

# The Energy Performance Building Directive (EPBD): *Its implementation in Malta*

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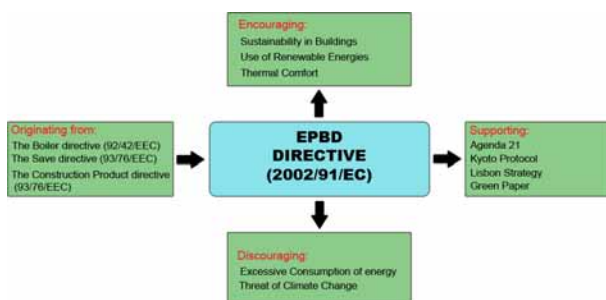
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**ABSTRACT:** The aim of the Energy Performance Building Directive (2002/91/EC) is to reduce the consumption of energy in buildings in such a way that it will inspire more energy efficiency without impairing the level of thermal comfort of the occupants (*refer to Figure 1*). Malta as a full member of the European Union is to abide by the provisions of the Directive, even though it seems that it is no easy task.

Figure 1. The Energy performance of building directive



## 1 INTRODUCTION

### 1.1 Global Energy crisis

What has brought about the need to enact this EU Directive are various circumstances connected with the increased demand of oil and with the worsening situation of the environment: excessive energy consumption in buildings - which account to almost 40% of the energy generated (Directive 2002/91/EC), the commitment to fulfill the goals of the Kyoto Protocol, increasing demand for oil from developing countries, the need to ensure security of energy supplies by the EU countries and above all the ever increasing price of oil, triggered by uncertainty of supplies from the turbulent Middle East, Venezuela, Nigeria and Iran. Moreover, this global energy crisis has led to a vicious circle whereby excessive use of electricity and fuels has led to an alarming increase in the rate of toxic emissions in the air, which in turn, has resulted in a

global climate change, even causing natural disasters like hurricane Katrina in the Gulf of Mexico.

### 1.2 Malta Energy Situation

The present energy situation in Malta is that we rely totally on fossil fuels and the use of alternatives is relatively insignificant and as yet unexplored. Lately, the price increase relating to the electricity surcharge has become a hot issue at a national level. There was no other option than that of increasing the price of electricity. At present, there seems to be no other solution than that of educating the energy user to consume less. Since the building sector is the major energy consumer, with 40% of the total energy consumed in EU countries (Warren, A. (2002)), the implementation of the EPBD Directive in Malta gains even more significance. Two-thirds of this energy is devoted to residential buildings and the rest to commercial premises (Warren, A. (2002)). Almost 70% of this energy is allocated to the heating and cooling of our homes, showing the inefficiency of our buildings (Warren, A. (2002)).

## 2 THE ENERGY PERFORMANCE BUILDING DIRECTIVE

### 2.1 Introduction

The purpose of the EPBD directive “*is to promote the improvement of the energy performance of buildings within the community, taking into account outdoor climatic and local conditions, as well as*

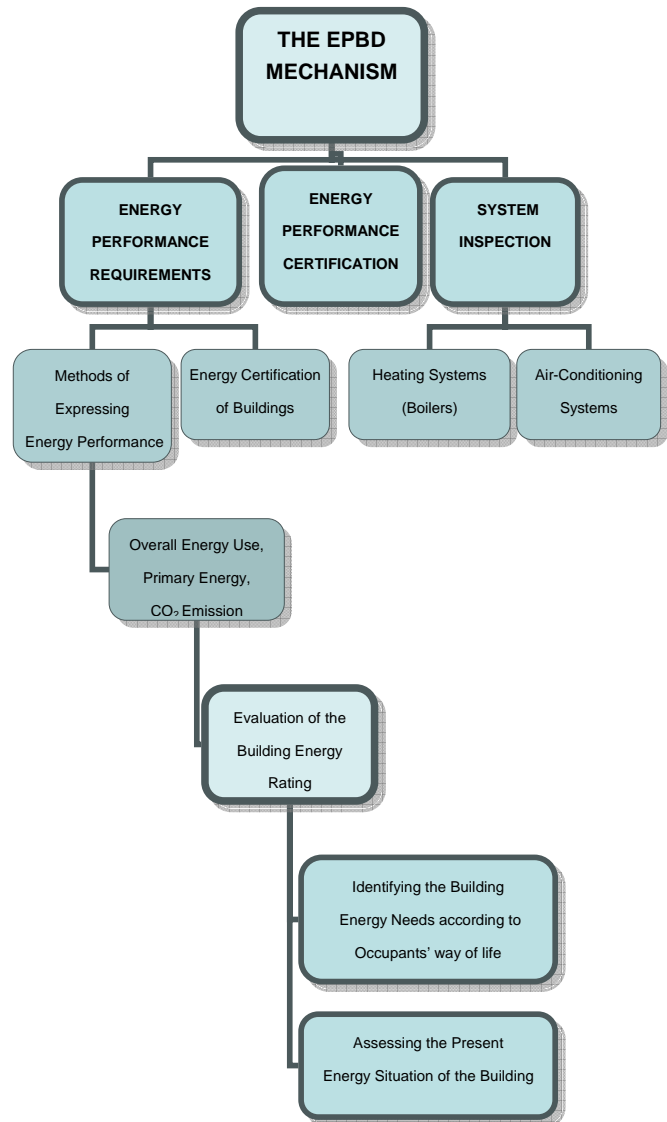
indoor climate requirements and cost-effectiveness”. (Directive 2002/91/EC)

