Twinning « Improvement of the Energy Efficiency in Turkey »

The Energy Performance of Buildings Directive (EPBD): The Energy Certificate

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Introduction

- In 2003 the European Parliament accepted Directive 2002/91/EC on the Energy Performance of Buildings (EPBD), aimed at greenhouse gas emissions reduction and compliance in energy requirements between the Member States.

The main requirements of the EPBD are:

- To harmonize energy calculation methods based on an overall energy performance.
- To set minimum energy requirements for new construction and large refurbishments.
- Compulsory boiler/heating and air-conditioning inspections.

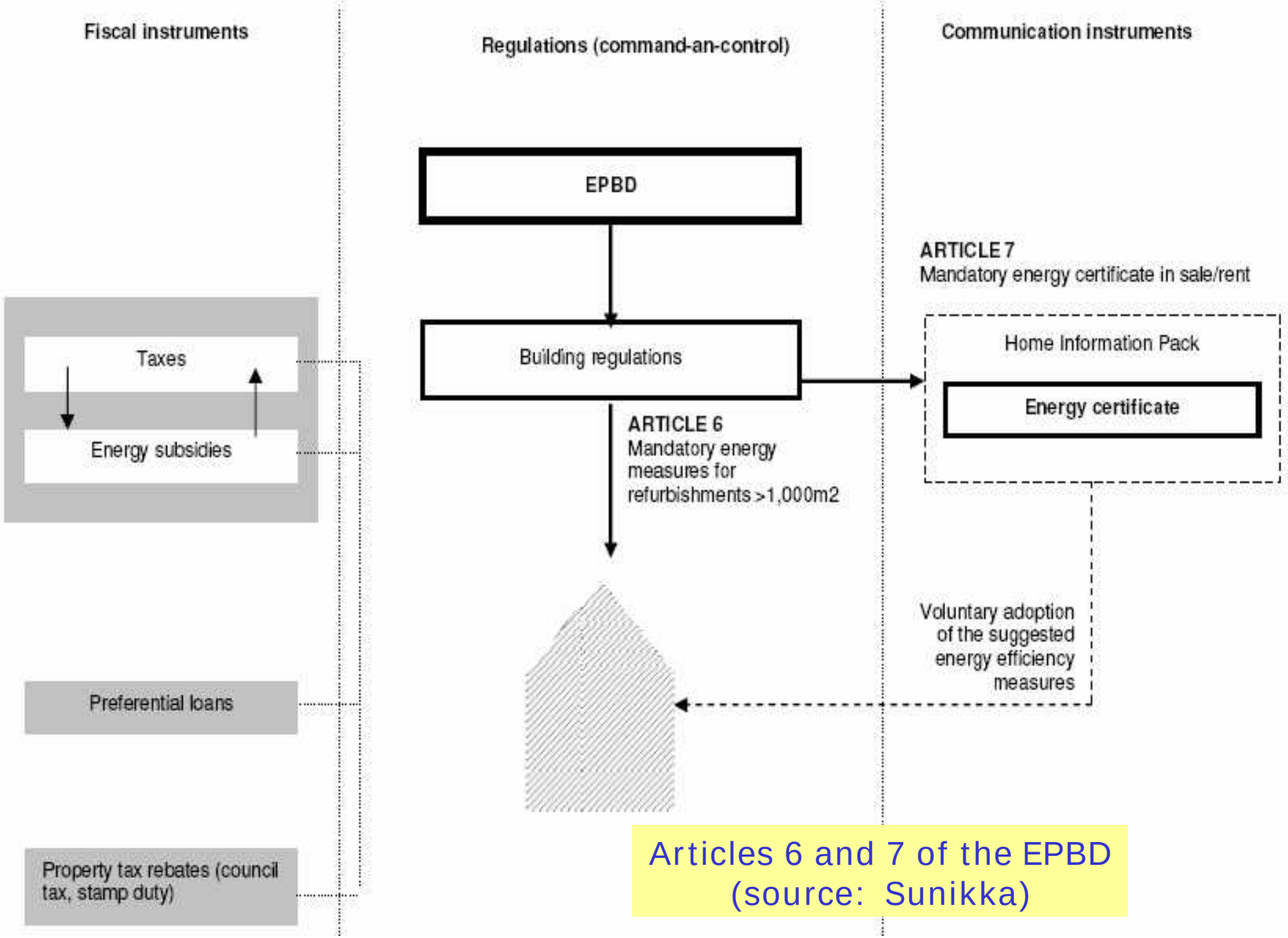
The main requirements of the EPBD are:

