


**SenterNovem** *V/Q/QA*

## Energy Rating of Buildings in the Netherlands

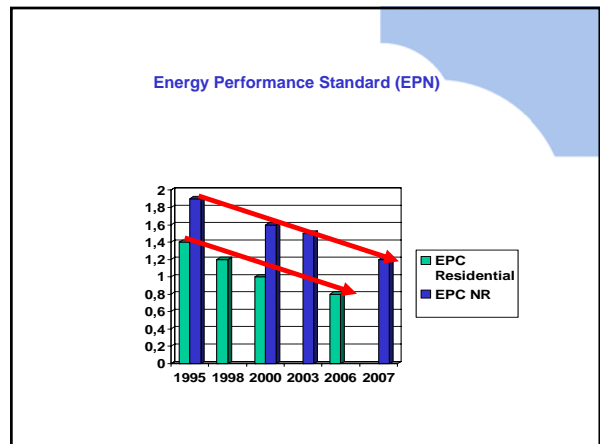
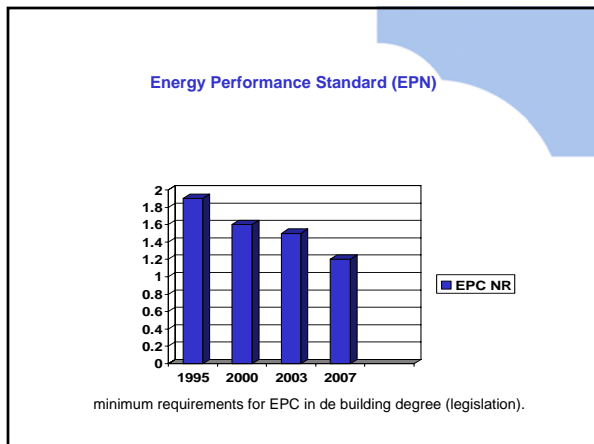
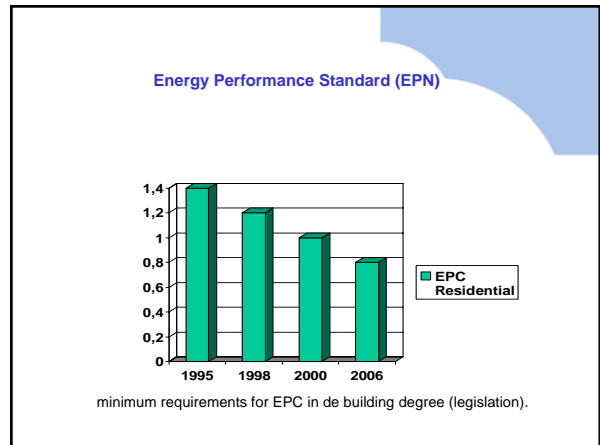
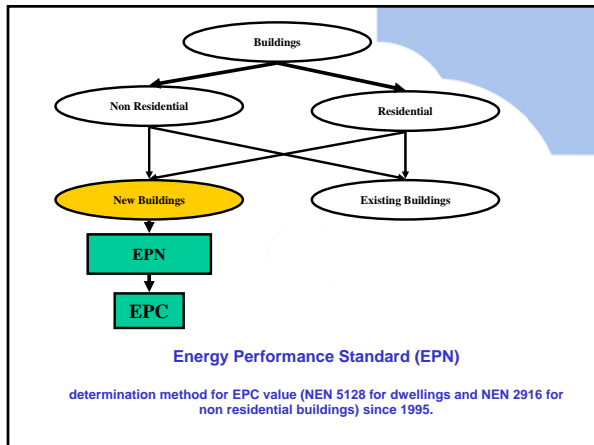
Quality assurance and Training of Experts



Ing. Hans van Eck  
 Manager Residential Buildings and EPBD  
 Coreteam Leader CA  
 SenterNovem

