

SOME ISSUET OF ENERGY EFFISIENSI IN INDUSTRY**N.Lazashvili** - PhD, Assistant Professor**T. Tsereteli** - PhD, Associate Professor

Georgian Technical University

Be received 17.10.2019

Abstract. *Energy Efficiency Directives pose new requirements for the Industrial organizations, including Energy Efficiency of the their operation that could be measured by Energy Audits and/or by means of introduction of Energy Management Systems that creates lots of challenges for Georgian companies.*

The new Law of Georgia on Energy Efficiency considers Voluntary Agreements as one means of implementation of Energy Efficiency measures at the companies.

Key Words: *Industry, Energy Efficiency, EE Directives, Accreditation, Energy Audit.*

Introluction. Georgia has signed Protocol concerning the Accession of Georgia to the Treaty Establishing the Energy Community on October 14th, 2016. With this Accession Protocol Georgia has taken along with the other obligations, obligation of transposition of Energy Efficiency Directives that includes three EU Directives:

- DIRECTIVE 2012/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (EED)

- DIRECTIVE 2010/31/EU of the EUROPEAN PARLIAMENT and of the COUNCIL of 19 May 2010 on the energy performance of buildings.(EPBD)

- DIRECTIVE 2010/30/EU of the EUROPEAN PARLIAMENT and of the COUNCIL of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products.

The Accession Protocol envisages transposition of most Articles of the Directives and for each article there is set a deadline of transposition. The overall deadline for the implementation of EED was 31st of December 2018 (source: Energy Governance in Georgia – Report on Compliance with the Energy Community Acquis, Energy Community Secretariat). For some articles of the EED the implementation deadlines are different from the transposition deadline.

As Georgia had no legal framework energy efficiency related issues, the Ministry of Energy of Georgia (now Department of Energy Policy witin the Ministry of Economy and Sustainable Development) started work on Energy Efficiency Law („Law of Georgia on Energy Efficiency“).

Currently the Law of Georgia on Energy Efficiency is at the Parliament of Georgia and it is in the process of Committee hearings. It is expacted to be enacted at the end of this year.

From the Directive 2012/27/EU on Energy Efficiency the most important articles that have influence on Industry are Article 7, 8 and 16. These articles of the Directive were transposed in the Chapter V, Articles 21, 22 and 23 of the Law of Georgia on Energy Efficiency.

Article 16 Energy Efficiency Directive is under Horizontal Provisions and it concerns availability of qualification, accreditation and certification schemes:

”Availability of qualification, accreditation and certification schemes

1. Where a Member State considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building elements as defined in Article 2(9) of Directive 2010/31/EU.

2. Member States shall ensure that the schemes referred to in paragraph 1 provide transparency to consumers, are reliable and contribute to national energy efficiency objectives.

3. Member States shall make publicly available the certification and/or accreditation schemes or equivalent qualification schemes referred to in paragraph 1 and shall cooperate among themselves and with the Commission on comparisons between, and recognition of, the schemes.“

According to the Energy Community Treaty, the Energy Efficiency Directive and also Article 16 were adapted by the Ministerial Council Decision 2010/02/MC-EnC. Georgia has taken responsibility only on the first paragraph of the Article 16 EED. Article 16 for Georgia is defined as follows:

”Where a Contracting Party considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 15 March 2020 certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building elements as defined in Article 2(9) of Directive 2010/31/EU, as incorporated and adapted by the Ministerial Council Decision 2010/02/MC-EnC.“

According to the definition of the International Organization for Standardization (ISO), accreditation means the formal recognition by an independent body, generally known as an accreditation body, that a certification body operates according to international standards (<https://www.iso.org/certification.html>).

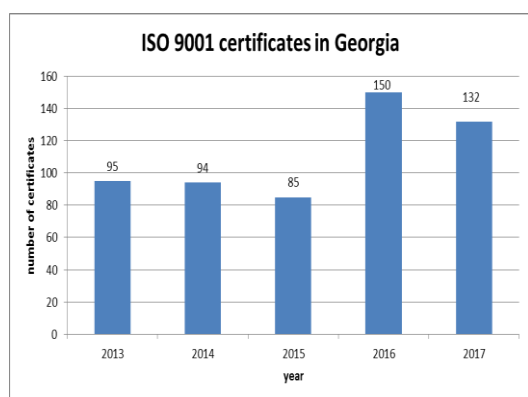
In Georgia there is an independent accreditation body the "Georgian National Accreditation Body – Accreditation Centre (GAC)" which is established on the basis of Georgian laws on "Product Safety and Free Movement Code" and the Law of Georgian on "Legal Entities of Public Law". This organization is entitled to to organise and realise the activities according to accreditation matters.

One of the accreditation schemes which are used by GAC is the Accreditation Scheme for Bodies Performing Audit and Certification of Management Systems according to ISO/IEC 17021. Currently there is no accredited certification body for ISO 50001 in Georgia.

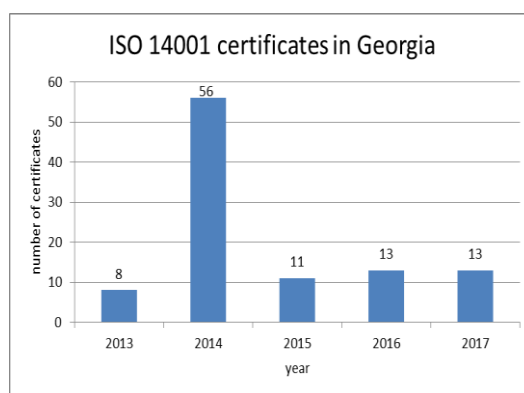
Georgia has some industrial companies that are having certified management systems. The ISO Survey of Management System Standard Certifications shows how many companies have already implemented a management system according to ISO 9001, ISO 14001 and ISO 50001 in Georgia.

