International cooperation. Lessons learnt

Hans Nilsson IEA DSM Programme



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?



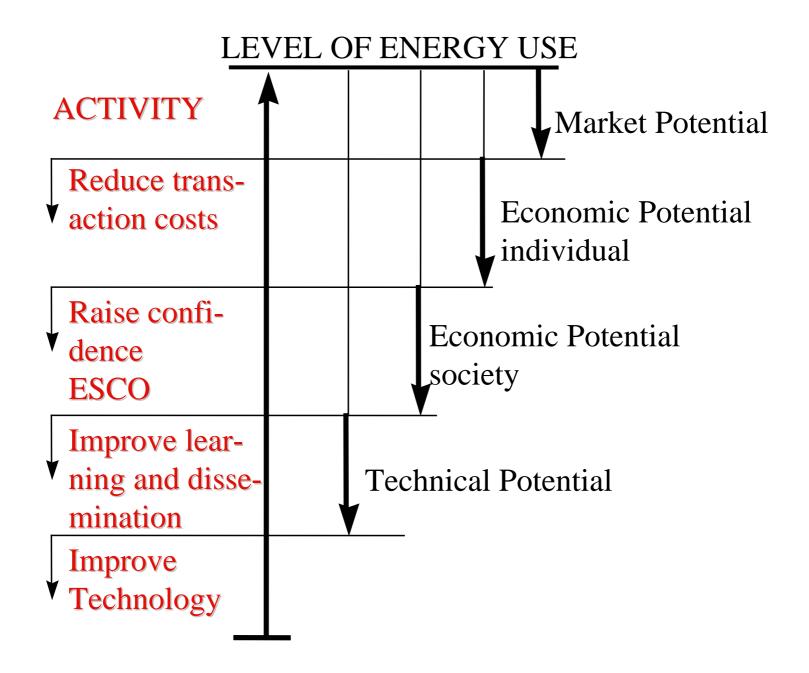
Potential and significance



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

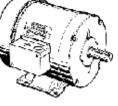


European Carbon Saving Potential (1)

Electricity end-use technologies

Savings potential identified in the ECCP (in MtCO₂)

Ex. of specific contacts for data refinement



Electric motor driven systems

39



Office equipment

Lighting

24

34

Motor Challenge pgm stakeholders (coordinated by JRC)

EU Energy Star pgm stakeholders

GreenLight pgm stakeholders (coordinated 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 Electric heating, ventilation and A/C 14

