



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 17463:2021

Valuation of Energy Related Investments (VALERI)

Évaluation des investissements liés à
l'énergie (VALERI)

Bewertung von energiebezogenen
Investitionen (VALERI)

10/2021



National Foreword

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ILNAS-EN 17463:2021

EUROPEAN STANDARD **EN 17463**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

ICS 03.100.01; 27.015

English version

Valuation of Energy Related Investments (VALERI)

Évaluation des investissements liés à l'énergie
(VALERI)

Bewertung von energiebezogenen Investitionen
(VALERI)

This European Standard was approved by CEN on 2 August 2021.

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Contents	Page
European foreword	4
Introduction	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Symbols, abbreviations and subscripts	10
5 Valuation procedure	11
6 Setting up a model (phase A).....	13
6.1 Determination and qualitative description of benefits and efforts.....	13
6.2 Quantification of the benefits and efforts	14
6.3 Monetisation, determination of the relevant points in time, consideration of price variations and of degradation	15
6.3.1 General.....	15
6.3.2 Consideration of price variation effects	16
6.3.3 Consideration of degradation.....	16
6.4 Number of periods to be considered	18
6.5 Consideration of risk	18
6.6 Determination of the appropriate discount rate.....	18
7 Calculation (phase B).....	19
7.1 Determination of the NPV of the ERI (most-likely-case scenario)	19
7.1.1 General.....	19
7.1.2 Consideration of tax.....	21
7.2 Performing a sensitivity analysis under variation of all parameters containing considerable uncertainty.....	21
7.3 Performing a scenario analysis (best-case, worst-case, and most-likely-case scenario)	23
8 Assessment (phase C).....	24
8.1 Interpretation of the results	24
8.1.1 General.....	24
8.1.2 Net Present Value (NPV).....	24
8.1.3 Scenario and sensitivity analyses	25
8.2 Valuation of non-monetisable qualitative and quantitative effects on the decision.....	25
9 Reporting (phase D).....	25
Annex A (informative) The NPV calculation table (basic version) with visible formulas	28
Annex B (informative) Comprehensive version of the NPV calculation table.....	29
Annex C (informative) Selection of the appropriate valuation method.....	33
Annex D (informative) Case study: Application of the valuation procedure to the integration of a cogeneration unit within an industrial organization	41
Annex E (informative) Checklist for the Valuation Report	51
Annex F (informative) Consideration of risk	53

Annex G (informative) Consideration of price variation.....	56
Bibliography	57

European foreword

This document (EN 17463:2021) has been prepared by Technical Committee CEN/CLC/JTC 14 “Energy efficiency and energy management in the framework of energy transition”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

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Introduction

In order to reach the energy related targets of the EU and its member states, energy related investments (ERIs) have to increase. A possible lack of investments could not only result from a lack of the available capital, but also from a lack of reliable financial evaluations of the benefits of ERIs.

Different investment ideas often compete for the available money within organisations. Therefore, enhancement of the financeability of ERIs can be achieved by showing the full economical value that they are able to generate. When this is done properly, priorities for budgets of ERIs should rise automatically and thus more investments will be undertaken.

The state of the art of today's energy related project valuation in practise reveals that in order to help the user to undertake a firm and correct valuation it is necessary to avoid:

- incorrect results which are caused by neglecting relevant parameters and cash flows;
- unclear calculation models which are difficult to understand;
- models containing errors or models that are incomplete;
- use of calculated costs instead of cash flows;
- time value of money not being considered;
- discount rate being used in an unreflected manner;
- risks not being properly considered;
- missing sensitivity and scenario analyses;
- missing traceability;
- missing interpretation of results;
- price variation rates (very important for energy project valuation) not being appropriately considered.

The objectives of this document are:

- to help proposers of energy related investments (ERIs) to evaluate their ideas economically and qualitatively in a uniform, transparent and understandable way by generating all material information that is relevant for a decision,
- to generate comparable results (for this it is important to ensure that the estimation of the cash flows is done in a comparable way by using correct price variations, the use of marginal prices for all cash flows etc.),
- to help the valuator to generate valuation results that can be easily understood by those who decide upon them,
- to help the decision maker and possible financial institutions who decide on the basis of the valuation results and expect the results to be correct and complete but also easy to understand, retraceable and explicit (material),

- to complement other standards or protocols that focus on the technical determination of energy savings and
- to help those persons that decide upon ERIs.

In order to accomplish these objectives this document offers a valuation procedure, a calculation methodology (just one), and a documentation structure that covers the following features:

- application of one calculation method only;
- correct and complete results (Net Present Value considering among other things also, all relevant cash flows and their price variation rates over the whole project lifetime);
- unequivocal (one indicator at the end which can be directly used for decision-making);
- uniform (a standard);
- easy to use (table based, one uniform calculation table);
- retraceable and easy to reproduce (calculations are transparent and the assumptions made are explained);
- as simple as possible;
- flexible (the user can adjust parameters and can customise the calculation table);
- undertaking of sensitivity and scenario analyses;
- the standard contains templates for reporting the calculation results and all additional qualitative effects.

Transparent calculations including retraceable assumptions that show the full value of ERIs will help organisations as well as households to identify the added value resulting from such ERIs. The proposed methodology could also be used in energy reviews or audits (using EN 16247-1), when prioritising energy performance improvement potentials.

An easy to use and standardized procedure would be helpful as energy management teams might not always include personnel that are equipped to translate technical ideas into conclusive economical results in order to ensure a solid basis for decision-making.

This document relates to standards regarding energy management and energy savings in general. It proposes the use of “Net Present Value” (NPV) calculations and its result as a basis for decision-making (see Annex C).

1 Scope

This document specifies requirements for a valuation of energy related investments (VALERI). It provides a description on how to gather, calculate, evaluate and document information in order to create solid business cases based on Net Present Value calculations for ERIs. The standard is applicable for the valuation of any kind of energy related investment.

The document focusses mainly on the valuation and documentation of the economic impacts of ERIs. However, non-economic effects (e.g. noise reduction) that can occur through undertaking an investment are also considered. Thus, qualitative effects (e.g. impact on the environment) – even if they are non-monetisable – are taken into consideration.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

adjustment parameter

quantifiable parameter affecting the results of the valuation process

EXAMPLE energy savings (kWh), discount rate, project lifetime, energy price variation rates etc.

3.2

degradation

decrease in the performance characteristics or service life of a product

Note 1 to entry: The degradation rate is measured as performance decline per year (e.g. 1 %/a).

Note 2 to entry: For the purpose of this document deterioration (decline in the performance of an energy performance improvement action) is included in the concept of degradation.

[SOURCE: EN 60194:2007-03, modified — Note 1 and Note 2 to entry added]

3.3

benefit

positive effect resulting from an investment

Note 1 to entry: A benefit can have a qualitative, quantitative, financial or fiscal nature.

Note 2 to entry: A benefit can be a direct or indirect effect.