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Successes and failures in energy efficiency policies:

Observation from some *ex-post* evaluations on the impact of different types of instruments and the role of monitoring & evaluation

- IEA - IIP Policy Pathway on Energy Management Programmes Workshop
- 30th September 2011, IEA, Paris
- Mirjam Harmelink (Harmelink consulting)

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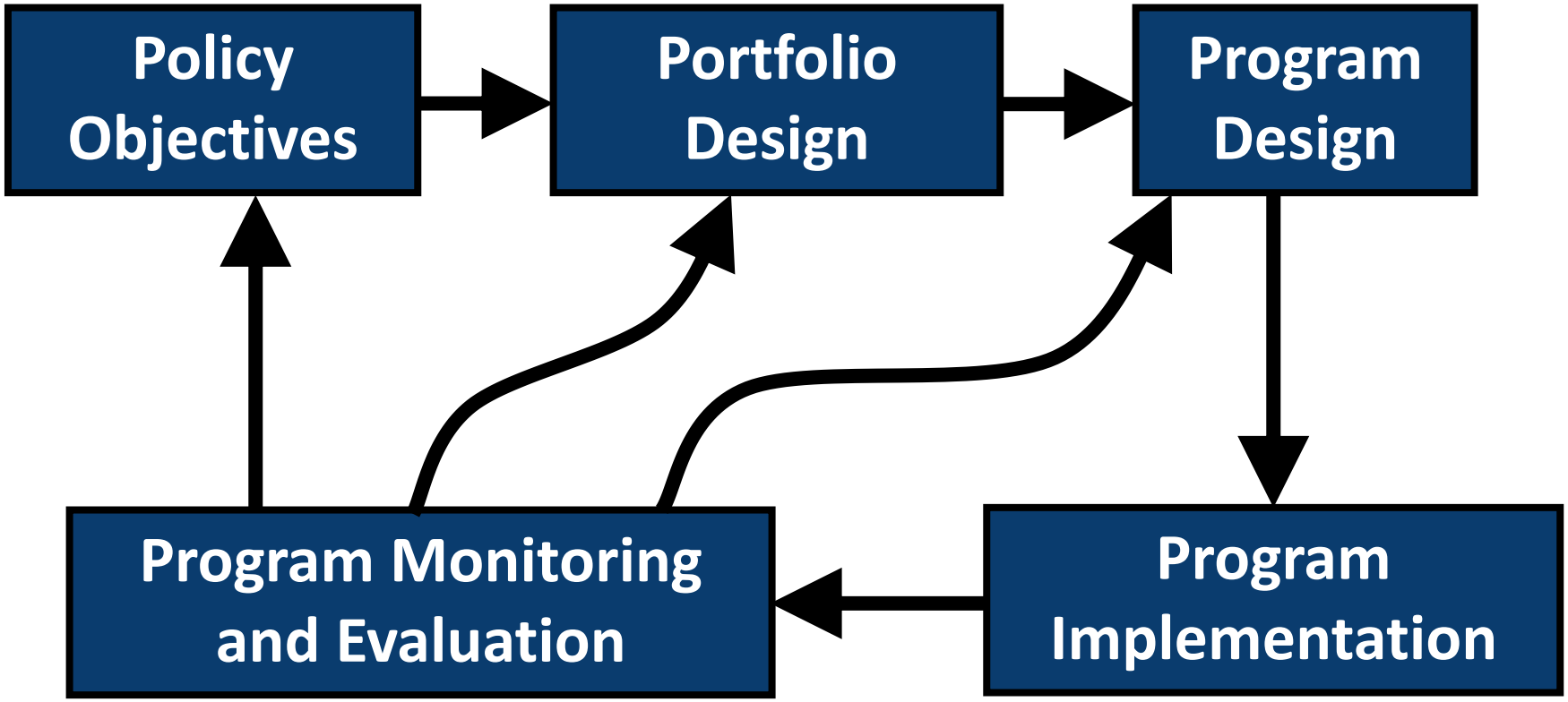
Program/Policy Planning Cycle



What to evaluate?