8

7

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

Key experts

GEA network; CECED

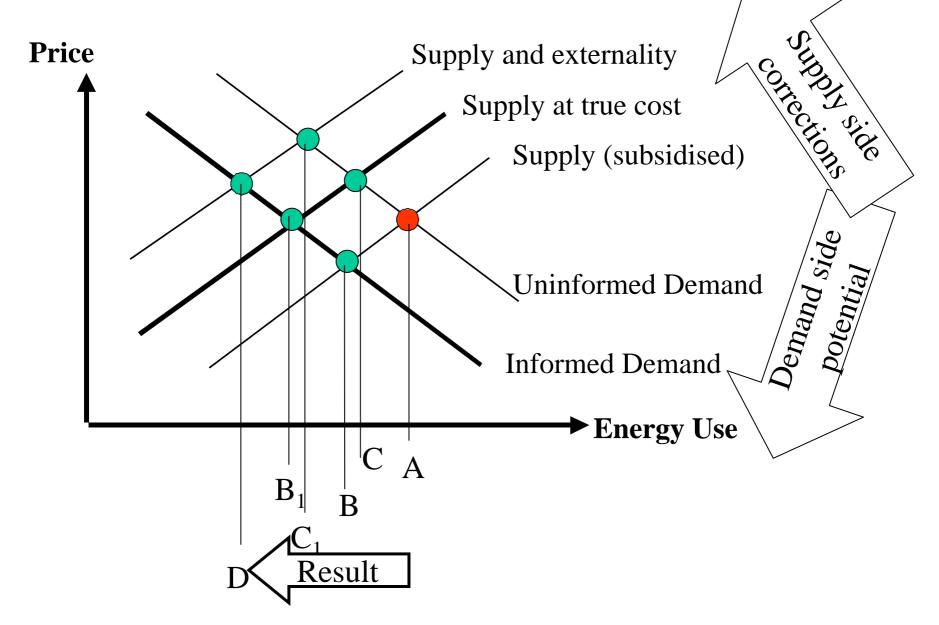


Domestic refrigeration and other appliances

Total savings potential = $126 \text{ MtCO}_2 = \sim 30\%$ of Kyoto target

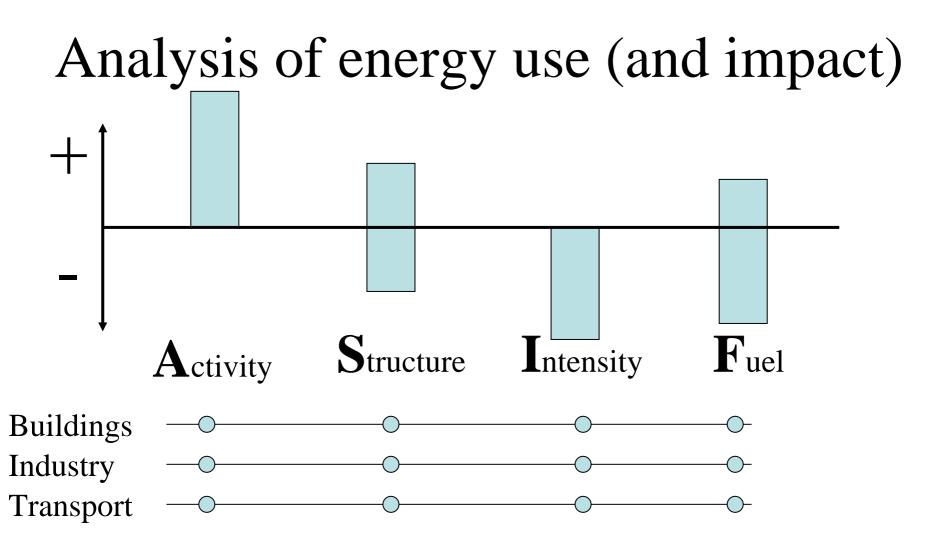
Source: Vincent Berutti, EU JRC Ispra, Italy