- A mandatory energy certificate for new and existing buildings when they are constructed, sold or rented,
- so that the certificate must not be more than 10 years old and carried out by independent and qualified experts.
- In addition to detailing the current energy efficiency level of the building, the certificate must also include recommendations for cost-effective improvements in energy performance.
- Energy certificates have to be displayed in public buildings.

The Energy Certificate

- One of the four key elements described in the Directive is the introduction of energy certificates for the existing building stock. The Directive leaves it open for each Member State to decide whether to combine the energy certificate with economic policy instruments, or to use it only for communication purposes.

- The energy certificate can, therefore, be seen as a tool that can be used in combination with different types of policy instruments.



Articles 6 and 7 of the EPBD (source: Sunikka)

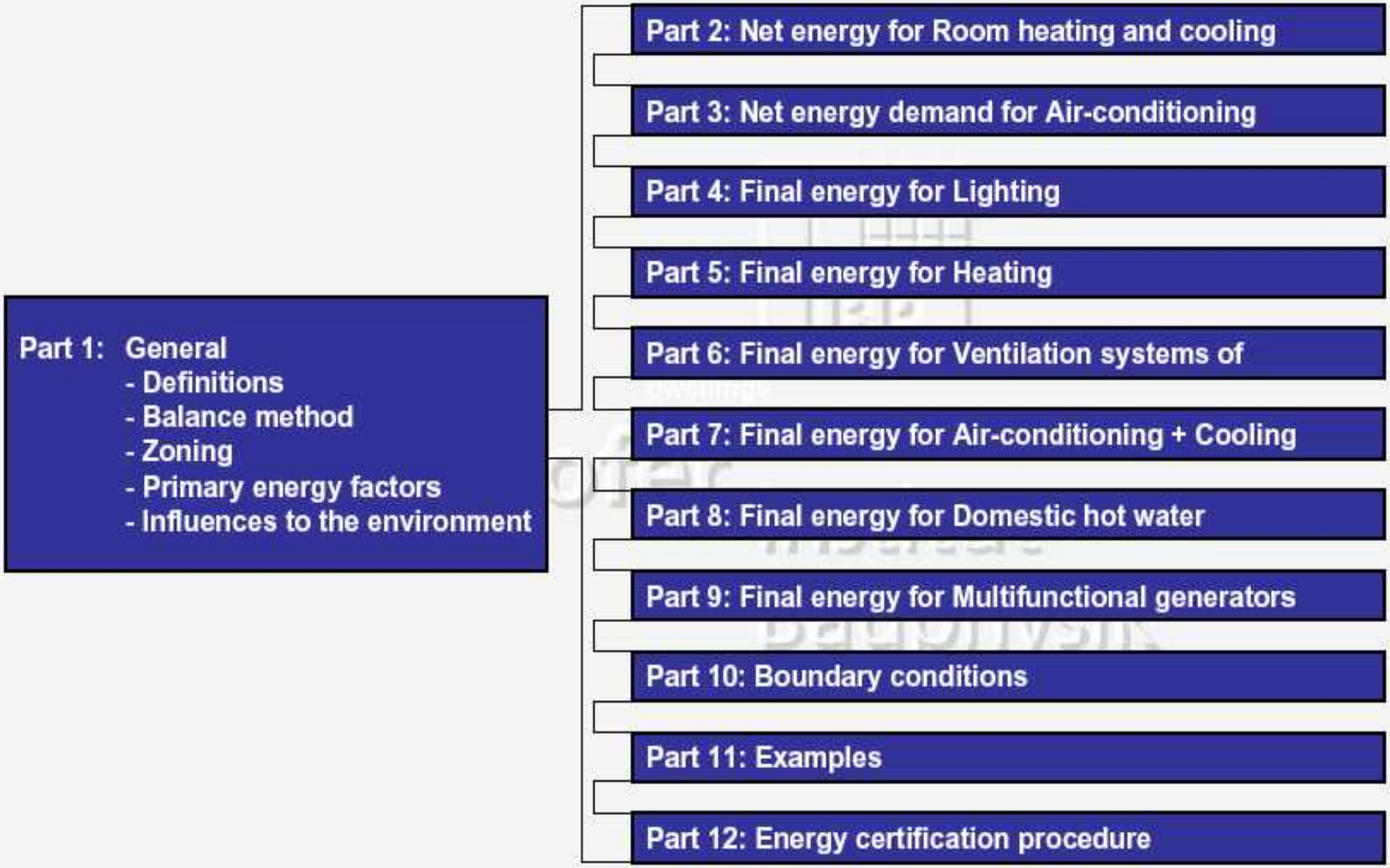
Readiness for the implementation of the EPBD in the UK, the Netherlands and Finland (2004)

