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Netherlands: Impact, compliance and control of legislation

This paper aims to summarise how in **the Netherlands** the implementation of the EPBD has changed the national EP requirements and has influenced the building stock. It describes the national way of handling with EPBD compliance and control and tries to identify interesting approaches and possible bottlenecks.

Throughout the paper the situation in the country is described on the following four subjects :

- Impact of the EPBD on the national requirements
- Compliance and control of both EP requirements and certification systems

1 > Impact of the EPBD on the national requirements

Before the implementation of the EPBD, the Netherlands already had an energy performance method and requirements in place. There also was some experience with a voluntary system for labelling the energy performance of existing buildings. In general terms the impact of the EPBD mainly lies with the labelling system for existing buildings which changed from voluntary to mandatory. For new buildings nothing directly changed on a global level, because the Netherlands already acted according to the EPBD.

Due to this history, it is not evident to distinguish if the Dutch situation is impacted by the EPBD implementation from what would have been there anyway. In the discussions below it is left aside whether the impact is directly due to the EPBD implementation or to national policies which were already in place. The Netherlands already planned to tighten their requirements. Without the EPBD the same effects would have occurred.

Impact on energy efficiency

The energy performance requirements have affected the energy efficiency level of new buildings. When in 1995 the first energy performance requirements were set, these levels represented more or less the levels of energy efficiency which were possible to realise with an acceptable increase of building cost. In the following period, the requirement levels were tightened every few years. Various studies [1, 2] show that these new levels indeed resulted in more energy efficient buildings, although no percentages are given.

Little is known about the impact of the certificate on the energy efficiency of the existing building stock. Few privately owned houses have a certificate. A sample survey of 100.000 house-transactions in the first 9 months of 2008 [3] shows that less than 20% of these houses have a certificate. 50% of these certified houses have a C or D label, 35% have a "green" (A, B or C) label, 39% a "red" label (E of worse). An interesting

result of the study is that having a "green" label (A, B or C) has a positive effect (although small) on the transaction price and on the time a house is for sale compared to having a "red" label.

A large part of the housing stock in the Netherlands is owned by housing corporations. While privately owned houses that are rent or sold should have a certificate from January 2008, housing corporations who certified their whole building stock at once were exempted until January 2009. A far larger percentage of these houses have a certificate when they are rented out. Several housing corporations even base improvement plans on the information from the labels when they certify their whole building stock.

Impact on indoor climate

In the first years of the EP legislation in the Netherlands the focus was mainly on the energy use for heating, even though the method took into account other energy uses as well. To prevent this trend from leading to overheating in houses and to stimulate passive cooling measures, the energy use for summer comfort was introduced. With this introduction of the summer comfort module in the EP calculation, passive cooling measures have an effect on the EP level of the house, even though no cooling system is present. The problem of overheating is still an aspect of concern, but discussions in the Netherlands related to possible effects of EP legislation on indoor climate mainly focus on indoor air quality. No studies are known to the author which show this correlation, but with the further tightening of the EP requirements this is a growing aspect of concern.

Additional regulations

In addition to EP regulations, new buildings need to comply with minimum insulation regulations and minimum air tightness regulations. Concerning indoor climate there are regulations related to daylight and view as well as to minimum ventilation capacity. Generally seen, these additional energy efficiency regulations do not apply to existing buildings, but the additional indoor climate regulations related to ventilation and daylighting do (sometimes in an adjusted form).

Impact on energy measures

Many technical measures for better energy performance were introduced and implemented in buildings since the introduction of the EP regulation in the Netherlands in 1995. The main trend has been product improvement [4]. Some examples of this are improvement of thermal insulation (floors, facades, roofs as well as windows), improvement of efficiency of condensing boilers, improvement of efficiency of heat recovery systems of ventilation, change from AC to DC fans, improvement of lighting systems so that less installed power is needed, etc. But also new techniques have been introduced, e.g. heat recovery systems of shower water and demand driven ventilation systems. Due to the implementation, also the skills to apply these techniques were improved. However, these effects are not solely related to the introduction of the EPBD.

Impact on building prices and building products.

With every step of reducing the energy performance level the procedure in the Netherlands has always been to perform a study on cost-effectiveness and to tighten the EP level to a cost-effective level. By announcing the reduction of the EP level far in advance, the industry has time to adapt and develop improved and innovative systems. Industry uses the EP regulations as a PR instrument for their improved products.

Renewable energy

The use of renewable energy sources is an integral part of the energy performance method (solar collectors, photo voltaic systems, heat pumps). There are no additional regulations which make the use of renewable energy obligatory in some situation.