MOVING TO THE BETTER,



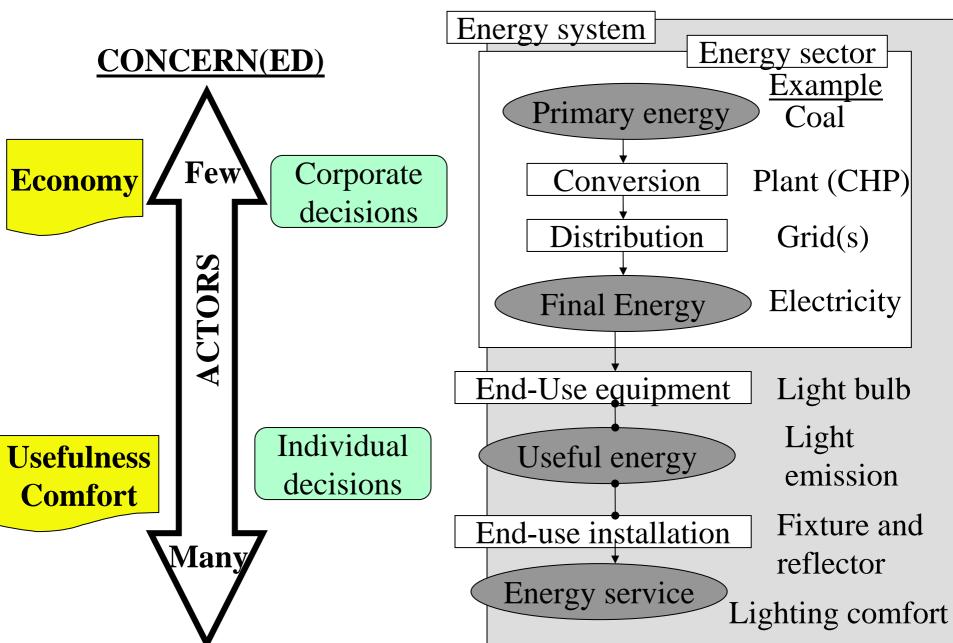
Application





http://www.iea.org/envissu/cop7sus.pdf http://www.odyssee-indicators.org/

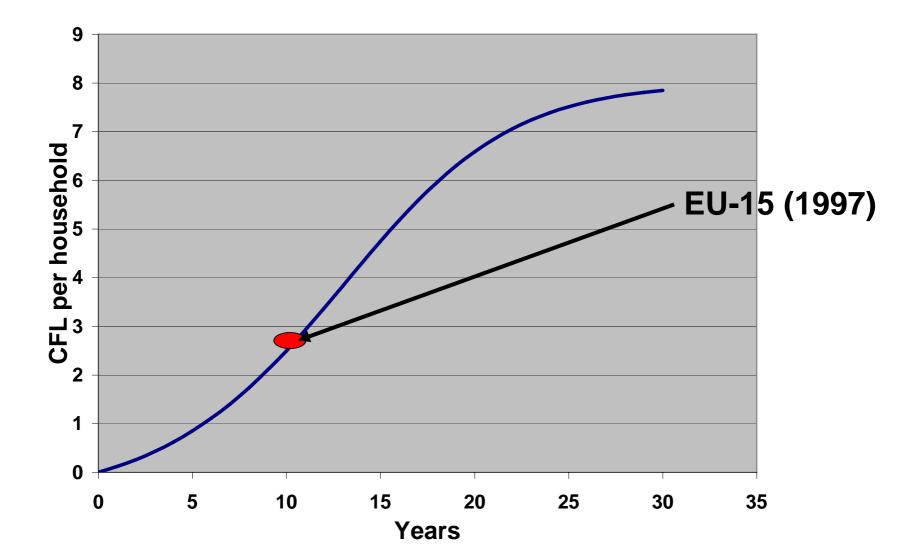
Structure for decisions



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	
Small (100-1000 W)	Regular	Routine	Occurs	Small appliances	Heuristic rules	
Small (1-10 kW)	Normal	Planned	Important	Commercial maintenance, (e.g. motors)	(if not purely by habit and tradition) Rational within delegated responsibilities	
Big by unit size or aggregation (10-5000 kW)	Not often	Calculated	Important	Industrial & Commercial. Retrofit (e.g. lighting)	Rational in context of purpose	
Huge $(>2 \text{ MW})$	Seldom	Investment	Depends	Production and process technology (e.g. casting)		

Dissemination (CFL in Europe)