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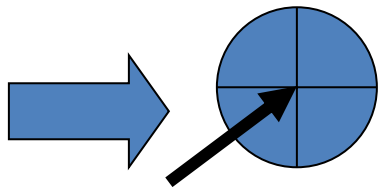
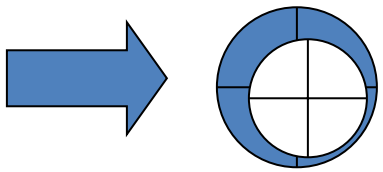
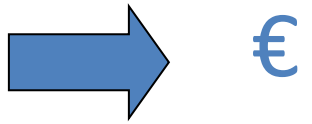
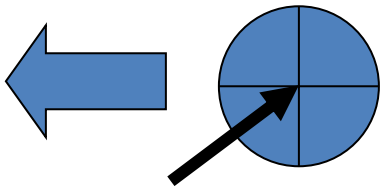
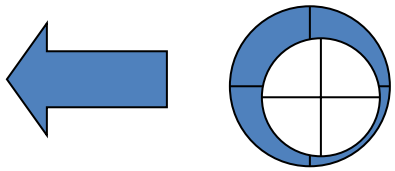
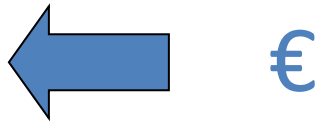
To what extent did (do) policy instruments contribute to achieving targets, are targets being met or will targets be met

The extent to which a policy instrument made/makes a difference compared to the situation without a policy instrument

What was (will be) the cost effectiveness of policy instruments, and could (can) targets have (be)en reached against lower costs

	Target achiev. / Effectiveness	Impact/ Effectiveness	Efficiency
Ex ante			
Ex post			

Ex-post evaluation of 20 energy efficiency instruments in various European countries

Results from the AID-EE project

www.aid-ee.org

Evaluated policy instruments

1. Building standards (NL)
2. Energy regulation buildings (IT)
3. Energy manager obligation (IT)
4. Top runner approach (JP)
5. Energy Efficiency Committment (UK)
6. Mandatory targets for network companies (BE)
7. ACEA agreement (EU)
8. Voluntary agreement (DK)
9. Audit programme (FIN)
10. FEMP (US)

11. EE Procurement group (SE)
12. Energy+ (EU)
13. Advice service (DE/NRW)
14. Energy concept for industrial branches (DE)
15. Industrial EE network (NO)
16. Local energy advisors (SE)
17. Eco-driving (NL)
18. Appliances labelling (NL)
19. Soft loans for buildings (DE)
20. Energy investment deduction scheme (NL)

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Approach

- Application of a standardised evaluation methodology based on the 'theory based policy evaluation'. Main characteristic of the methodology:
  - Central element is the policy theory which describes how a policy instrument is expected to lead to energy savings
  - Method not only focuses on the final impact (energy savings) but also on intermediate results and on the interaction between instruments