2 > Compliance and control[1]

EP requirements

When planning a new building, a building permit is only provided when an EP calculation proves the EP requirement for the building type in question is reached. No certificate or training is needed to provide this calculation. The local authority has the responsibility to check if the calculation is correct. All parties taking part in the building process have the responsibility to build according to the building permit. The local authorities have the right to check this (at design stages on paper and in practice on the construction site).

As argued before, it is clear that the lower energy performance levels have had a positive effect on the energy efficiency of buildings [1, 2]. On the other hand there is doubt about the level of compliance to the EP regulations [e.g. 5]: for all new buildings an EP calculation is made and the calculation result will always meet the EP requirement (otherwise no Building Permit will be given), but it is unknown to what extent the calculated value will be totally correct and all energy saving measures used in the calculation will be implemented as such in practice.

Sanctions in case of non-compliance with EP-requirements can be imposed by the local authorities. In an early stage of the building process they can refuse the building permit. Once the construction is started they can stop the construction process until the omissions are solved. Once the construction is finished the local authority can forbid the occupation of the building. Stopping the construction process happens in practice, but because of the large economical consequences it is seen as a severe sanction and therefore not used regularly. Forbidding occupation is even more severe and is nearly ever done.

The amount of knowledge needed to check compliance in practice is large, often too large for the local authorities to do a proper control, especially where it concerns knowledge related to systems. And even if this knowledge is present, the capacity is lacking to do a severe check. Several instruments have been developed to help local authorities with this process [6]. An interview with inspectors of the local authorities of cities with more than average expertise shows that even in their cities the lack of capacity, knowledge and possibility for sanctions are a large problem [7].

EP certification

Advisors who provide the EP certificate need to be certified. Accredited Bodies control these advisors by checking their EP certificates on a random check basis.

The regulations oblige that all buildings which are build, rented or sold have a certificate. Buildings which are build can (and almost always will) get an exemption: the permit is equivalent with the certificate. In practice, houses which are rented or sold often lack the certificate, especially in the private market (see paragraph 2 of this paper).

[1] Compliance means the fulfilment of EP requirements and EP certification process while control is the mechanism for checking the compliance.

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There are no sanctions when no EP certificate is made, however the buyer can make a demand that a certificate is made based on the civil code.

The quality control scheme comprises the double check on the site executed by the accredited body (this is done by random checks).

At this moment there are a few hundred certified companies which can give an energy certificate. They range from consultancy companies (construction, building physics, systems), construction firms, real estate agents, housing corporations to electricity companies. They range from one-man companies to large firms [8].

3 > Incentives

When the certificate was introduced, there were no additional incentive policies, but these are being introduced now:

- Tax reductions are possible when investments on energy savings are made, e.g. via green mortgages.
- Lower VAT on labour costs for applying insulation (existing houses).
- Subsidies for installing solar collectors, heat pumps or microCHP (existing houses).
- "Meer met minder (More with less)" incentives premium based on the extent of improvement of the energy certificate (few hundred EUR, existing houses).
- In order to repair the split incentives in the rental sector (the owner has to do the investment, while the renter has the benefit of the lower energy bill) the maximum rent an owner is allowed to ask for a house will be coupled to the energy label.

4 > References

1. Uitzinger, J. (2004). "Analyse EPC en energieverbruik bij woningen (Analysis of Energy Performance Cooeficient and energy use of houses)", Rapport IVAM. In Dutch.
2. Jeeninga, H., Uyterlinde, M. and Uitzinger, J. (2001). "Energieverbruik van energiezuinige woningen (Energy use of energy efficiënt houses)", Rapport ECN-C-01-072. In Dutch.
3. Brounen, D. Kok, N., and Menne, J. (2009). "Energy Performance Certification in the housing market. Implementation and valuation in the European Union."University of Maastricht, University of Tilburg, European Centre for Corporative Engagement.
4. Beerepoot, M. (2007). "Energieprestatiebeleid. Weinig innovatie in de woningbouw (Energy performance policy. Not much innovation in house-building)", *TVVL Magazine, 36*, p 36-40. In Dutch.
5. Visscher, H.J. (2008). Inaugural lecture "Woningkwaliteit onder controle (Housing quality under control?" Summary: http://www.tudelft.nl/live/pagina.jsp?id=ae9f9dc5-ab99-491a-a326-ece188ba48db&lang=en
6. http://www.senternovem.nl/epn/handhaving/index.asp In Dutch.
7. EnergieGids.NL, "Controle epc niet waterdicht (control of ep not watertight)". In Dutch.
8. http://www.vrom.nl/pagina.html?id=34304 "Find a consultant", in Dutch

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