LEEN Networks in Germany – course, costs and benefits

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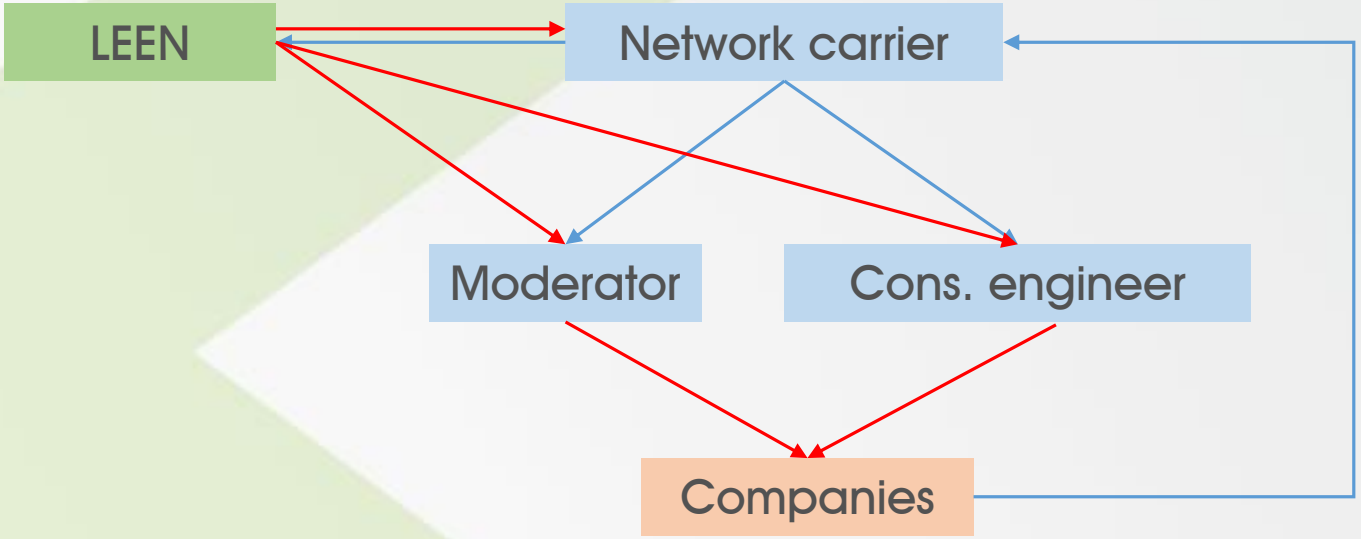
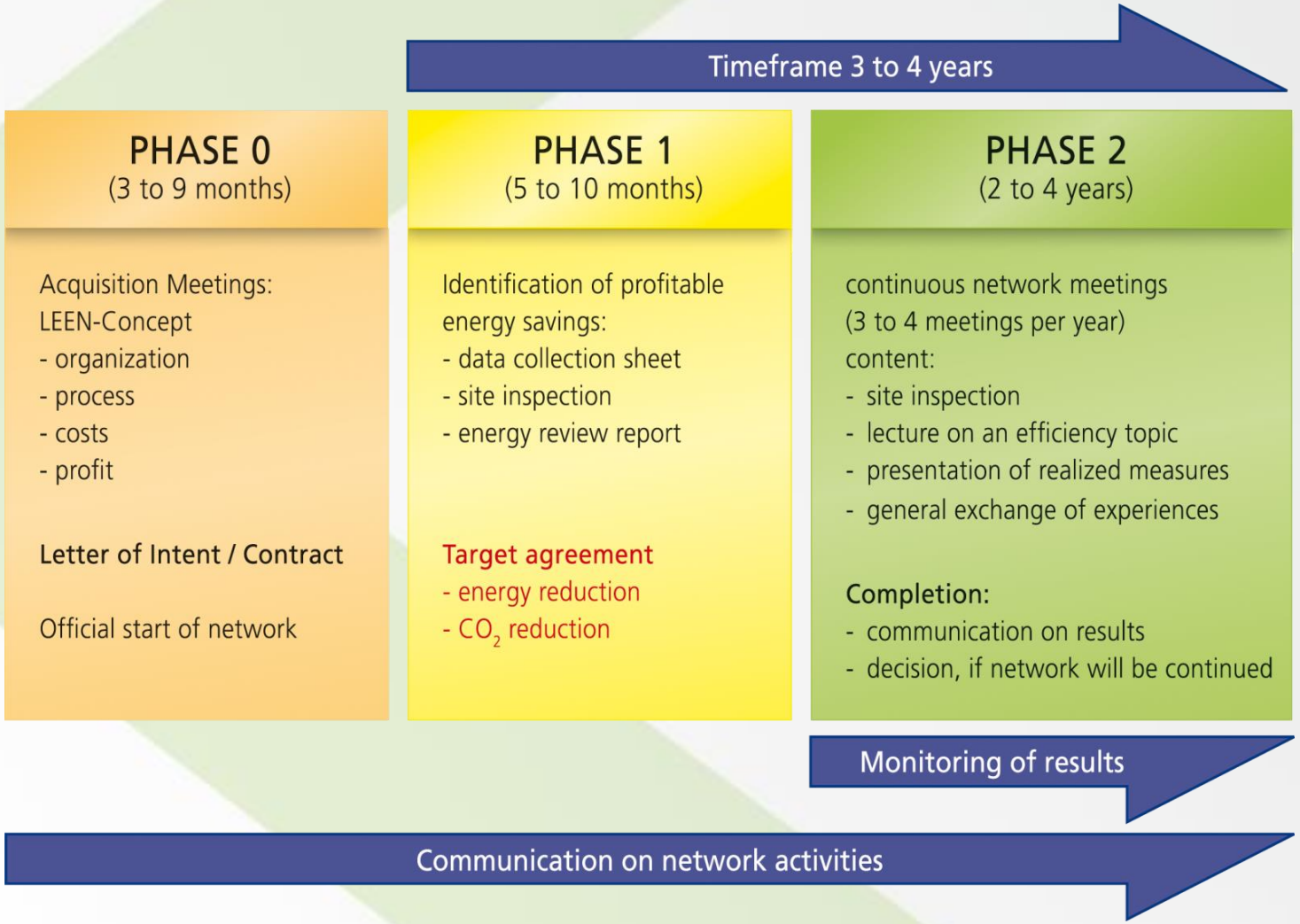
Organizational structure