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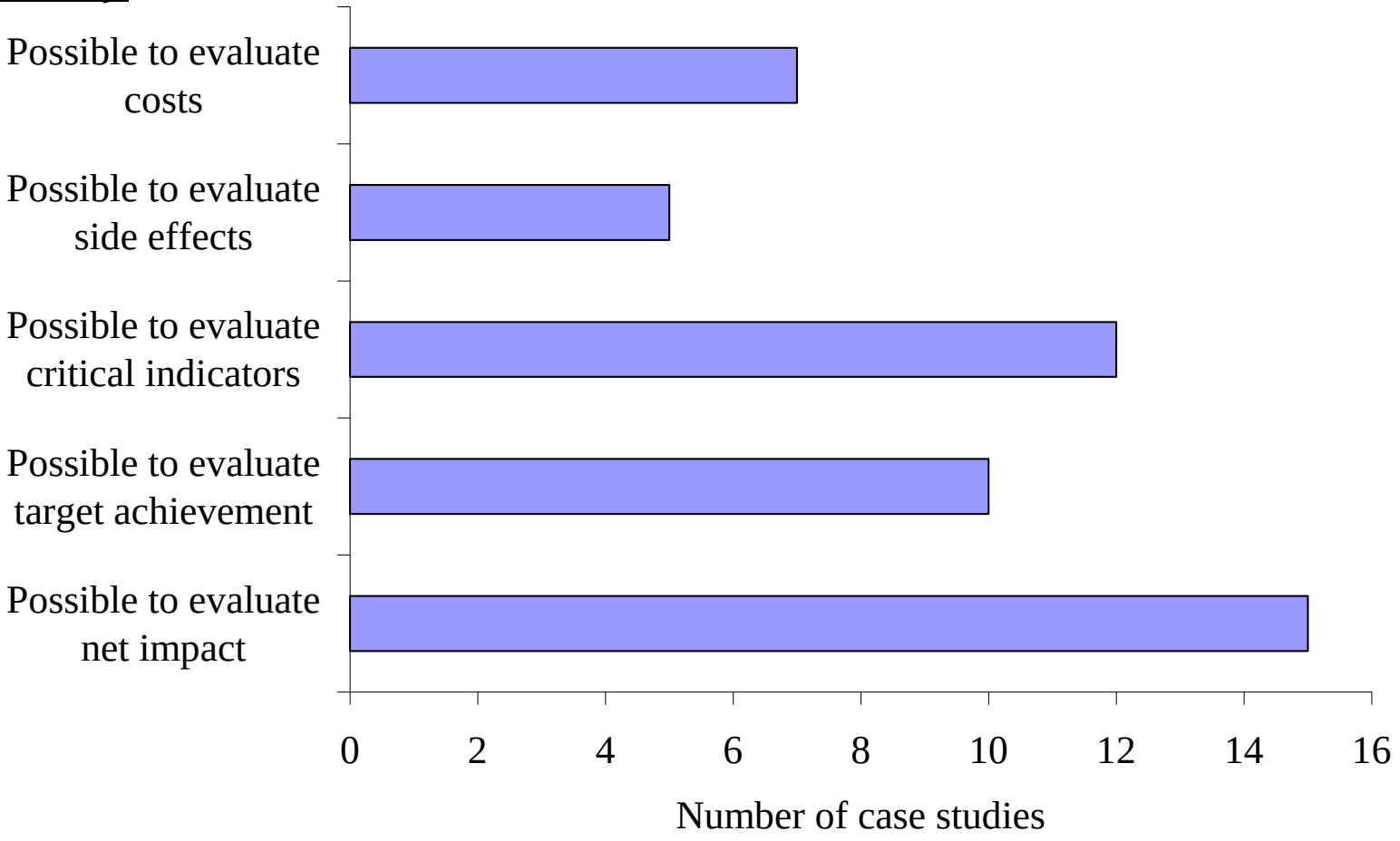
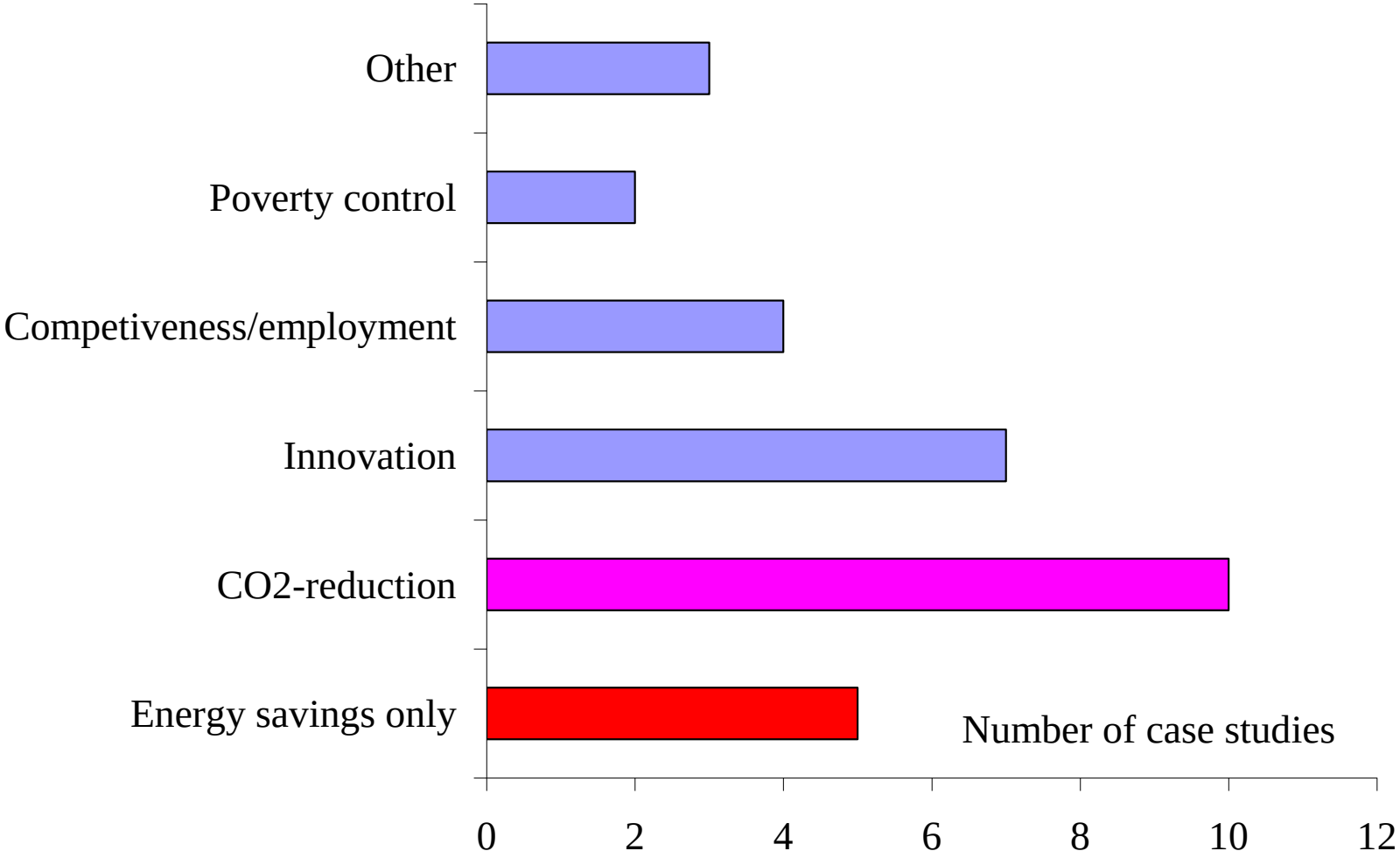