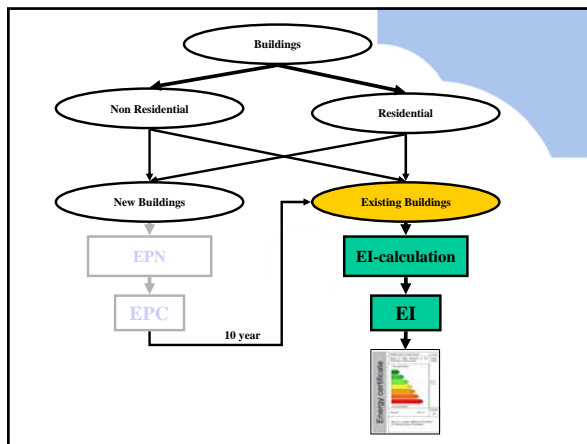
### Status of implementation

- Most articles already 'implemented'
- Articles 7, 8, 9 to be implemented
- Article 7 Energy performance certificate: minimal extra costs
- Articles 8&9 Check for boilers and airconditioning: 'option b'
- Aim: legal implementation EPBD on January 1<sup>st</sup> 2007
- Energy performance certificate mandatory if there are enough qualified inspectors, during the year 2007





A Building permit includes an verified EPC calculation.  
The municipality is checking this.



Energieprestatiecertificaat		Beoordelingsformule
		<p>De berekening van de energieprestatie van het gebouw is uitgevoerd met een NLEPBD geaccrediteerde methode (EPA-U) (EPC) versie 2.0.</p> <p>Energiebesparende maatregelen: <b>CONCEPT</b></p> <p>Tot verbetering van de energieprestatie van het gebouw kunnen de volgende maatregelen worden toegevoegd:</p> <ul style="list-style-type: none"> <li>• dakisolatie (of verbetering daarvan)</li> <li>• HR beglazing</li> <li>• warmtegeïsoleering van ventilatiekanalen</li> </ul>
<p>De energieprestatie van het gebouw is berekend op basis van de energieprestatie van de gebouwen die in de omgeving van het gebouw zijn gelegen. Het gebouw is daarom geclassificeerd op basis van de energieprestatie van de gebouwen die in de omgeving van het gebouw zijn gelegen.</p>		<p>1,12</p>
<p>De energieprestatie van het gebouw is berekend op basis van de energieprestatie van de gebouwen die in de omgeving van het gebouw zijn gelegen. Het gebouw is daarom geclassificeerd op basis van de energieprestatie van de gebouwen die in de omgeving van het gebouw zijn gelegen.</p>		<p>1,12</p>

### Article 3 Adoption of a methodology

- Existing buildings:
- Method based on Energy Performance Advice method (since 2000),
  - adapted to CEN EPBD standards (draft 2006)
- Simplified method, more default values to reduce costs (less inspection of the building), Isso 75 (NR) and Isso 82 (R), 2006

