

# DIN ISO 50015:2018-04 (E)

## Energy management systems - Measurement and verification of energy performance of organizations - General principles and guidance (ISO 50015:2014)

---

<b>Contents</b>		<b>Page</b>
National foreword .....		3
National Annex NA (informative) Bibliography .....		3
Foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	6
4	Measurement and verification principles .....	9
4.1	General principles .....	9
4.2	Appropriate accuracy and management of uncertainty .....	9
4.3	Transparency and reproducibility of M&V process(es) .....	9
4.4	Data management and measurement planning .....	10
4.5	Competence of the M&V practitioner .....	10
4.6	Impartiality .....	10
4.7	Confidentiality .....	10
4.8	Use of appropriate methods .....	10
5	Measurement and verification plan .....	10
5.1	General .....	10
5.2	Scope and purpose .....	11
5.3	Energy performance improvement actions .....	12
5.4	M&V boundaries .....	12
5.5	Preliminary M&V plan assessment .....	13
5.6	Characterization and selection of energy performance metrics including EnPIs .....	13
5.7	Characterization and selection of relevant variables and static factors .....	14
5.8	Selection of the M&V method and calculation method .....	14
5.9	Data-gathering plan .....	15
5.10	Energy baseline establishment and adjustments .....	16
5.11	Resources required .....	17
5.12	Roles and responsibilities .....	17
5.13	Documentation of the M&V plan .....	17
6	Implementation of M&V plan .....	17
6.1	Data-gathering .....	17
6.2	Verification of the implementation of the EPIA(s) .....	18
6.3	Observation anticipated or unforeseen changes .....	18
6.4	M&V analysis .....	18
6.5	M&V reporting .....	19
6.6	Review the need to repeat the process .....	19
7	Uncertainty .....	19
8	Measurement and verification documentation .....	20

<b>Annex A (informative) Overview of the measurement and verification flow .....</b>	<b>21</b>
<b>Annex B (informative) Measurement uncertainty examples .....</b>	<b>22</b>
<b>Bibliography .....</b>	<b>23</b>