

Best Practices in Energy Efficiency

Fabio Borella

Expert in Energy Management
(EGE)

Certificate n°0140-SC-EGE-2016



Salonicco, 22 Settembre 2016



ENERGY SAVING COMPANY



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GLADIOTECH

Energie rinnovabili
Efficienza energetica
Mobilità sostenibile



Energie Rinnovabili

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Efficienza Energetica

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Mobilità Sostenibile

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Some Istititutional Reference



I am FIRE member , the Italian Federation for the Rational Use of Energy - FIRE - is a independent and non-profit association , founded in 1987, the purpose of which is to promote the efficient use of energy , supporting through the institutional activities and services provided those working in the sector, and promoting positive development of the legislative and regulatory framework .



The European System for Certification in Energy Management SECCEM is a personnel certification organism, operating in accordance with the international ISO 17024 standard, headed by the FIRE. The certification scheme is SECCEM of the UNI CEI 11339 : 2009 "Experts in energy management (EGE)". I am certified by SECCEM.



I am ASSOEGE member, Association of Experts in Energy Managementt (EGE) , certified UNI CEI 11339 : 2009 . Assoege is included in the list of the Ministry of Economic Development.



GSE, Energy Services Company , is a company that provides support to the Ministry of Economic Development on energy matters .



ENEA is the Italian National Agency for New Technologies, Energy and Sustainable Economic Development , " public departement aimed at research and technological innovation , as well as the provision of advanced services to businesses , public administration and citizens in the areas of energy, environment and sustainable economic development

The Directive 2012/27/UE and Legislative Italian Decree 102/2014

- Directive 2012/27 / EU is the culmination of a knowledge and awareness of the acquisition path about the benefits of energy efficiency , translated , at European level , in various communications , decisions , resolutions . The Directive regulates the elements of fundamental importance , such as energy improvement of the building stock , energy audits , actors , tools and incentives to achieve the objectives
- Directive 2012/27 / EU has been implemented in Italy by Legislative Decree number 102 of July 4, 2014 , entered into force July 19, 2014 .



Legislative Italian Decree 102/14

Implementation of Directive 2012/27 / EU on energy efficiency , amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8 / EC and 2006/ 32 / EC

- FINALITY

This decree sets out a framework of measures for the promotion and improvement of energy efficiency that contribute to national energy savings target , also lays down rules designed to remove barriers in the energy market and overcome market failures which hamper efficiency in the supply and end-use efficiency.

- The NATIONAL ENERGY SAVING TARGET

The national indicative energy savings target which combine the measures of this decree, is to reduce by the year 2020 , 20 million equivalent tons of oil in primary energy consumption amounted to 15.5 million tons equivalent of final energy fuel, counted as of 2010 , in line with the national energy strategy .

Legislative Italian Decree 102/14

Implementation of Directive 2012/27 / EU on energy efficiency , amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8 / EC and 2006/ 32 / EC

- **AVAILABILITY OF QUALIFICATION SYSTEM, ACCREDITATION and CERTIFICATION**

ACCREDIA, approve the certification and accreditation schemes for compliance with technical standards relating to:

- a) ESCO certified UNI CEI 11352;
- b) Experts in Energy Management certified according to UNI CEI 11339;
- c) Organizations certified ISO 50001;
- d) Certified energy auditor

The provisions of this decree ensuring transparency to consumers, are reliable and contribute to achieving the national energy efficiency targets.

- **ENERGY AUDITS AND ENERGY MANAGEMENT SYSTEMS**

Large companies and enterprises with a high energy consumption (2.4 GWh) are obliged to perform an energy audit, carried out by energy service companies, experts in energy management or energy auditor in manufacturing facilities located in the country within the December 5, 2015.

Energy audits are performed by Energy Manager Certified UNI CEI 11339, or company UNI CEI 11352. They are required, to perform energy audits every 4 years regardless of their size and to give progressive implementation, within a reasonable time, to the efficiency measures identified by the same diagnosis or to adopt management systems that conform to ISO 50001.

Legislative Italian Decree 102/14

Implementation of Directive 2012/27 / EU on energy efficiency , amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8 /EC and 2006/32 /EC

- INFORMATION AND TRAINING
- ENERGY SERVICES AND OTHER MEASURES TO PROMOTE ENERGY EFFICIENCY
- NATIONAL FUND FOR ENERGY EFFICIENCY
- MONITORING IMPLEMENTATION
- PROMOTION OF ENERGY EFFICIENCY IN BUILDING
- IMPROVING THE ENERGY PERFORMANCE OF BUILDING OF PUBLIC ADMINISTRATION
- PUBLIC PURCHASES OF THE CENTRAL GOVERNMENT
- METERING AND BILLING OF ENERGY CONSUMPTION
- PROMOTING EFFICIENCY IN HEATING AND COOLING
- TRASFORMATION; TRASMISSION AND DISTRIBUTION

Expert in Energy Management

UNI CEI 11339



The Experts in Energy Management (EGE) is the professional who manages energy use efficiently combining knowledge in the energy field (including the environmental impact of energy use) with management skills , economic- financial and communication , maintaining and constantly updated on the evolution of technologies, methodologies and the energy and environmental legislation .