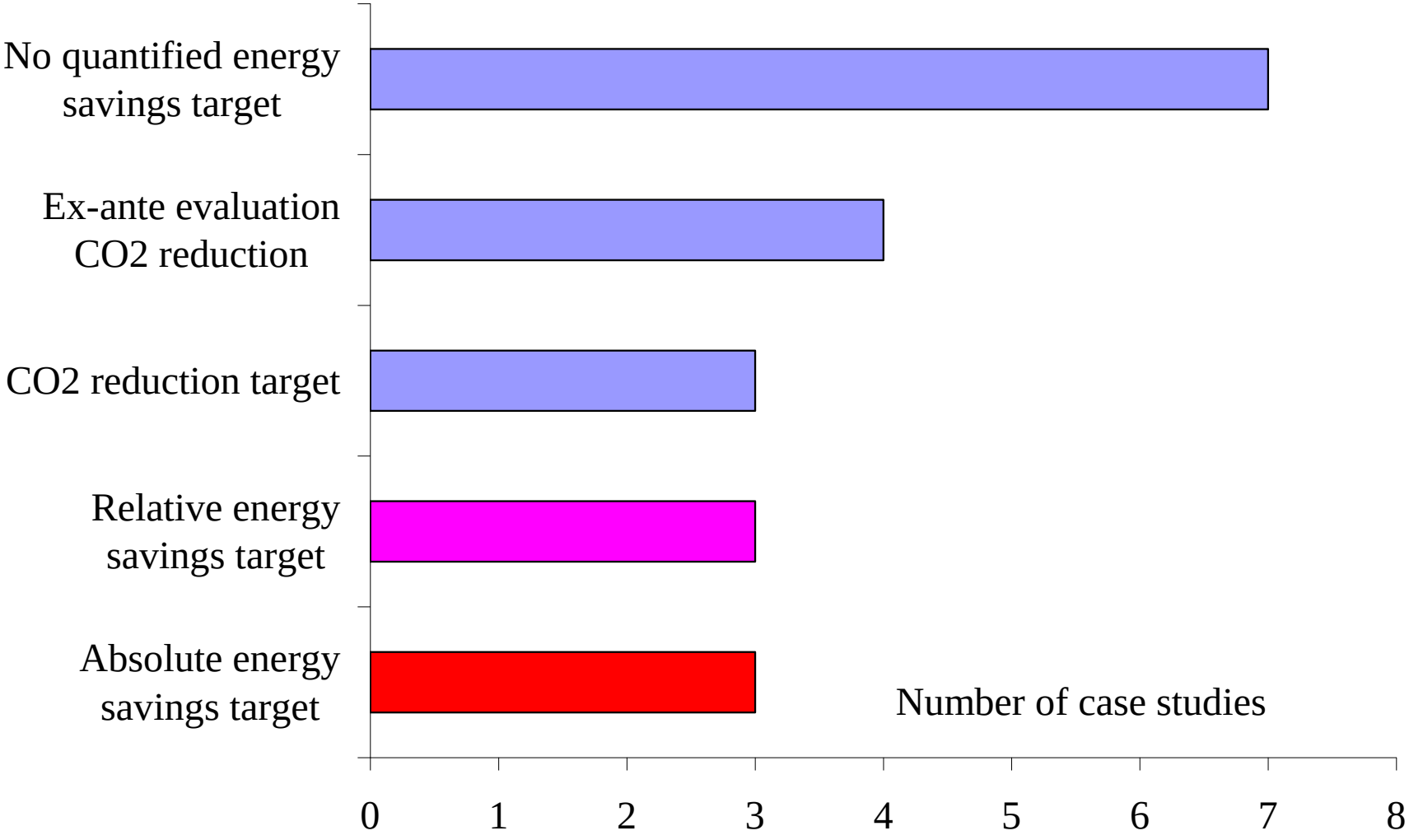
For most instruments monitoring information is collected on a regular basis, however, monitoring does not have high priority