Money flow

Service & deliverance of LEEN MS

How it works



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Cost calculation LEEN-classic

LEEN-classic

Network participation			
without energy review	**30,000 €** (16 full-day network meetings + 3 x monitoring)		
Energy review	13,500 €	(500,000 –	800,000 €/a)
	15,000 €	(800,000 –	1,500,000 €/a)
	16,500 €	(1,500,000 –	3,000,000 €/a)
	19,000 €	(3,000,000 –	5,000,000 €/a)
	individual	(>5,000,000 €/a)	
Sum	**45,000 €** (energy review €)		
	additionally up to 25 working days (non-cash item)		

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Monitoring

Evaluated monitoring reports		
Companies	No	210
Measures	No	1,980
Total consumption	GWh	14,100
Total energy saved	**GWh**	**870**
Electricity	GWh	340
Natural gas	GWh	275
Gasoline	GWh	80
District heat	GWh	39
Others	GWh	85

Average operational time of networks until the latest monitoring: 2,7 years
Average yearly efficiency increase: 2,2%/a

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Monitoring of realized measures (NW Karlsruhe)

Category (Ø values per measure)	Value
Total number of measures	107
Ø Investment sum [€]	20,700
Ø Energy cost savings [€/a]	6,750
Ø IRR of all profitable measures	33.0 %
Ø Static pay back period of all measures[a]	3.0
Ø Energy savings [MWh/a]	98.5
Ø CO_2 emission reduction [t/a]	25.6

Profitability of LEEN-classic

Annual energy costs:	1,5 million €
Annual energy savings (8%): (Calculation based on a 2% efficiency increase per year, see slides above, figures highlighted red)	120,000 €
Investment in efficiency measures: (Calculation based on an IRR of 33%, see slides above, figures highlighted red)	350,000 €
Add. costs of network participation :	45,000 €
Add. costs of technical staff:	15,000 €
Total costs after 4 years:	410,000 €
Pay back period (investments only):	41 (35) month
IRR, time of use 10 years (investment only)	27 % (33 %)

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Profitability of LEEN-compact

Annual energy costs:	400,000 €
Annual energy savings (8%): (Calculation based on a 2% efficiency increase per year, see slides above, figures highlighted red)	32,000 €
Investment in efficiency measures: (Calculation based on an IRR of 33%, see slides above, figures highlighted red)	100,000 €
Add. costs of network participation :	18,500 €
Add. costs of technical staff:	5,000 €
Total costs after 4 years:	123,500 €
Pay back period (investments only):	41 (33) month
IRR, time of use 10 years (investment only)	26 % (34 %)

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Measure: Fiducia IT AG

- Ventilation: Modernisation of conditioning cabinet
- Investment: 157,000,- €
- Energy carrier: Electricity
- Annual savings: Energy: 820 MWh
  CO_2 emissions: 379 t
  Energy costs: 98,400,- €
- Profitability: Amortisation: 1.6 a
  IRR: 63 %

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Benefits for the companies

- A complete assessment of the saving potentials in crosscutting technologies (and several process technologies)
- An economic evaluation of the saving potentials (IRR, pay back period and net present value)
- Evaluation of realized measures by monitoring system
- An information network as a know-how pool
- Exchange of experiences to realize the measures (no intention to sell)
- Staff training
- Up to date information on new technologies (presented by engineering experts) (no promotion lectures)
- Basis for a credible PR

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Questions & answers

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