TASK 26
Multiple Benefits of Energy Efficiency

Catherine Cooremans
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CONTEXT
I. Energy-efficiency gap

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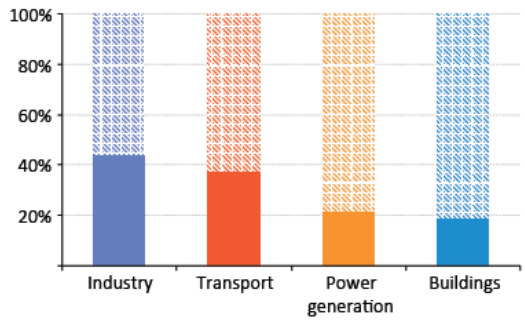
A huge energy-efficiency potential remains untapped



Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035

Source: Philippe Benoît, Several IEA strategic actions to increase energy-efficiency, EEMR 2015 and Multiple Benefits, ECEEE workshop, Brussels, October 21, 2014.

CONTEXT

II. The commodity view: KWh savings

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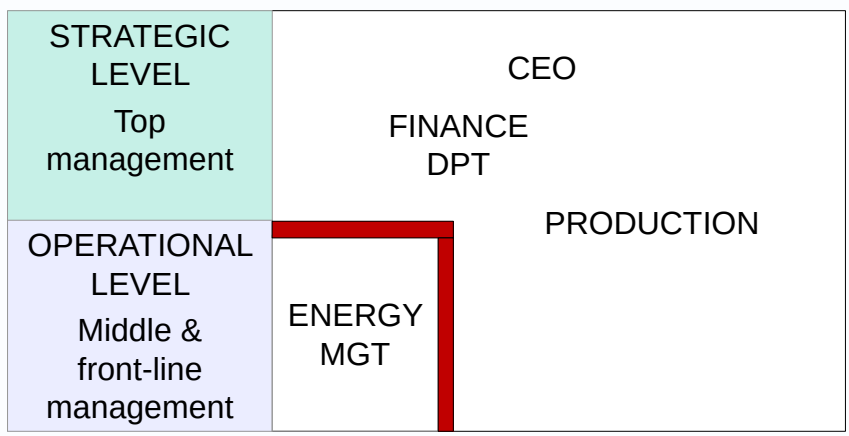
The common engineers' "technico-economic" approach:

… does not work.



- Energy is considered non-core business, a secondary issue.
- Energy manager has difficulty of access and communication with top management and production.

Multiple Benefits
The strategic approach

Definition:

all the benefits entailed by an energy performance action which are not energy benefits (i.e. energy savings translated into monetary savings) in and of themselves.

Terminology:

non-energy benefits, ancillary benefits, multiple benefits

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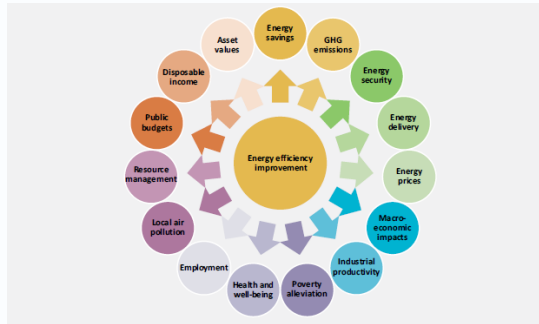
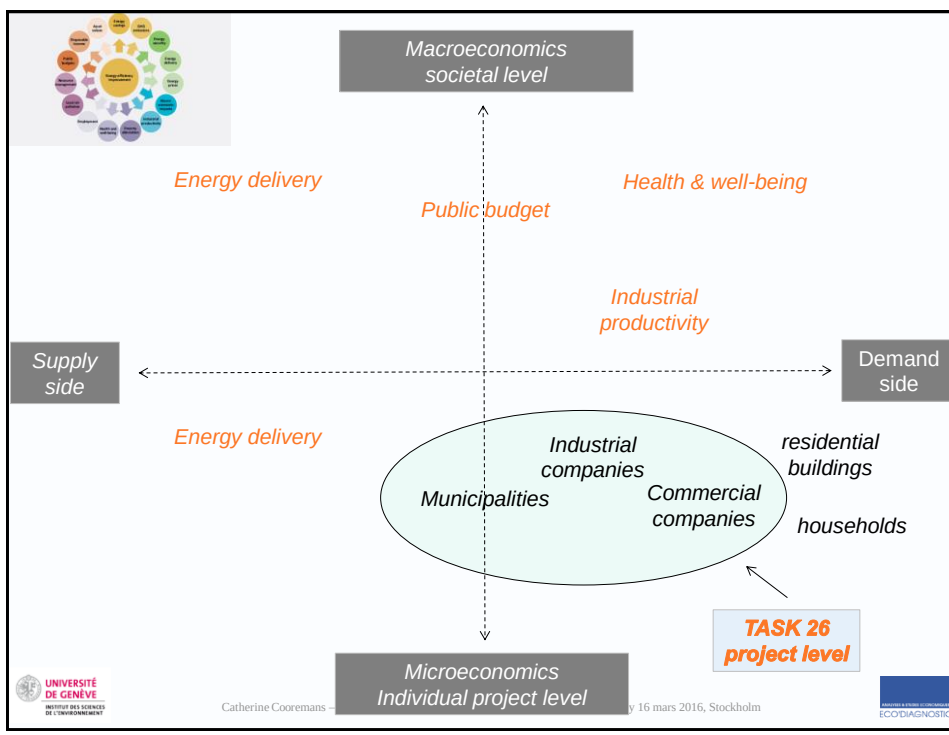
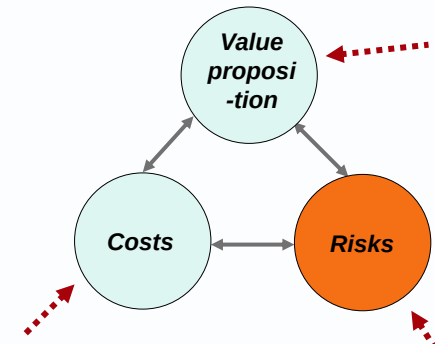