UK	NL	FIN
Article 6: Existing buildings		
Partly satisfied. Installation, replacement and substantial alteration/extension of systems are all subject to the provisions of Approved document L2 (for non-domestic/residential buildings).	Partly satisfied. Replaced building elements should comply with minimum insulation level, but in practice this is hard to control, e.g. replacing windows does not require notification to building control.	Not satisfied, but local authorities can demand updating to new construction standards. EPBD is the first to affect existing buildings, requirements depend on the general targets for the existing stock.
Article 7: Energy certificate		
Mandatory energy certification scheme SAP is already in use for new dwellings and linked to building regulations since 1994, but not for other dwellings. 180,000 new dwellings are labelled every year this way. Also the National Home Energy Rating (NHER), BREEAM for office buildings and EcoHomes by BRE.	Most probably now voluntary Energy Performance Advice (EPA) for residential buildings will be the energy certificate. The development of EPA for utility buildings is in the final stage. EPA consists of energy evaluation by the EPA advisor, a suggestion of improvements and costs. Certificate for new dwellings needs to be developed.	Not satisfied, no certification scheme in use. Environmental classification of buildings and energy auditing exists only on a voluntary basis. Development of the certificate has not yet started.

The cost of the Energy certificate

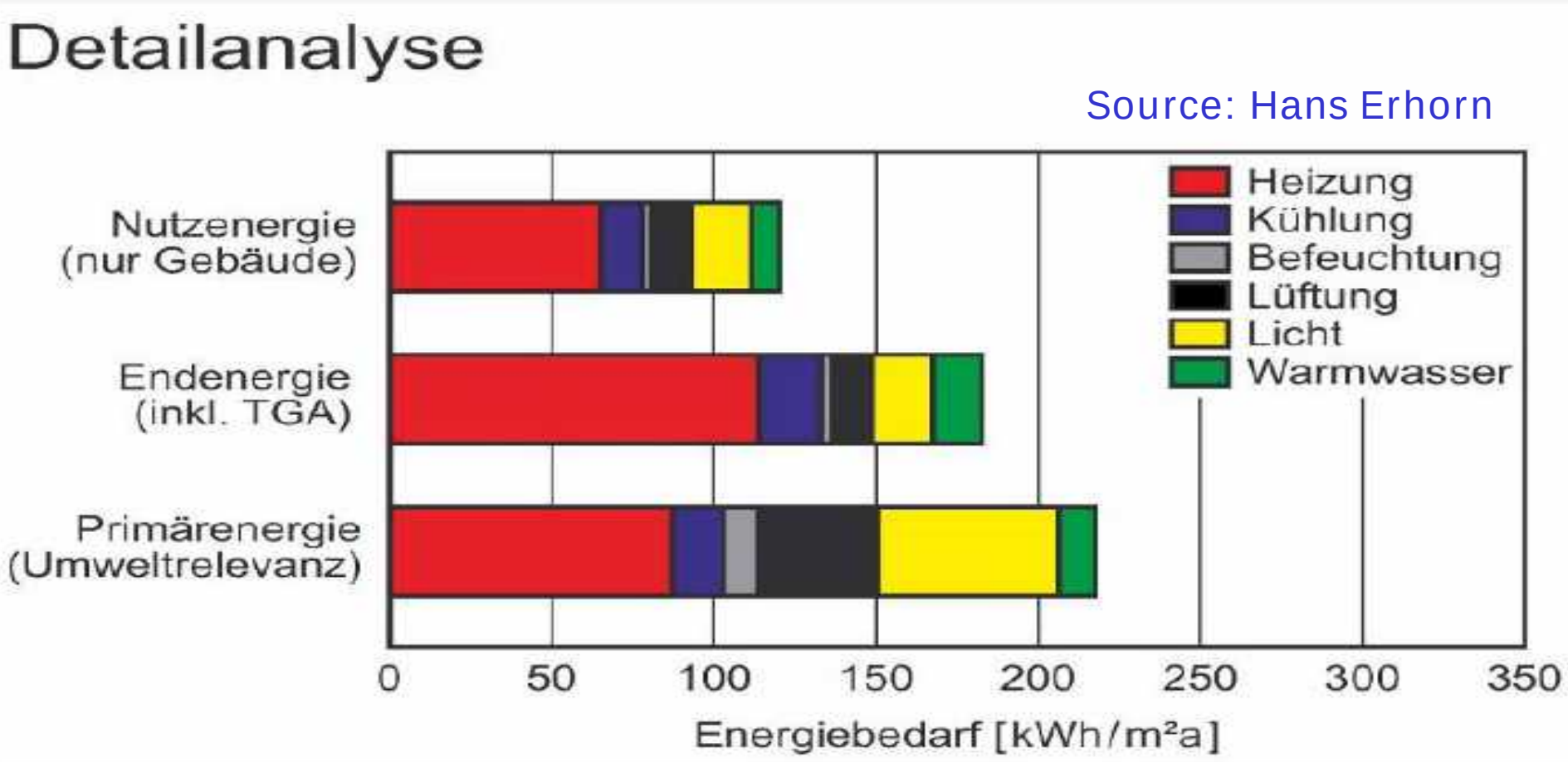
- In the Netherlands, Energy labelling is carried out through the Energy Performance Advice scheme (EPA), targeted to encourage energy saving in retrofits. The evaluation costs 150-200 euros.
- In the Danish energy label system, closest to the certificate, costs account for 400 euros per labelled house.

