

Energy saving projects (EnSPs) - Guidelines for economic and financial evaluation

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	5
5 Planning an economic and financial evaluation of an EnSP	6
5.1 General	6
5.2 Description of an EnSP and associated lifetime	7
5.3 Identification and definition of the boundaries	7
5.3.1 General	7
5.3.2 Examples of EnSP boundaries	7
5.4 Data collection	8
5.5 Evaluation objectives and required accuracy	9
6 Estimation and calculation of energy and non-energy effects	9
6.1 Prediction and estimation of energy savings	9
6.2 Energy savings calculation	9
6.3 Estimation of non-energy effects	10
6.4 Conversion of EnSP effects into economic value	10
6.4.1 General	10
6.4.2 Revenues	10
6.4.3 Estimation of external costs and benefits	10
7 Identification and calculation of costs and cash flows	10
7.1 General	10
7.2 Cost characteristics	11
7.2.1 General	11
7.2.2 Variable cost	11
7.2.3 Fixed costs	12
7.2.4 Total capital investment	12
7.3 Cash flows description	13
7.3.1 General	13
7.3.2 Accounting for future cash flows	14
7.3.3 Rates of time preference or comparison	14
7.3.4 Choosing a rate of time preference or comparison	14
8 Analysis and assessment	15
8.1 Economic and financial indicators	15
8.1.1 General	15
8.1.2 Present value	16
8.1.3 Net present value	16
8.1.4 Internal rate of return	17
8.1.5 Payback period	17
8.1.6 Life cycle cost analysis	18
8.1.7 Profitability index	19
8.2 Assessment	20
8.2.1 General	20
8.2.2 Sensitivity analysis	20
8.2.3 Uncertainty and risk assessment	20

8.3	Analysis.....	22
8.3.1	Energy data quality.....	22
8.3.2	Social cost benefit analysis.....	22
8.4	Decision-making.....	24
8.4.1	General.....	24
	8.4.2 Selection of an EnSP based on indicators.....	24
9	Reporting.....	25
Annex A (informative) Energy savings calculation steps.....		26
Annex B (informative) Example of cost characteristics.....		28
Annex C (informative) Examples of payback period calculation.....		29
Annex D (informative) Example of net present value calculation.....		31
Annex E (informative) Examples of internal rate of return calculation.....		33
Annex F (informative) Example of life cycle cost analysis.....		37
Bibliography.....		40