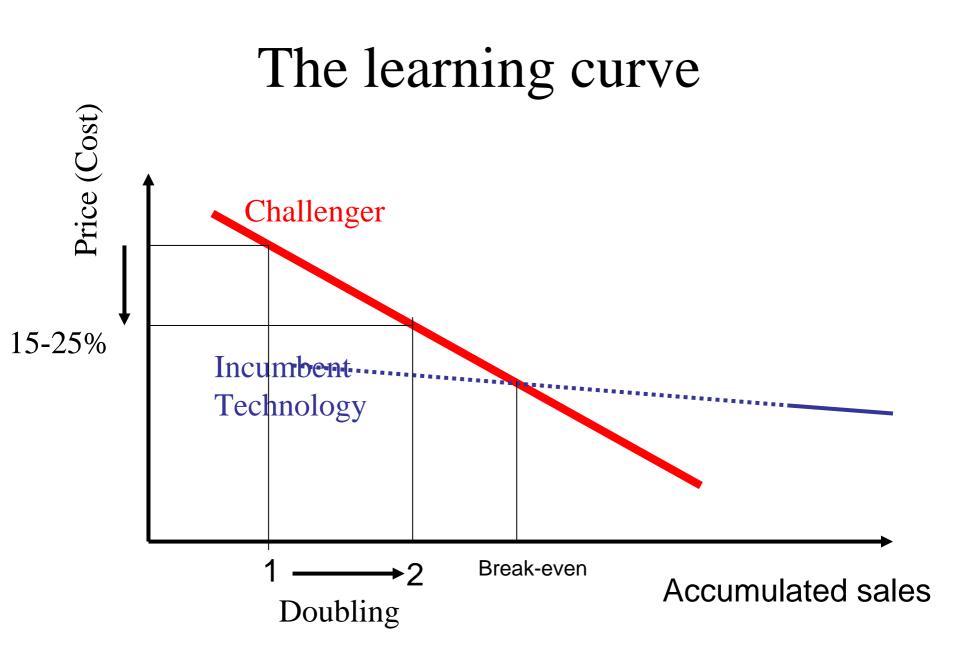
Difference and context



Creating Markets

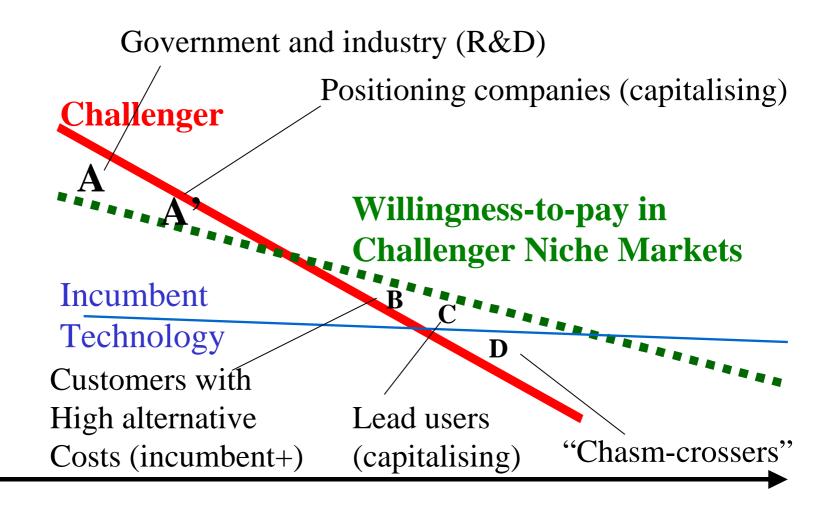
- Analysis of 22 projects from IEA-countries
- Barriers, R&D and Market Transformation. Three models to find the components of success
- Technology learning is the key
- Challenge technology nepotism, Identify niches and satisfy users desires

