

**EN 16001: the Energy Management System.
The Italian situation after the first year of its implementation**

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Abstract

In July of 2009 the EN 16001 European Standard was issued. This Standard is a reference for implementing an Energy Management System in the organizations. In Italy, this Standard has been implemented by UNI - Italian Organization for Standardization - that is spreading it.

After one year of its application, this paper reports the state in the Italian territory, providing some assumptions about what would be the strengths and weaknesses of the energy standard.

Keywords:

European Standard, energy management, enterprises, strengths and weaknesses

In July 2009 EN 16001 European Standard was published. The Standard governs the so-called Energy Management System, and it was implemented in Italy by UNI - Italian Organization for Standardization, at the end of Summer 2009.

The purpose of 16001 Standard is to provide a set of rules to implement a management system that allows to manage energy aspects in the organizations (1). Like most well-known standard (the ISO 9001 Quality Management Systems or the ISO 14001 Environmental Management System), EN 16001 proposes a systemic approach (based on the logic of the Deming Cycle - PLAN-DO-CHECK-ACT) to improve the energy performance over time.

It isn't a novelty. It has long been debated in the international arena. Just for the International Standardization Organization (ISO) is engaged in the drafting of a Standard - ISO 50001 - with international value.

In addition, some national institutions of unification, especially in Northern Europe, have already issued on national standards that explicitly attempt to adjust the power management. In this sense, the most significant case is Sweden, which in November 2009 recognized 93 organizations certified by the National Energy Standard SS 627750:2003 (2).

So why is it necessary to adopt an European standard on energy management?

First, a clarification is needed: as all these tools, also the Energy Standard is not a compulsory requirement, but it is a voluntary adhesion. Starting from this premise, it was thought that a rule that "working" on the process, explicitly setting the energy factor, might be of interest to large-size companies and/or with a very energy-intensive processes.

Another application field might be the organization of great events that are often temporary and (maybe because of it) energy-intensive.

In both cases, the interest could be related to an economic benefit for the organizations: it is important to emphasize that an improvement in the process (in this case with decreasing of the consumption of an importance resource as energy) can lead savings.

After one year from the adoption of the standard on energy management system and its implementation in Italy, organizations that have received such recognition are still few. As shown in Table 1 they are 6 and, in particular (3):

Table 1: Other international standards in the Italian Organization with an Energy Management System (EN 16001)

Name	ISO 9001	ISO 14001	EMAS	Other certifications
Comau S.p.A.	Yes	Yes	No	Yes
Ilsa S.p.A.	Yes	Yes	No	Yes
Intesa San Paolo	No	Yes	No	Yes
Irca Rica S.p.A.	Yes	Yes	No	Yes
M&IT Consulting	Yes	No	No	No
Nuova Solmine S.p.A.	Yes	Yes	Yes	Yes

Source: FIRE, Federazione Italiana per l'uso Razionale dell'Energia, Italy

Albeit on a small universe, we can do two considerations. The first one is that there isn't a particularly interested sector than others.

The second is that all the companies have a medium - large size business.

For example, Comau is a global leader in the fields of aerospace and robotics, New Solmine is the Italian leader in the production and marketing of sulphuric acid and oleum. Intesa-San Paolo is the second most important Italian banking. Consequentially, four (out of six) of the organizations are "Stock Company" (S.p.A.).

It is perhaps more interesting to note that all the Italian organizations certified with the UNI CEI EN 16001 have other certification Standards, in according to internationally accepted standards. You can especially see this factor with the ISO 9001 Standard (Quality Management Systems) and ISO 14001 (Environmental Management System). Then, in the field of environmental management, New Solmine S.p.A. is also registered with the EMAS EU regulation (Eco - Management and Audit Scheme).

At least in part, the presence of the latter two instruments could maybe explain the present low adhesion to the EN 16001 Standard.

Indeed, alongside the classic difficulties that are faced in implementing a management systems, in this case we add the presence of other Standards that deal with environment and with which will certainly need to "talk".

It is now 15 years that organizations are comparing with environmental management systems. These systems are born in order to manage the significant environmental aspects of an organization. If EMAS - its third edition was issued at the end of 2009 - has a recognition in Europe, the ISO 14001 Standard (its last review was in 2004) is applied worldwide and is well established (4-5).

In this regard, the following table shows data for ISO 14001 sites and EMAS organizations in Italy (6-7) and to complete reasoning, the organizations certified ISO 9001 (6). In the latter case the division is the latest version of the standard (2000 or 2008), which have been certified.

Table 2: Italian Organization with a Quality or an Environmental Management System

Standard	Italian organizations
ISO 9001:2000	29.334 *
ISO 9001:2008	88.677 *
ISO 14001:2004	13.414 *
EMAS Regulation	1.440 **

Source: ACCREDIA, Ente Italiano di Accreditamento, Italy; ISPRA, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy

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** last update: November 2009

As you can see from the data in Table 2, the ISO 14001 and ISO 9001 Standards are an important reality in Italy. For its different level of disclosure of environmental data through the Environmental Statement Document, EMAS Regulation has had less adhesion. In Italy, this instrument of dialogue with the public has brought about that approximately half of the EMAS organizations are public administrations (especially municipalities).

In these two schemes the energy is fully part of the broader context of environmental variables. The EMAS Regulation, for example, in its Annex I (Environmental Review) among the issues to be considered part reports the “(vi) *use of natural resources and raw materials (including energy)*”. Furthermore, in its Annex IV (Environmental Reporting) among the key indicators EMAS shows just the “(i) *Energy efficiency*” (5). Even the ISO 14001 Standard, in its explanatory Appendix, states that “*While no single approach to identify the environmental aspects, the approach selected may, for example, consider: (...) e) use of energy*” (4).

It doesn’t mean that who doesn't have any management system on environmental issues automatically decides to implement a system specifically for energy management: in fact, it could be interested in the ISO 14001 Standard.

Likewise, those who already own the Standard ISO 14001 (showing some environmental sensitivity) could be considered not useful to add a specific standard for energy, as this subject is already present in environmental management.

This was also well aware of the promoters of 16001 Standard. And indeed, noted the relationship between environmental performance and energy, the intention of regulators has been to structure the EN 16001 so you can easily integrate first with the ISO 14001:2004 Scheme. With only some minor differences, the structure of the index of 16001 is the same of the more applied 14001 (8).

But even if an organization has an Environmental Management System, it could be difficult to integrate the two models and having also an Energy System.

Having the same structure doesn't necessarily mean a success in the integration of two or more systems. Some authors, for example, have shown how the integration of the two most used systems (ISO 14001 and ISO 9001, that have the same logic of process) can have different degrees of integration. In fact, we can see the existence of the two completely separate systems or the case of two fully integrated systems. (9-10).

Integrating two or more systems requires financial and human resources to allow the integration itself is not only “on paper”, but also in deeds. This is being done necessarily with the identification of a team of people who support the “*Management representative*” in his duties. But you can invest on people who dedicate part of their time (if not all) to the system is difficult to reconcile with the organization of medium-small, where often the same person performs more tasks and must be very flexible. In this sense, one could see a second difficulty in the implementation of the energy system: the Italian production that consists primarily of companies with fewer than 50 employees (81%).

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