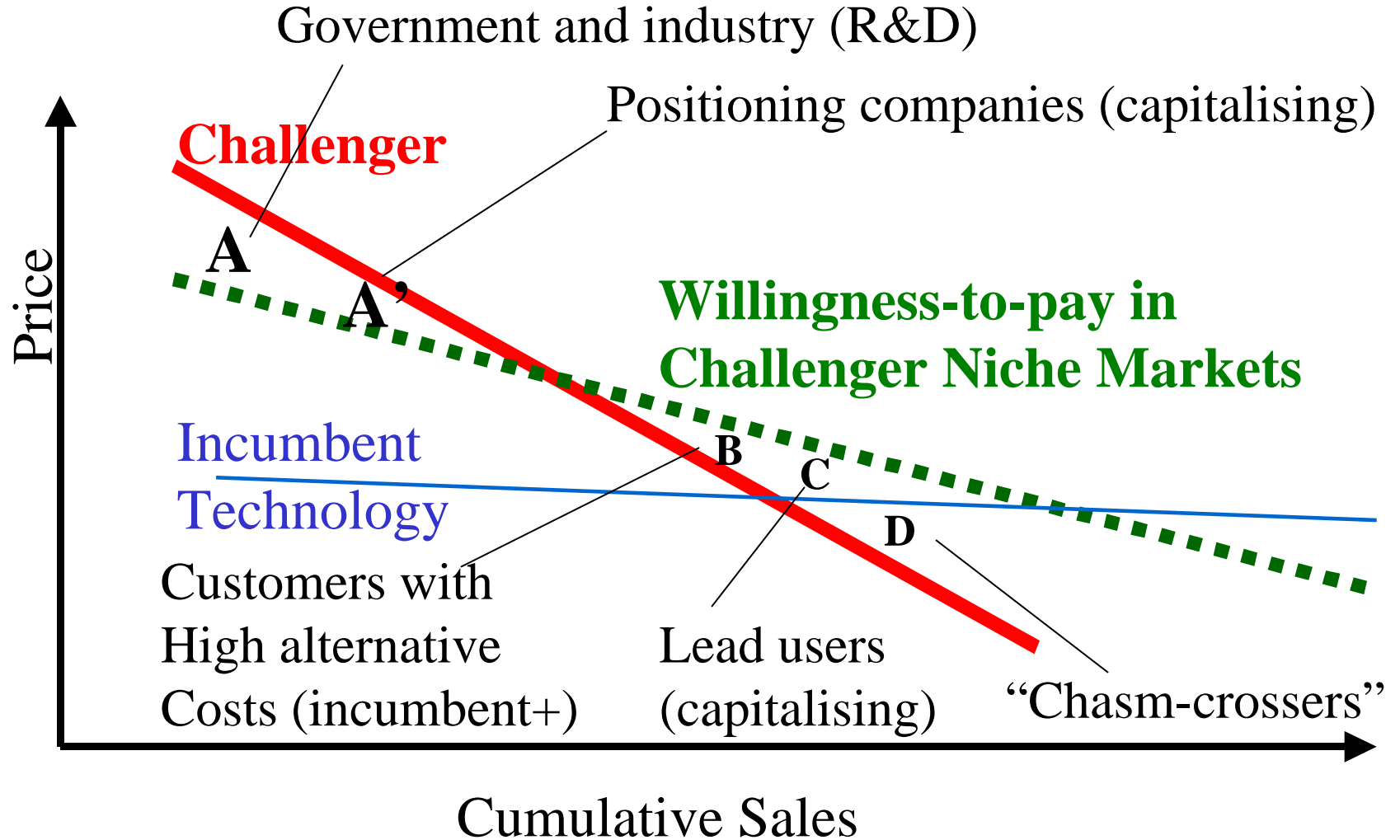
- Analysis of 22 projects from IEA-countries
- Barriers, R&D and Market Transformation. Three models to find the components of success
- Technology learning is the key
- Challenge technology nepotism, Identify niches and satisfy users desires

QuickTime och en
Foto - JPEG-dekomprimerare
krävs för att kunna se bilden.