Often policy instruments have multiple and/or unclear objectives



Often quantitative targets on energy efficiency improvements and clear time frames are lacking



For regulatory instruments & voluntary agreements usually quantified targets have been formulated

	Instrument	Target	Target achievement
Regulation	Energy performance standard for buildings (NLD)	2	A
	Building regulation (ITA)	2	D
	Energy Efficiency Commitment (UK)	2	A
	Mandatory targets on energy consumption (BEL)	2	A
	Top Runner (JAP)	2	A
	Labeling of domestic appliances (NLD) (+ rebate)	2	C
	Obligation on having an energy manager (ITA)	1	D
Finan-cial	Soft loans for building modernization (GER)	2	B
	Energy investment deduction scheme (NLD)	1	D
Informative	Local Energy Advice (SWE)	1	D
	Energy audits program (FIN) (+ subsidy) **Public** services	2	A
	Energy audits program (FIN) (+ subsidy) **Private** services	2	B
	Energy audits program (FIN) (+ subsidy) **Industry** services	2	C
	Industrial energy efficiency network (NOR)	1	D
	Energy concept for industry sectors (GER)	1	D
	Individual Advice Services (GER)	1	D
	Eco-driving (NLD)	2	B
	FEMP (USA)	2	C
VA	Voluntary agreements on energy efficiency (DEN) (+ subsidies)	2	C
	ACEA covenant (EUR)	2	C
Procure ment	Energy+ (EUR)	1	D
	BELOK (SWE)	1	A

1	Qualitative target or no target exists for this instrument
2	Quantitative target exits for this instrument
A	Target for this instrument was achieved or overachieved.
B	Target has not been achieved.
C	Target year has not been reached yet; unclear whether target achievement is on track.
D	Due to a lack of a quantified target, target achievement cannot be assessed.