The new German Standard: DIN V 18599



Example of certification according to DIN V 18599

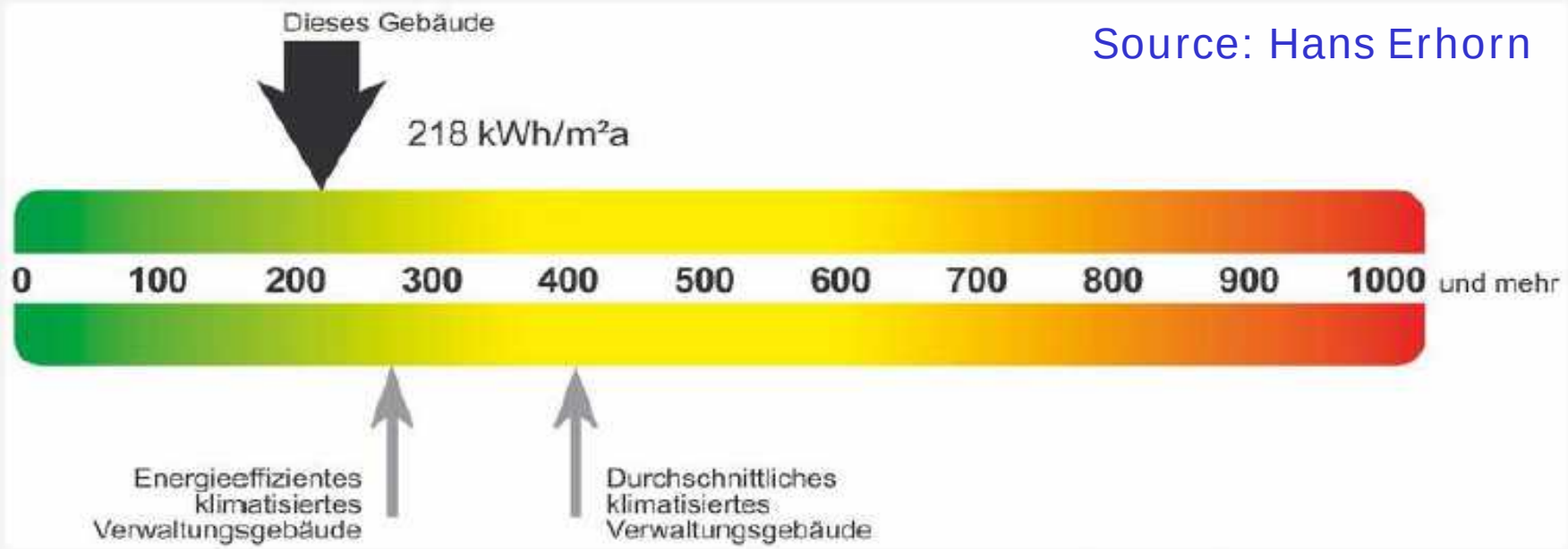
Detailed Analysis: Net energy, final energy, primary