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



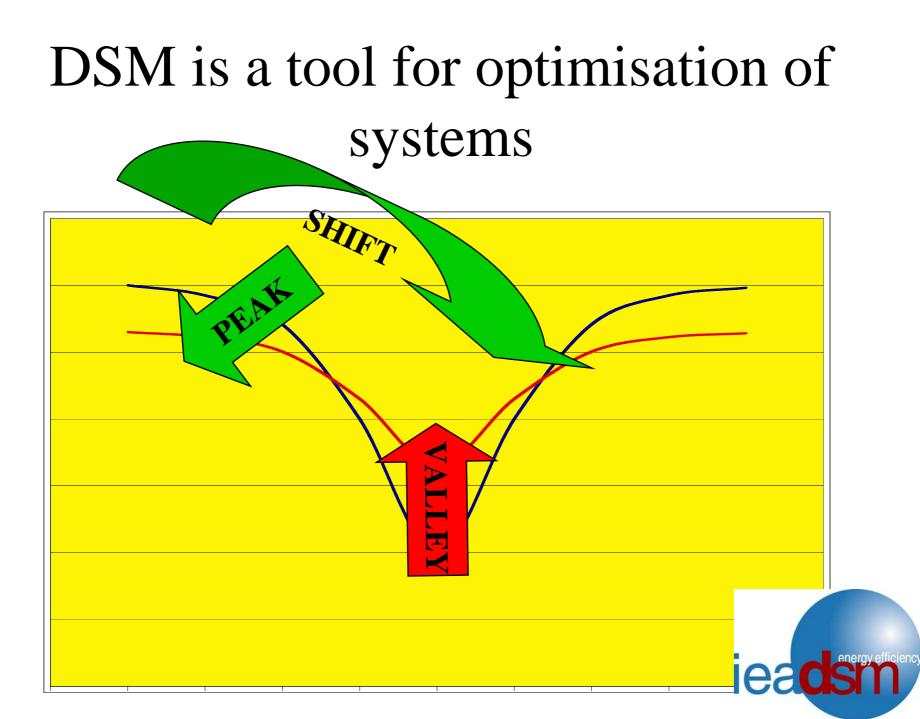
Niches

Price

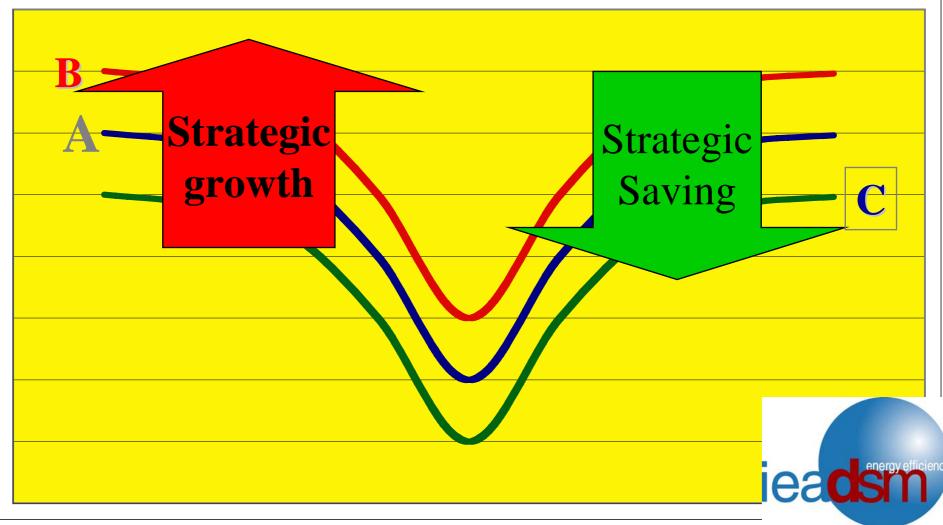


Cumulative Sales





DSM is a tool for optimisation of systems



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										
		Ι	Π	III	IV	V	VI	VII	VIII	IX	X
	Indeep	Evalua-tion	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	Χ	Χ					X				
Canada,		Χ									
Czech Republic											
Denmark,	Χ	X		X	X		X	X			
European Commission				X	X		X				
Finland,			X	Χ	X	Χ	X	Χ	X		X
France,	X	X			X		X			OA	X
Greece,							X		X		
Italy,		Χ			Χ						X
Japan, N	Χ				X		X				X
Korea,	Χ	Χ		Χ	Χ		X	Χ			
Netherlands, New Zealand	OA	OA	X	X	X	X	X	X	X	X	X
Norway,	X				X	X	X	X	X		X
Spain,				X	X	OA	X		X	X	
Sweden,	Χ	Χ		OA	X	X	X	Χ	X	X	OA
United Kingdom,			OA	Χ	X		X	OA	OA		
United States,				Χ	OA						X
Tanzania (WB)						X					

ea**cism**