### Residential buildings

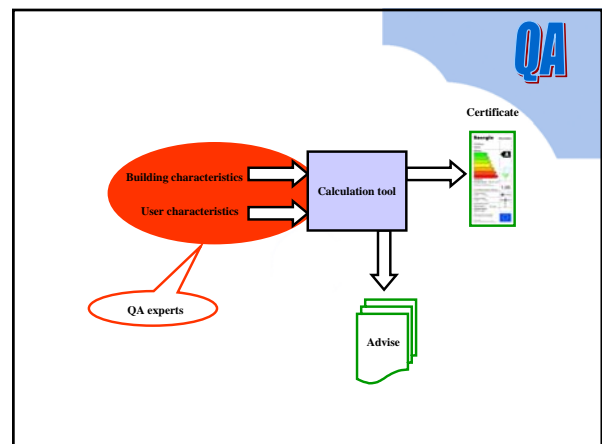
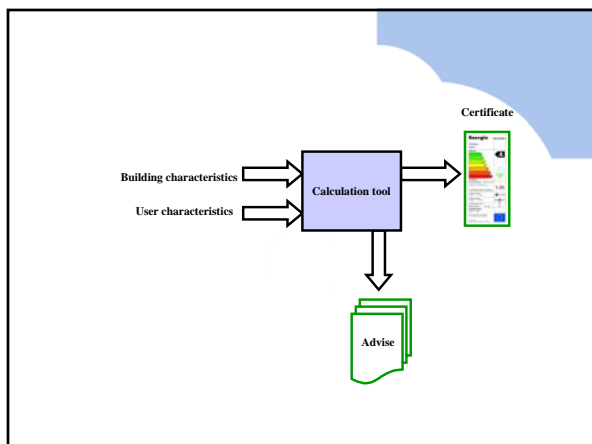
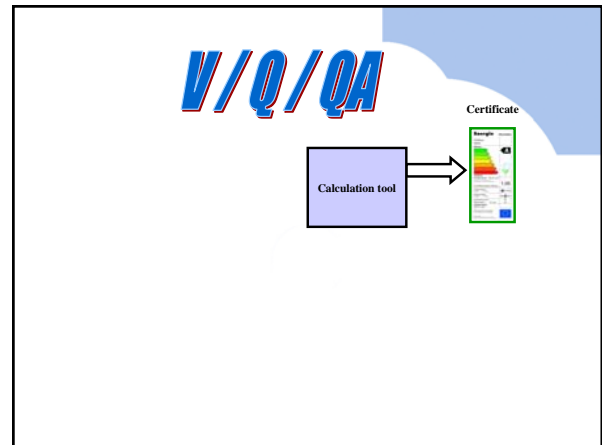
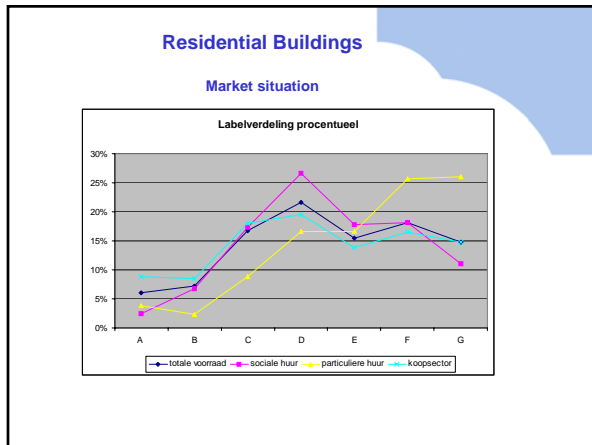
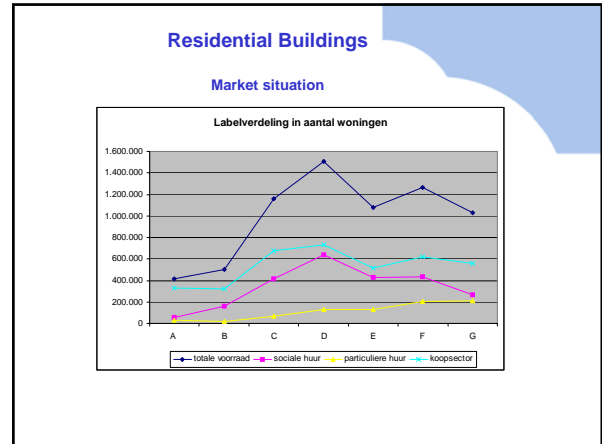
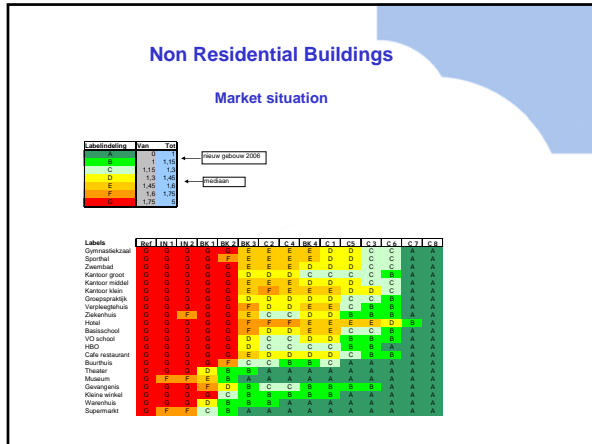
Labelklasse	min	max
A+++	0,00	0,50
A+	0,51	0,70
A	0,71	1,05
B	1,06	1,30
C	1,31	1,60
D	1,61	2,00
E	2,01	2,40
F	2,41	2,90
G	2,90	