The learning curve



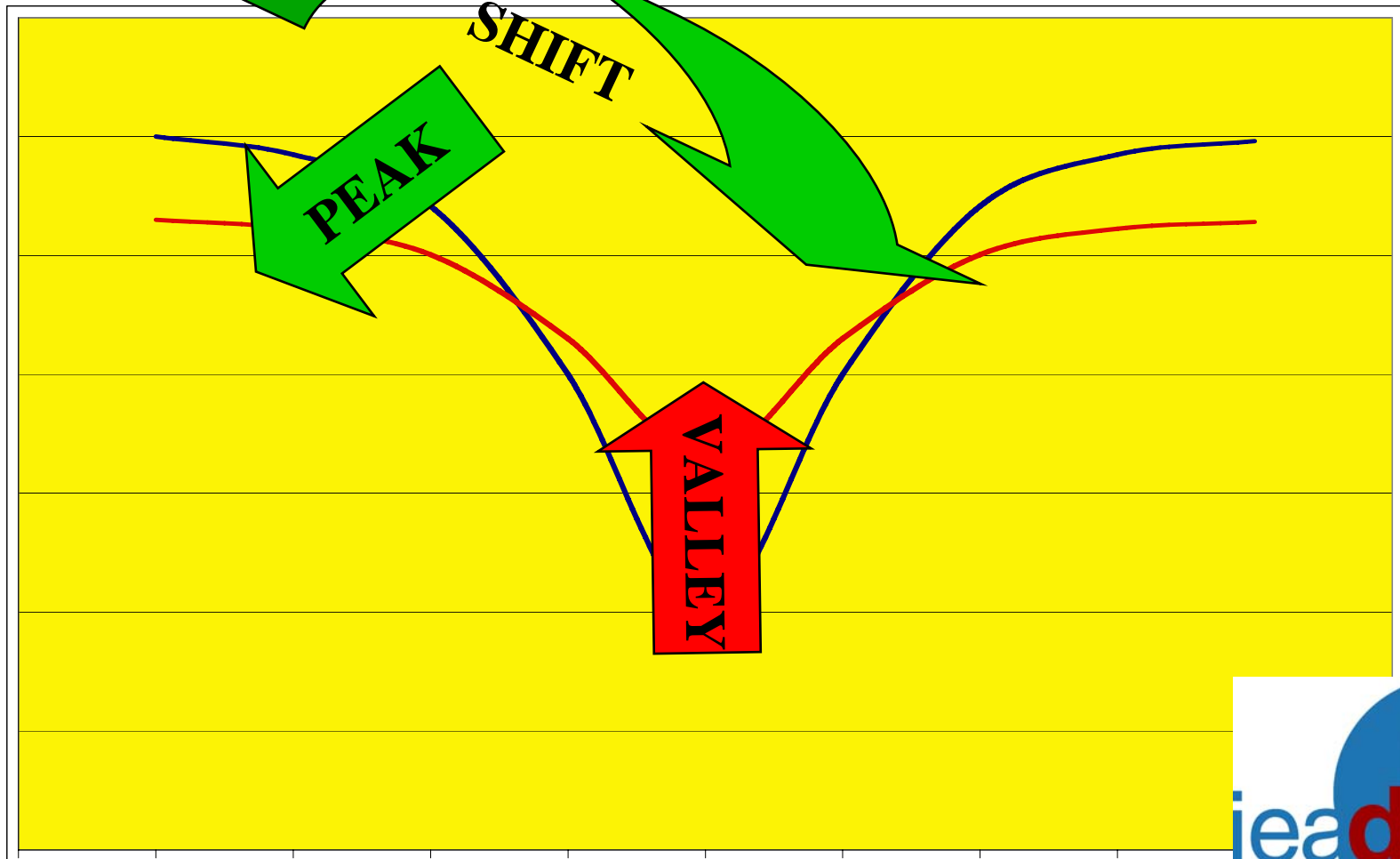
Niches



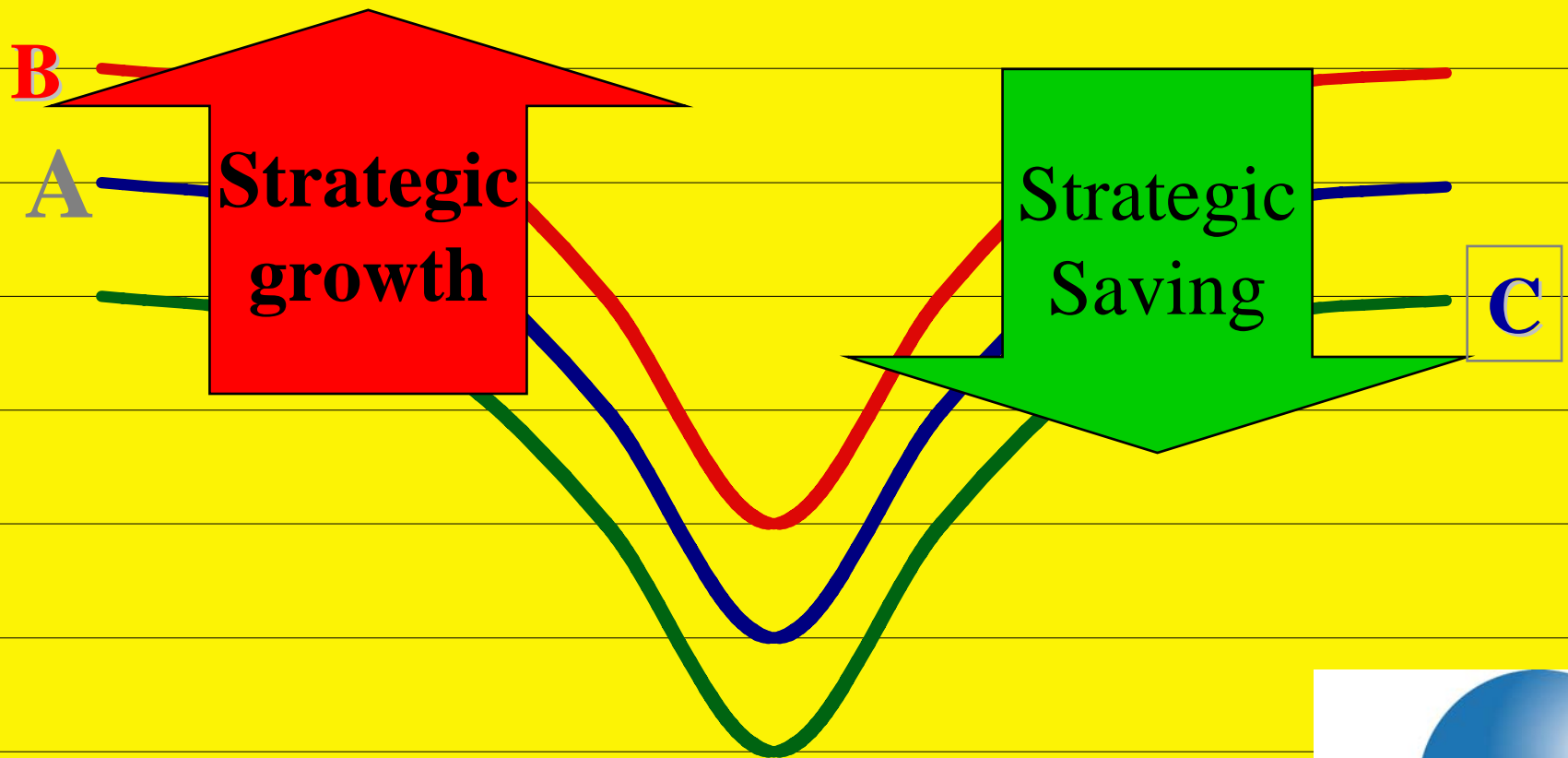
<http://dsm.iea.org>



DSM is a tool for optimisation of systems



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DSM ISSUES

- **Reliability** (system available at any given time)
- **Security** (System less dependent as regards fuel, technology, supplier etc)
- **Global Warming** (Kyoto Targets for GHG) **and**
- **Environment** (Emissions)
- **Service as a Commodity** (Business aspects, delivery of services)
- **Market Organisation** (Responsibility)

The DSM Programme is a natural vehicle for learning

- The Programme has kept pace with the development towards liberalised markets, see “Public policy analysis of energy efficiency and load management in changing electricity business” Energy Policy 31 (2003) 405-430.
- Several new proposals that will also involve new actors (Demand Response, Metering and Pricing, White Certificates, Lighting Programmes, Energy Standards, Network DSM)



Country	TASKS										
	I		II	III	IV	V	VI	VII	VIII	IX	X
	In-deep	Evaluation	Communications technologies	Co-operative Procurement	Integrated Resource Planning	Marketing and implementation	DSM in changing business environment	Market Transformation	Demand Side Bidding	The role of municipalities	Energy Service Companies
Australia,					X		OA				
Austria,					X					X	(X)
Belgium	X	X					X				
Canada,		X									
Czech Republic											
Denmark,	X	X		X	X		X	X			
European Commission				X	X		X				
Finland,			X	X	X	X	X	X	X		X
France,	X	X			X		X			OA	X
Greece,							X		X		
Italy,		X			X						X
Japan, N	X				X		X				X
Korea,	X	X		X	X		X	X			
Netherlands,	OA	OA	X	X	X	X	X	X	X	X	X
New Zealand											
Norway,	X				X	X	X	X	X		X
Spain,				X	X	OA	X		X	X	
Sweden,	X	X		OA	X	X	X	X	X	X	OA
United Kingdom,			OA	X	X		X	OA	OA		
United States,				X	OA						X
Tanzania (WB)						X					