In this way , the EGE has the goal of improving the level of energy efficiency and / or reduce primary energy consumption and climate-altering gas emissions related to energy use , increase in quality and / or quantity of the services provided in any case related to the rational use of energy.

Experience in Best Practices

1. Energy Audits:

1.1. Public Buildings,

1.2. Industrial and Distribution Plant;



2. Actions and proposals for energy efficiency improvement:

2.1. Renewable Energies, Relamping LED.

2.2. ISO 50001 (Energy Management System)

2.3. Measurement control systems and verification of energy loads

3. Sustainable Mobility

3.1. Electric Mobility System.



Experience in Best Practices

Energy Audit and connected actions for energy efficiency improvement (2014-2015)

1. Energy Audits

1.1.Public Buildings “Fiumefreddo di Sicilia Municipality” (9.600 Inh.)

Municipality Buildings Energy Audit:

- Occupants: 80 p.
- Energy Audit Area: 2200 sq.m.
- Total power consumption in TOE (Ton of Oil Equivalent): 11,50 toe (IAEE 11,4 toe)

Primary School Energy Audit:

- Student : 675
- Energy Audit Area: 4750 sq.m.
- Total power consumption in TOE (Ton of Oil Equivalent): 26,60 toe (IAEE 21 toe)

Secondary School Energy Audit:

- Student : 575
- Energy Audit Area: 3400 sq.m.
- Total power consumption in TOE (Ton of Oil Equivalent): 19 toe (IAEE 16,6 toe)

Experience in Best Practices

Energy Audits and connected proposals of actions for energy efficiency improvement (2015);

1.2. Industrial and Distribution Company (2015); Energy Audit

- Plastics recycling plant

Total production

11.500 ton



Total Power Consumption

2200 toe

- Manufacturing plastics plant

Total production

10.600 ton



Total Power Consumption

1044 toe

- Pharmaceuticals distribution plant

Total production

21,8ML units



Total Power Consumption

106 toe

Experience in Best Practices

Energy Audit and connected actions for energy efficiency improvement (2014-2015)

2. Actions for energy efficiency improvement

2.1. Solar Energy systems, Relamping ledin the Public Schools and Municipality Buildings;



Experience in Best Practices

Energy Audit and proposals for connected actions for energy efficiency improvement (2015)

2.2. ISO 50001 Energy Management Systems

The energy management systems linked to ISO 50001 are a fundamental tool to help businesses to link core business and sustainability , as they invest in time across the organization in resource management.



Experience in Best Practices

Energy Audit and proposals for connected actions for energy efficiency improvement (2015)

2.3. *Measurement control systems and verification of energy loads.*

Measuring energy loads and its control over different cost centers and on energy performance of plants, become essential factors for increased competitiveness

NETWORK ANALYZERS

Electric Energy



Thermal Energy



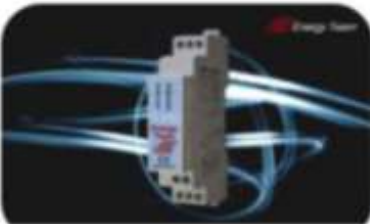
Water / Steam



Compressed Air



Methan GAS



Experience in Best Practices

Energy Audit and proposals for connected actions for energy efficiency improvement (2014-2015)

Expected results from the Action and Proposals for connected action

2.1. .Solar Energy systems, Relamping led in the Public Schools and Municipality Buildings;

Investement (UE Funds) €500.000

Expected Saving € 90.000 / year (20 years Service Life)

PBT 5,5 years

Toe 49 / year

CO2 avoided 120 ton / year

2.2. ISO 50001 (Energy Management Systems) on the three Plants

Investement € 65.000

Expected Saving €20.000 / year (15 years Service Life)

PBT 3,2 years (NPV 53K)

Toe 33/ year

CO2 avoided 78 ton/year

2.3. Measurement control systems and verification of energy loads on the three Plants

Investement € 42.500

Expected Saving € 20.000 / year (15 years Service Life)

PBT 2,1 years (NPV 70K)

Toe 33/ year

CO2 avoided 78 ton /year

Experience in Best Practices

3. Electric Mobility System



Energy Saving
Company



National Platform for the Development
of Electric Mobility
CAR SHARING FREE FLOATING
(MILANO-ROMA-FIRENZA-GENOVA)



Car Sharing Service
Fixed Location
SIRACUSA

Gladiotech closed trade agreement with Sharengo for the development of electric mobility network in the southeast of Sicily

Experience in Best Practices Electric Mobility System



SHARING SERVICE



COURTESY FOR
TOURISM



FOR YOU
IN THE CITY



FOR YOUR
COMPANY

Experience in Best Practices Electric Mobility System

THE PERFECT URBAN CAR



**Built-in
car sharing
equipment**

- **GREAT ENGINEERING, ITALIAN DESIGN AND SURPRISING FEATURES**
- **BEYOND 120 KM OF RANGE IN ANY CONDITION (+ QUICK RECHARGE)**
- **ZERO IMPACT + SAFETY + COMFORT + STEERING RADIUS + MINIMAL FOOTPRINT**
- **AN A-CLASS CAR OVERALL IMPRESSION (EXTERNAL AND INTERNAL)**



Fabio Borella

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