### 2.2 The main thrust of the EPBD

The European Commission enjoined Member States to attain the above-mentioned goals by;

- The formulation of a common ‘**methodology**’, custom-made for each Member State, according to the guidelines set within the directive in order to operate the energy performance of buildings programme. This methodology covers the design, construction, and the services of the buildings, enabling energy consultants to comply with the “*energy reduction standards*” (Energy Saving Thrust).
- The introduction of **minimum standards**, based on the formulated methodology to newly habitable houses, public, commercial and to renovated buildings of a floor area exceeding 1000m<sup>2</sup>.
- The availability of an **energy certificate** to be issued when a building is constructed, rented or sold. This certificate should contain references and legal requirements as well as advice how the building can be made more energy efficient. The energy certificate should be displayed in a prominent place for everyone to see.
- Frequent **inspections** to boilers and air-conditioning systems.

### 2.3 The EPBD work as follows:



## 3 IMPLEMENTATION OF THE EPBD

The most challenging task of every authority responsible for the development of the EPBD is the way it is put into operation within the framework of the Member State and its introduction to the public. The approach that the Maltese Building Construction Industry Department (BICD-responsible for the formalisation of the EPBD in Malta) intends to take is that of introducing the directive into stages that will make use of the transposition period permitted by the same directive, until the end of 2008. The main problems that this Government Department is faced with are the lack of experience with such tasks and the lack of accredited experts to perform the job

## 4 CONCLUSION

### 4.1 Introduction

Having gone through the process of analyzing in depth the entire structure of the EPBD, it is felt that, in its totality, the Energy Performance of Building Directive, on one hand, gives room to a number of observations, while on the other it provokes the need to point out essential issues that might render the implementation of the EPBD more realistic.

### 4.2 Observations

The effect of this directive on the local energy situation will alter the current energy policy towards:

- Reduced generation of electricity following the purchase of less fuel oil.
- Revision of the electricity surcharge rates towards reduced prices
- Security of energy supply by eliminating peak-loads in summer and in winter.
- Upgrading of our local electricity generation plants towards increased efficiency and reduced CO<sub>2</sub> emissions.
- Considering seriously the integration of renewable energy such as wind and solar energy, into our power generation system.

After going through the implementation process by other Member States apart from Cyprus, I feel that we are not in an ideal situation. The main problems lie in the fact that:

- There were no impact assessments that focused on the real impact of this directive on the local construction industry and therefore, in my opinion, the implementation is not addressing directly the real local building and energy problems.
- The education aspect was overlooked, with the consequence that the public, who will determine the success of this directive, was not made properly aware of what it involved.

### 4.3 One way forward

Apart from these observations, it is also felt that Malta requires the necessary legal and administrative structures closely working together under a coordinating authority.

These are the other conclusions:

- 1) The 1000m<sup>2</sup> limit stipulated in article 5 and 6 of the directive needs to be changed, as otherwise this directive will not have successful results when almost a large

percentage of buildings are not taken into account. Locally, the average total useful floor area of our domestic buildings (including flats) is between 100m<sup>2</sup> and 200m<sup>2</sup>, and considering that dwellings are the major consumer of energy, this threshold should be reduced.

- 2) The Maltese method of construction will not be left untouched. The most evident change will surely be the outer skin of every building because certain materials and openings should be modified, such as extensive use of glass on the façade.
- 3) The implementation of the directive will give a good reshuffle to the employment sector because it will bring about changes to existing jobs in the construction industry and the creation of new ones.
- 4) Good structuring of financial support might reveal itself as the “lubricant to an immovable wheel” towards improved energy efficient buildings. Since the success of the EPBD depends entirely on the building user and keeping in mind its importance, financial support from the local Authorities should be provided. This is more so knowing that the subsidies made available would be saved through lower purchasing of crude oil.

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