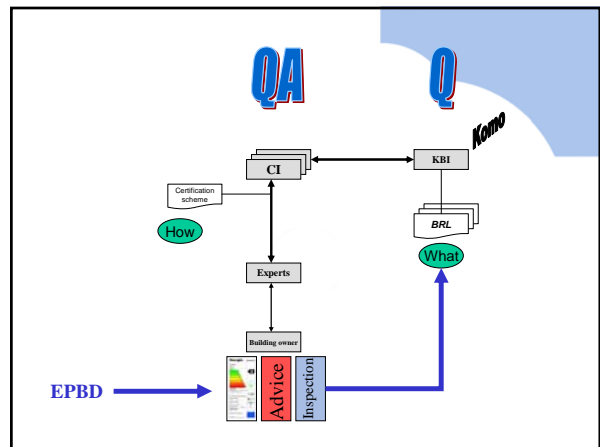
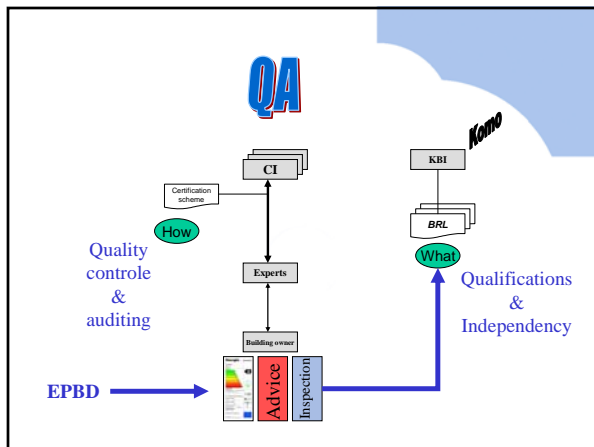
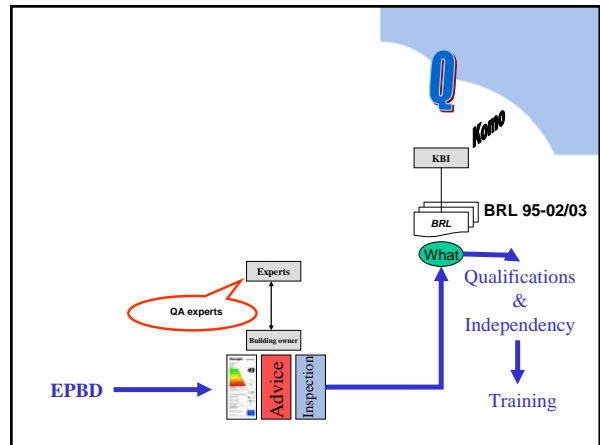
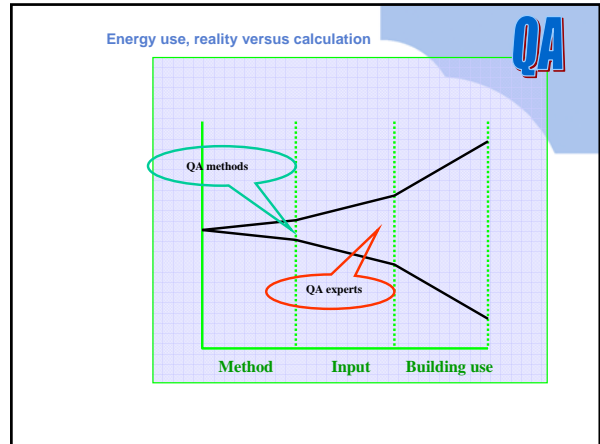
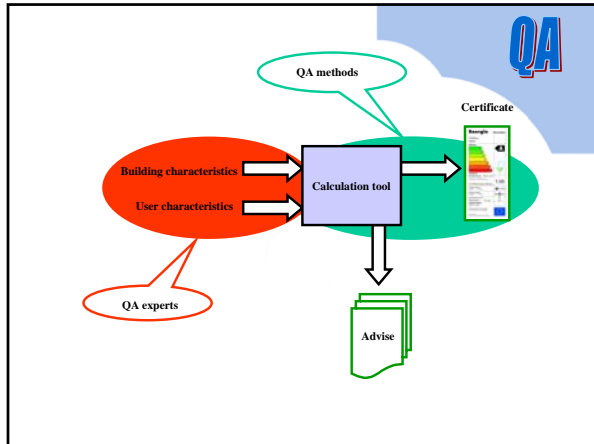
← huidig nieuwbouw