Example of certification according to DIN V 18599

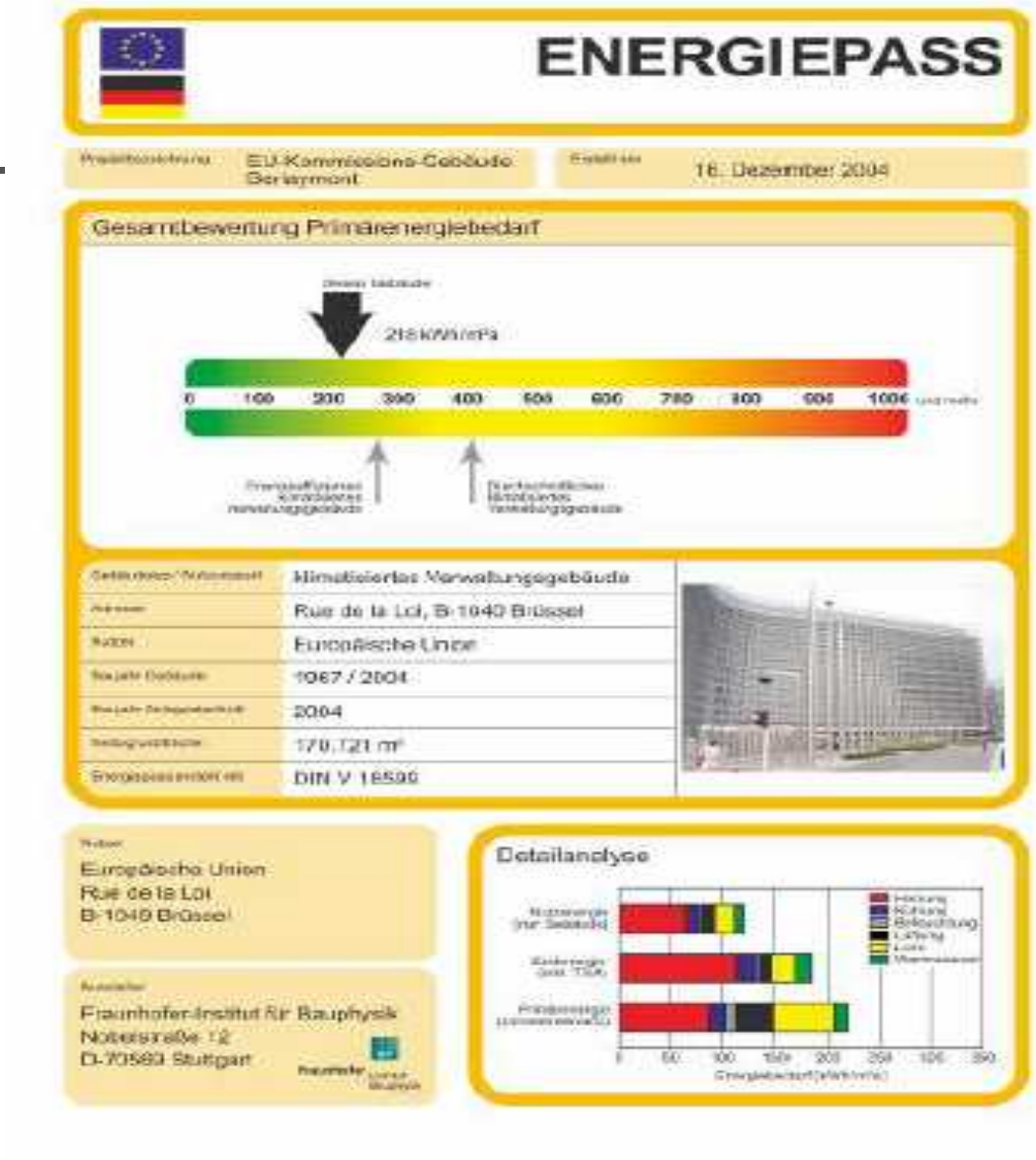
Certification leaflet

Assessment: Primary energy demand



Source: Hans Erhorn

Certification leaflet



Source:
Hans Erhorn

Three implementation scenarios

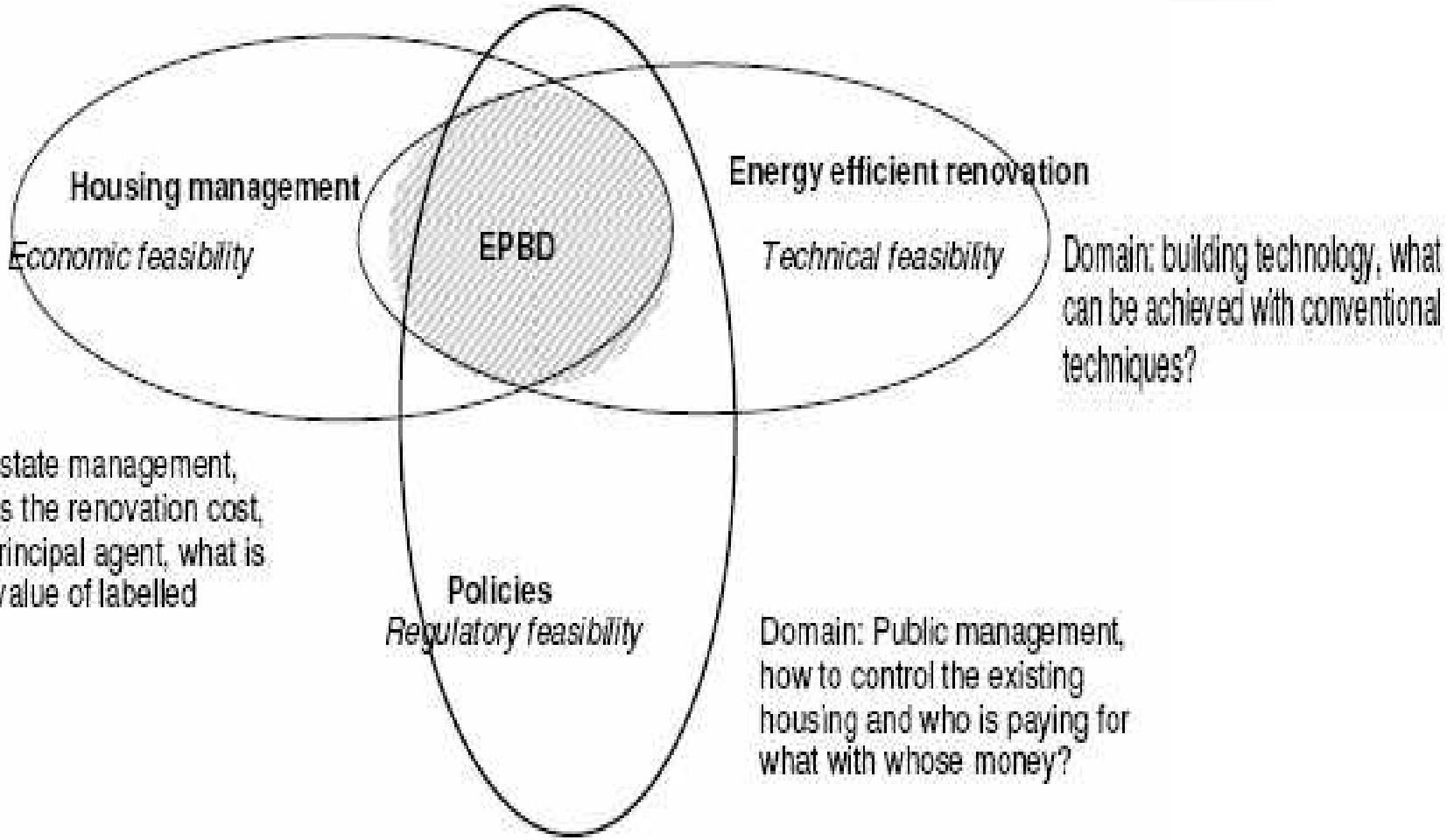
- The energy certificate in current policy is likely to support energy efficiency trends in the existing housing but is not likely to add savings to business-as-usual.
- New fiscal incentives to support the energy certificate.
- Enforcement of the energy certificate combined with fiscal incentives.