IEA report, Capturing the multiple benefits of energy-efficiency, Paris, September 2014:

- Macro-economic impacts
- public budget impacts
- Health & well-being impacts
- Industrial sector impacts
- Energy delivery impacts





- Better product quality
- Increased product reliability
- Improved image& stronger brand
- Increased employees and customers loyalty
- Increased attractiveness

- Reduced accident risk
- Reduced commercial risk
- Reduced equipment risk
- Reduced legal risk
- Reduced carbon risk

- Lower energy costs
- Lower maintenance costs
- Lower product rejection
- Reduced raw materials
- Reduced absenteism
- Reduced insurance premiums

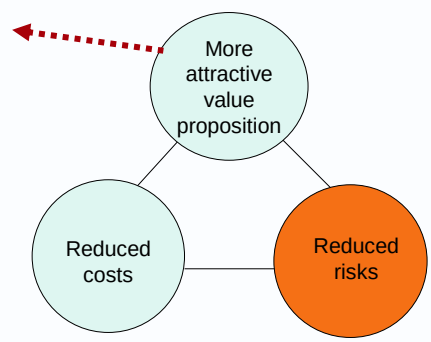
Measuring strategicity

- Higher number of pieces sold
- Higher unitary price

= Higher turnover

- Higher turnover
- Lower costs

= Higher profitability



Increased competitive advantage

Increased company's profitability

Bridging strategicity with financial analysis

SANTA CLARA UNIVERSITY Lighting project		Year 0	Proj. Year 1	Proj. Year 2	Proj. Year 3	Proj. Year 4	Proj. Year 5
			(% or thousand of USDOL)				
Net income			8'439	8'439	8'439	8'235	8'235
Capital expenditure		2'550	0	0	0	0	0
Terminal value before taxes			0	0	0	0	0
Terminal value after taxes			0	0	0	0	0
Free Cash-Flows		-2'550	**8'439**	**8'439**	**8'439**	**8'235**	**8'235**
NPV (NET PRESENT VALUE)							
15%	**11'169**						
9%	**29'996**						
5%	**33'657**						
IRR (INTERNAL RATE OF RETURN)	311%						
PAY-BACK TIME	0.30						

Non-energy / multiple benefits
have to be:

- analyzed ex ante
  (i.e. before projects start)
- better documented and quantified
- communicated in a convincing way to stakeholders

TASK 26!

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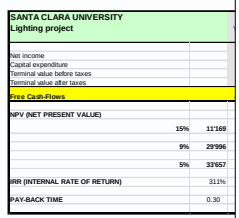
Task 26 Multiple Benefits of Energy Efficiency: building up the business case of energy-efficiency investment projects



SANTA CLARA UNIVERSITY Lighting project		
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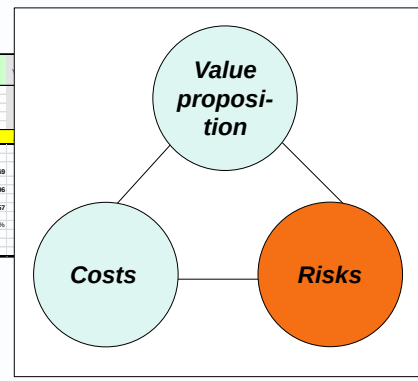
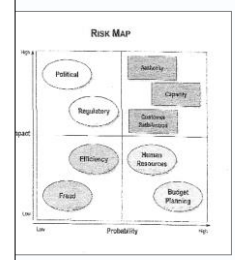
Quantitative analysis





Qualitative analysis

Thank you for your attention

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