The consideration of the standards ISO 9001 and 14001 shows the general spread of standards with the same high level structure as ISO 50001 in Georgia. Also the standard ISO 9001 has been on the market since 1999. Compared to the ISO standard 9001, the ISO 50001 standard is relatively new (first certifications in 2013).

The standard ISO 14001 Energy Management Systems was also considered for this assessment, because it has been longer on the market (since 2008) than ISO 50001, addresses energy issues and has the same high level structure as the ISO 50001 standard.

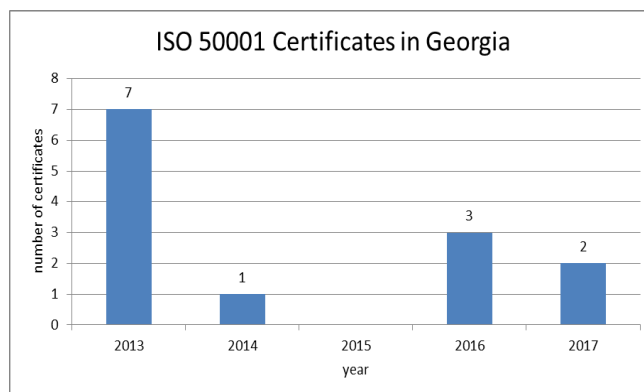


ISO 9001 certificates in Georgia, ISO Survey of Management System Standard Certifications (2011–2017)



ISO 14001 certificates in Georgia, ISO Survey of Management System Standard Certifications (2011–2017)

It can be assumed that companies with an implemented system according to ISO 14001 have a qualified environmental manager who is aware of energy aspects and also focuses on the reduction of energy consumption in addition to other environmental aspects. If the internal audit reg. 140001 is done internally, the Internal Auditor qualification already exists and internal audits could also be executed according to ISO 50001



ISO 50001 certificates in Georgia, ISO Survey of Management System Standard Certifications (2011–2017)

For implementation of Energy Efficiency measures in Industry it is very important to have proper Management and Organizational System within the company. There are lots of no cost and low cost measures that could save energy and water in the companies. Here we have to mention also good housekeeping activities that have to be considered by each employee of the company.

Voluntary Agreements are foreseen in the forthcoming legal framework of Georgia on energy efficiency:

- In the latest draft of the 1st National Energy Efficiency Action Plan (NEEAP) of Georgia, voluntary agreements are envisaged as a horizontal measure.

- In the latest draft of the Law of Georgia on Energy Efficiency, voluntary agreements are foreseen in Article 23 where it reads:

“Article 23. Additional Policies to Encourage Energy Efficiency in Industry

Intro.

1. With the aim to achieve Energy Efficiency Improvements in industry, the Government, represented by the Ministry responsible for Energy, shall provide the opportunity for enterprises or associations thereof to enter into a voluntary agreement with the State represented by the Ministry responsible for Energy, including the promotion of Energy Efficiency services.

2. The Ministry responsible for Energy shall assess whether proposed energy saving targets, offered by industry as part of the voluntary agreement, are sufficiently challenging. If deemed necessary, due to a lack of achievement of energy efficiency improvement, the Minister responsible for Energy may establish mandatory targets on the objectives for energy efficiency improvements.

The basic idea of voluntary agreements is to implement programmes motivating industrial companies to do better than what is prescribed by existing legislation. In return, participating companies receive some benefits or advantages.

Georgia still has to decide schemes for voluntary agreements. The parties of voluntary agreements can be large as well as small and medium size enterprises.

There are essentially two types of Voluntary Agreements:

Implementation-based: this type of Voluntary Agreement requires participating companies to implement energy-saving measures that meet defined and agreed criteria; for instance all measures with a payback time of $\leq n$ years.

Target-based: this type of Voluntary Agreement requires participating companies to achieve measurable energy efficiency targets; for instance x% energy savings compared to a baseline scenario or y% energy efficiency improvement within n years

The majority of Voluntary Agreement schemes implemented in the European Union required/included the implementation of energy management systems in line with national or international standards.

REFERENCE

1. DIRECTIVE 2012/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (EED), <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX%3A32012L0027>
2. DIRECTIVE 2010/31/EU of the EUROPEAN PARLIAMENT and of the COUNCIL of 19 May 2010 on the energy performance of buildings.(EPBD), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32010L0031>
3. DIRECTIVE 2010/30/EU of the EUROPEAN PARLIAMENT and of the COUNCIL of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32010L0030>
4. Regulations of Georgian National Accreditation Centre http://gac.gov.ge/files/GAC_statute_ENG1.pdf
5. ISO website, <https://www.iso.org/certification.html>
6. Baseline Assessment for Article 16 EED, Nino Lazashvili, UNIDO, Marco Matteini, UNIDO, Gabriele Brandl, AEA
7. Factsheet: Voluntary Agreements with Industry in Georgia, Gabriele Brandl/AEA, Erwin Cornelis/Tractebel Engie, Marco Matteini/UNIDO, Nino Lazashvili/UNIDO