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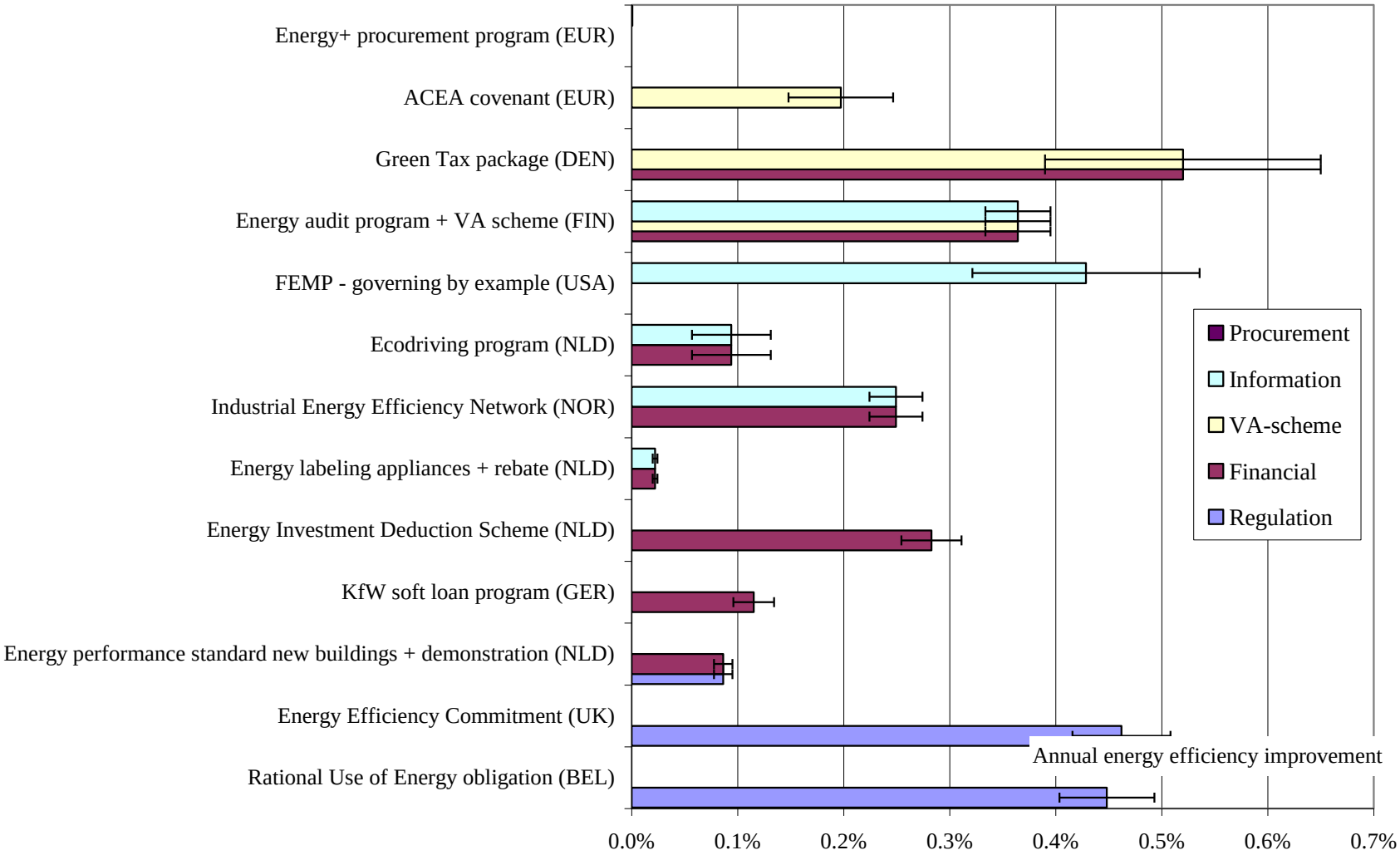
Most instruments are part of a policy package: it is often difficult to isolate the energy saving impact of a single policy instrument

	Minimum energy performance standard	Building code & enforcement	Mandatory target & enforcement	Labelling	Information campaigns/general information	Energy audit	Education and training	Demonstration	Governing by example	Targeted taxes / tax exemption	Project or product related subsidies	Voluntary agreements	Technology procurement
Energy performance standard for building (NL)	X	V					V	V		V			
Building regulation (IT)		X											
Top Runner (JAP)	X			V	V			V		V			
Energy Efficiency Commitment (UK)			X		V					V	V		
Mandatory targets on energy consumption (BEL)			X		V					V	V		
Obligation on having an energy manager (IT)			X			V							
Labelling of domestic appliances (NLD)				X	V					V	X		