It motivates high reduction of carbon emission in existing housing

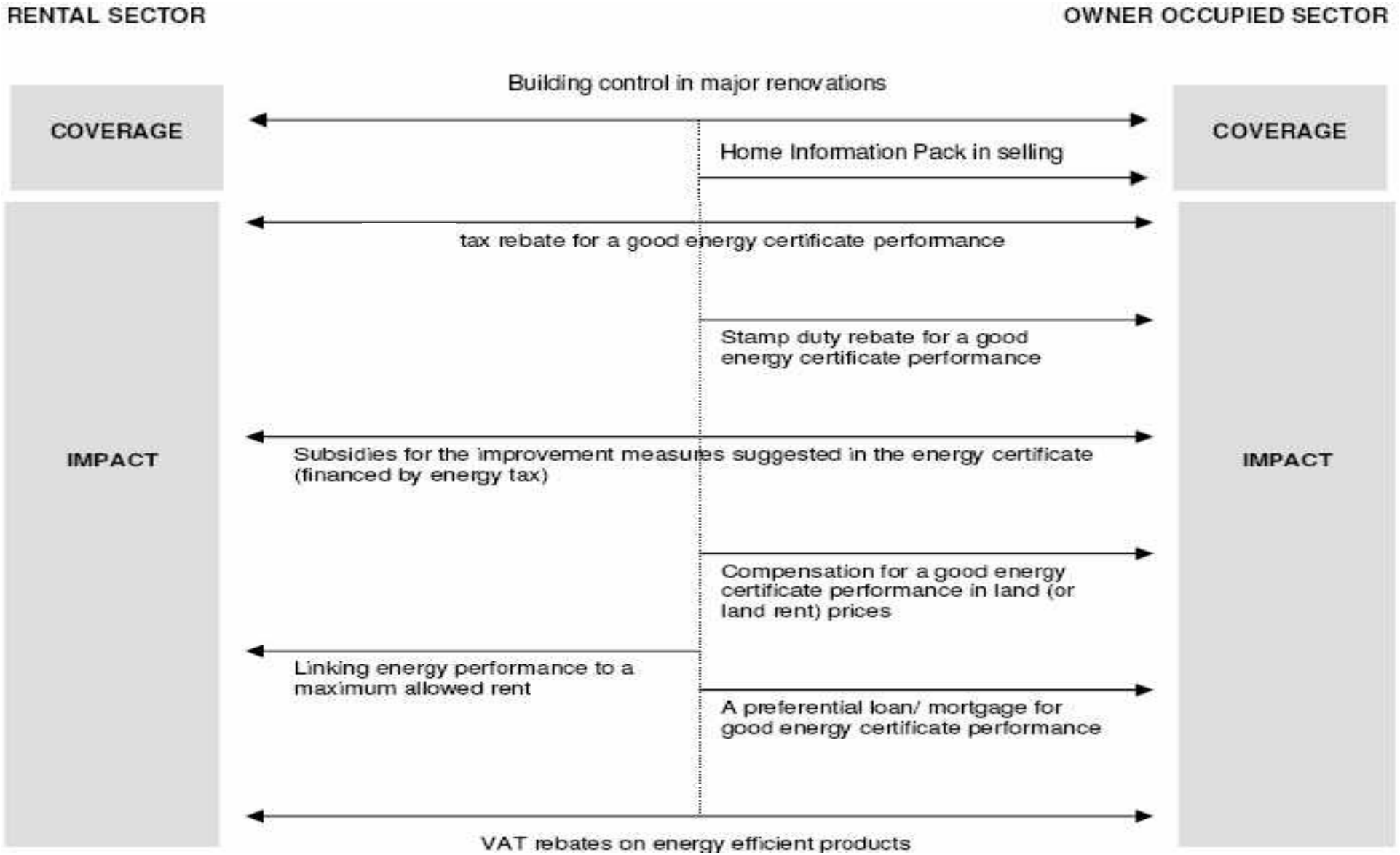
Future development of the EPBD

- The Directive is likely to alter in the future in order to motivate continuous development in the existing housing stock. Further development of the EPBD will be linked to post-Kyoto climate strategies, development of the other European Directives and more general policies for sustainable building at European and national levels determining a mandatory or voluntary policy approach.

Economic, technical and regulatory feasibility in the implementation of the EPBD



Policy instruments and measures in the implementation of the EPBD



GENERAL POLICY FACTORS

- Energy price and carbon tax, rebates for green electricity
- Banning products like boilers that are not energy efficient
- Carbon emissions trading (and household carbon allowances)
- Correction of the housing market failure
- Encouraging downsizing: compensation for large households
- Active support to the use of renewable energy sources
- Government lead in policy

Conclusion

- Although energy certificates as a communication instrument for household appliances have appeared to be relatively successful, the different nature of the building sector can mean their effectiveness here will be rather limited.
- Incentives need to be introduced to support taking up the improvements recommended by the energy certificate.
- Effective results can probably be expected from introducing regulations combined with energy certificate standards, but it requires a rather drastic approach and needs time to receive sufficient commitment.

Thank you

Questions ?