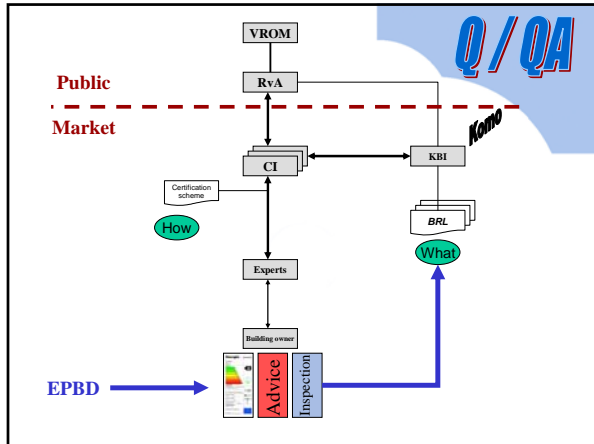
← mediaan Nederlandse voorraad

Tussenwoning van 96 m2

vloer	gevel	dak	ramen	installatie	label	EI
geen	geen	geen	enkel	lokaal	G	3,4
geen	geen	geen	enkel	HR 107	F	2,6
geen	geen	geen	dubbel	HR 107	E	2,3
geen	geen	geïsoleerd	dubbel	HR 107	C	1,6
geïsoleerd	geïsoleerd	geïsoleerd	dubbel	HR 107	B	1,2
geïsoleerd	geïsoleerd	geïsoleerd	dubbel	HR 107 zb	B	1,1
geïsoleerd	geïsoleerd	geïsoleerd	HR	HR 107	A	0,9

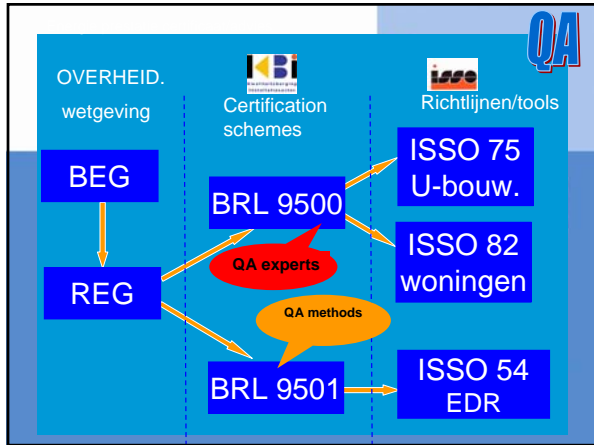






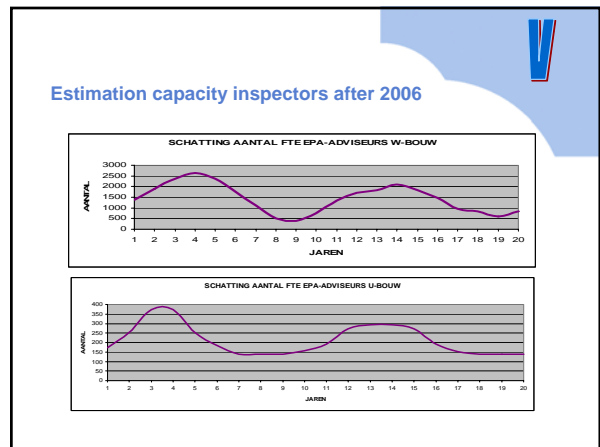
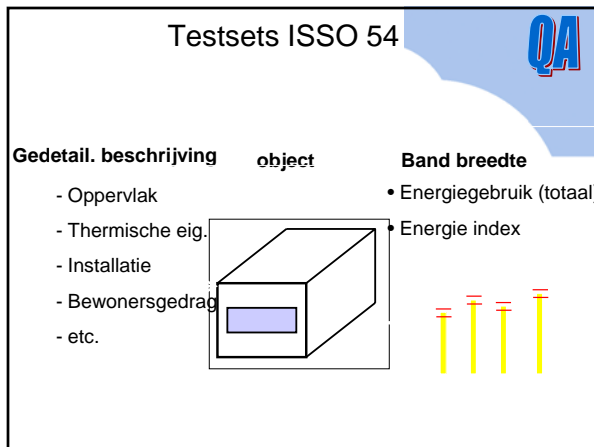
**Article 7**  
Energy performance certificate: legal aspects