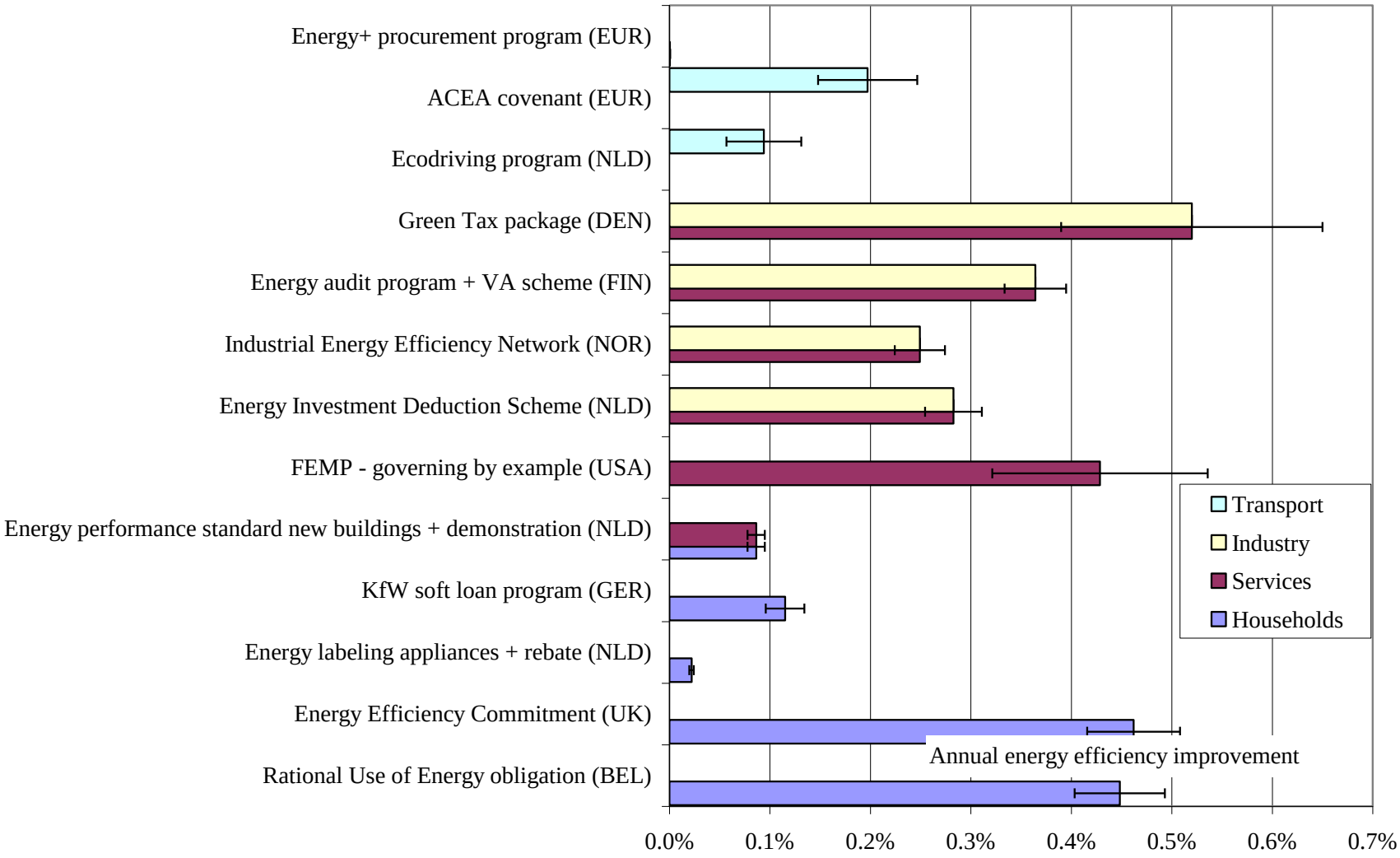
X = main instrument

V= instrument linked to the evaluated instrument (policy mix)

No clear differences can be observed in annual savings for the different types of instrument



Largest saving in industry/service sector, lowest in transport



Important lessons learned

- There is no such thing as a ‘best practice’ policy instrument…
  - …however, typical circumstances in which to apply different types of instruments and generic characteristics that determine success or failure can be identified
- Smart objectives are good starting point for policy making but they are not always in place
- The need for monitoring information does not have priority in the design phase e.g. by setting an annual budget for monitoring
- For most instruments monitoring information is collected on a regular basis
  - ……However monitoring information is often insufficient to determine the effect and efficiency of an instrument and/or determine progress toward meeting the target, and
  - …….Monitoring and verification of actual energy saving got relatively low priority in most of the analysed instruments.

Harmelink consulting mirjam@harmelinkconsulting.nl www.harmelinkconsulting.nl

Thank you for your attention!

For more information please contact

Mirjam Harmelink

mirjam@harmelinkconsulting.nl

T: +31 6 42342483