- Decree Energy performance of Buildings (BEG) is approved by the Dutch Cabinet
- Published in december 2006
- Regulation on Energy Performance of Buildings sent to EU for notification in september 2006, reaction before 18 december
- Published (REG) on 29 december 2006
- Exceptions as mentioned in Article 4.3: monuments, religious buildings, industrial buildings and temporary buildings



ISSO-publicaties m.b.t. EP-certificaten

- ISSO publicatie 75 U-bouw
  - 75.1 EP-certificaat; (verplicht)
  - 75.2 Maatwerkadvies;
  - 75.3 Formulestructuur; (EI verplicht)
- ISSO publicatie 82
  - 82.1 EP-certificaat; (verplicht)
  - 82.2 Maatwerkadvies;
  - 82.3 Formulestructuur; (EI-verplicht)
- ISSO publicatie 54 EDR (EIR- verplicht) (uitgebreid met EIR-testen);



#### Article 15 Implementation

- **Dutch appeal to Article 15.2, related to number of qualified inspectors**
- Qualification method available January 1<sup>st</sup> 2007
- During 2007, 800 extra inspectors to be expected, makes total of 1000 (200-300 companies)
- After reaching 1000 qualified inspectors, certificate will become mandatory, <January 1<sup>st</sup> 2008?



#### Article 4 Setting of energy performance requirements

- New buildings:  
minimum requirements for EPC in de building degree (legislation).  
  
EPC=1,4 in 1995 and EPC=0,8 in 2006 (reduction 40%)
- Also for major renovations of existing buildings

#### Article 6 Existing buildings

- For major renovations (complete renewal or change) Dutch Building Decree sets also minimum level of energy performance, as laid down in the Energy Performance Coefficient (same as new buildings)
- Then: building permit applicants must prove that the minimum level of energy performance is achieved
- In case of smaller renovations, no extra energy performance is required

#### Article 7 Energy performance certificate: new buildings

- Aim: building permit will rank as certificate for max 10 years

#### Article 7 Energy performance certificate: small residential / one family houses/apartment

- Certificate mandatory if there sufficient qualified inspectors
- Transitional arrangement for buildings with Energy Performance Advice (EPA) by qualified consultants since 2002. EPA is equal tot EP certificate
- Appliance of similarity: for similar terraced houses one inspection will probably do to obtain energy performance certificates for all houses

**Article 7.3**  
**Energy performance certificate: public buildings and other non-residential buildings**

- Public buildings: visibility of certificate arranged for in the BEG, coordinated by the Government Buildings Agency
- Schools and health care buildings are not public buildings in NL

**Article 8**  
**Inspection of boilers**

- Large boilers (>100kW): Environmental Law
- Household boilers: in NL mostly gas, only little use of liquid of solid fuel
- 93% of gas boilers already under regular/structural maintenance
- NL choose 'option b': advice on replacement of heating systems, other changes and alternative solutions
- National campaign to encourage maintenance (starting dec. 06)

**Article 9**  
**Inspection of air conditioning**

- Approach similar, in connection with method for boilers

**Article 15:**  
**Implementation (cont.)**

- NEN (Dutch Normalisation Institute) responsible for implementation of CEN standards
- Dutch standards will be ready by mid 2007
- On the long term: for new building permits possibly one Dutch standard for certification, based on CEN standards