

BUILDING NEEDS

Croatian calculations

December 2009

LEGAL SYSTEM IN THE REPUBLIC OF CROATIA

LAW ON PHYSICAL PLANNING AND CONSTRUCTION

Passed by Croatian Parliament (Sabor). It defines and regulates: design, construction, significant structural requirements, construction products...

TECHNICAL REGULATIONS & BYELAWS

They are passed by competent Ministry.

These acts regulate: individual requirements by specifying obligatory application of standards

STANDARDS

Issued by Croatian Standards Institute (HZN) www.hzn.hr

An accepted European standard is marked as HRN EN

Standards regulate: terminology, calculation methods, construction products, testing and measurements, construction

EPBD DIRECTIVE IMPLEMENTATION MODEL

LAW ON PHYSICAL PLANNING AND CONSTRUCTION

CPD 89/106/EEZ Directive implemented

TECHNICAL REGULATION

EPBD 2002/91/EC Directive implemented

STANDARDS

Obligatory implementation of EN standards 13790; 15316; 6946; 13370; 15217;
15603.....

CERTIFICATION OF BUILDINGS

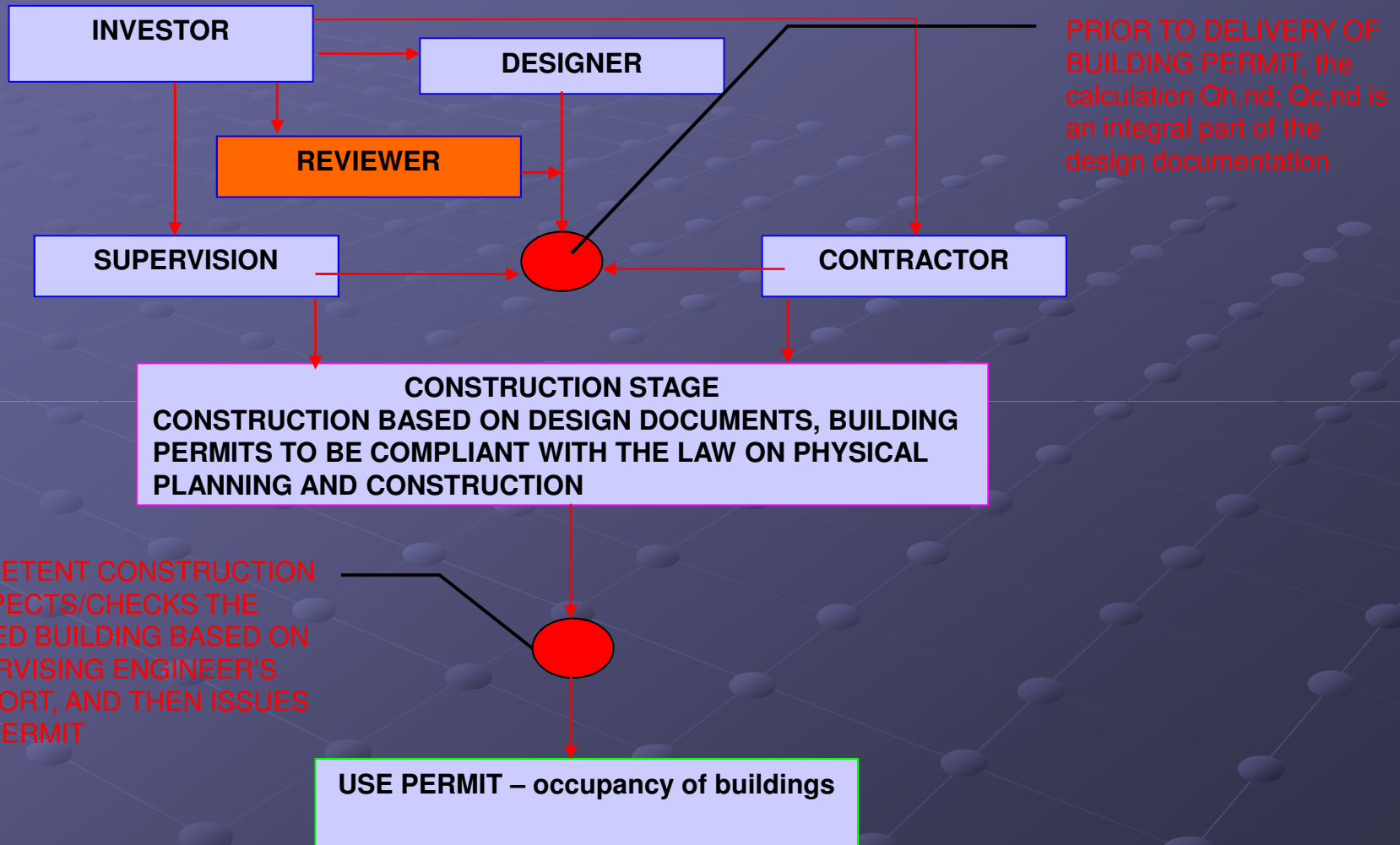
IS OBLIGATORY:

- for all NEW buildings for which the building permit application is submitted after 31 March 2010.
- for all EXISTING buildings for public use 10.06.2012.
- for ALL BUILDING before sale or rental, Croatia's accession to EU

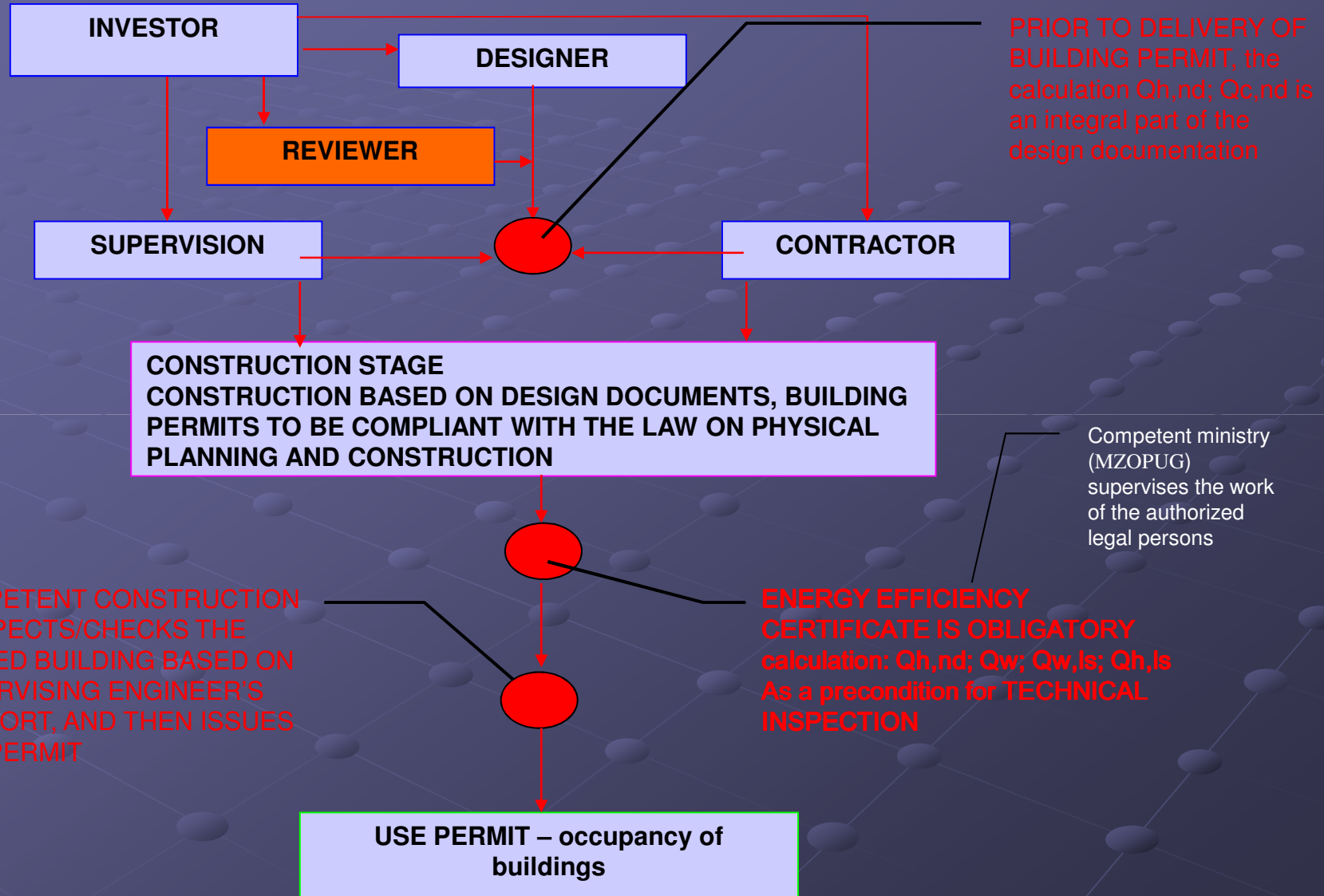
CERTIFICATION STEPS FOR ALL BUILDINGS:

- energy-efficiency inspection
- assessment following energy-efficiency inspection
- delivery of energy efficiency certificate

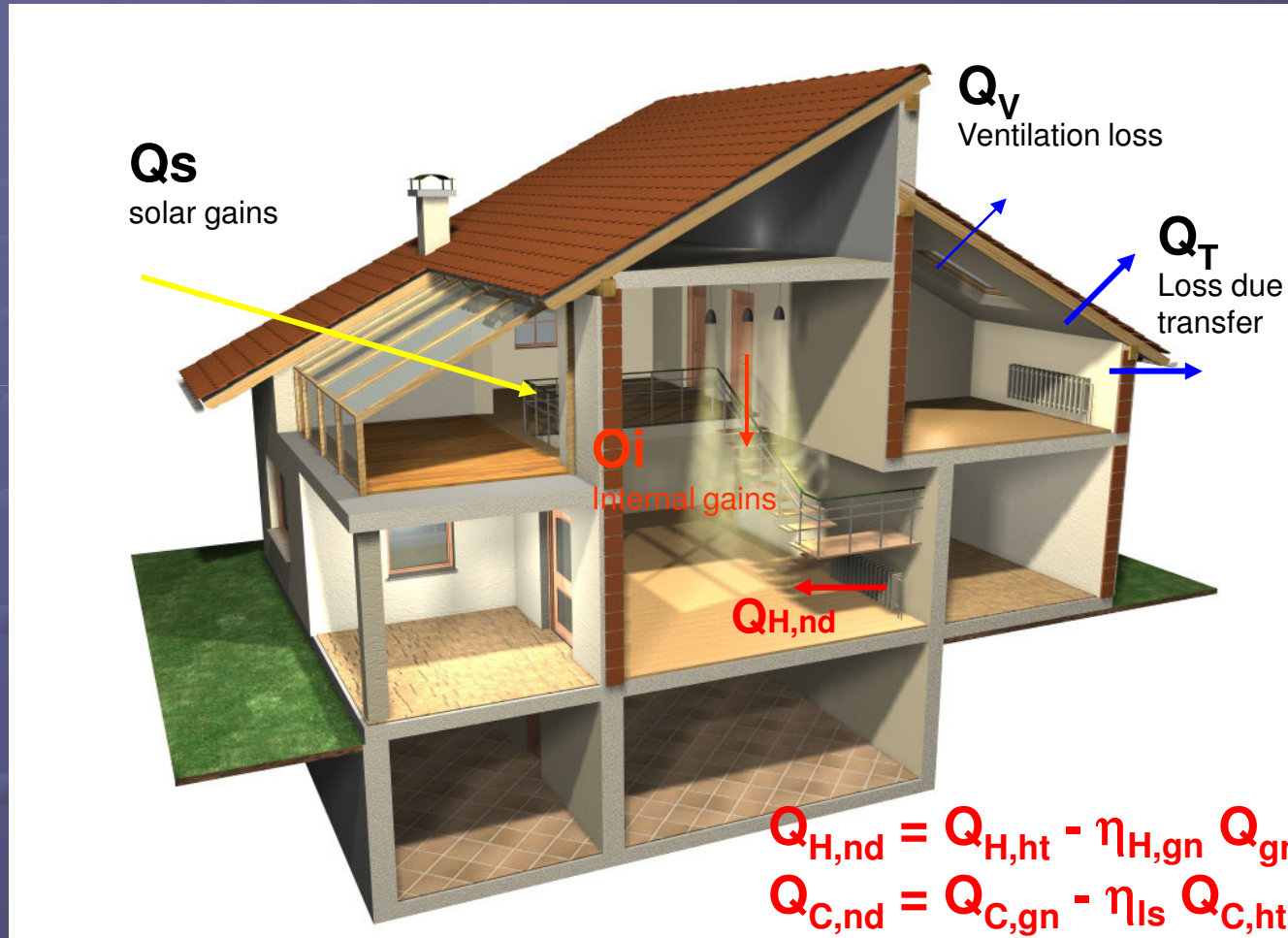
PROCESS FROM BUILDING PERMIT TO USE PERMIT



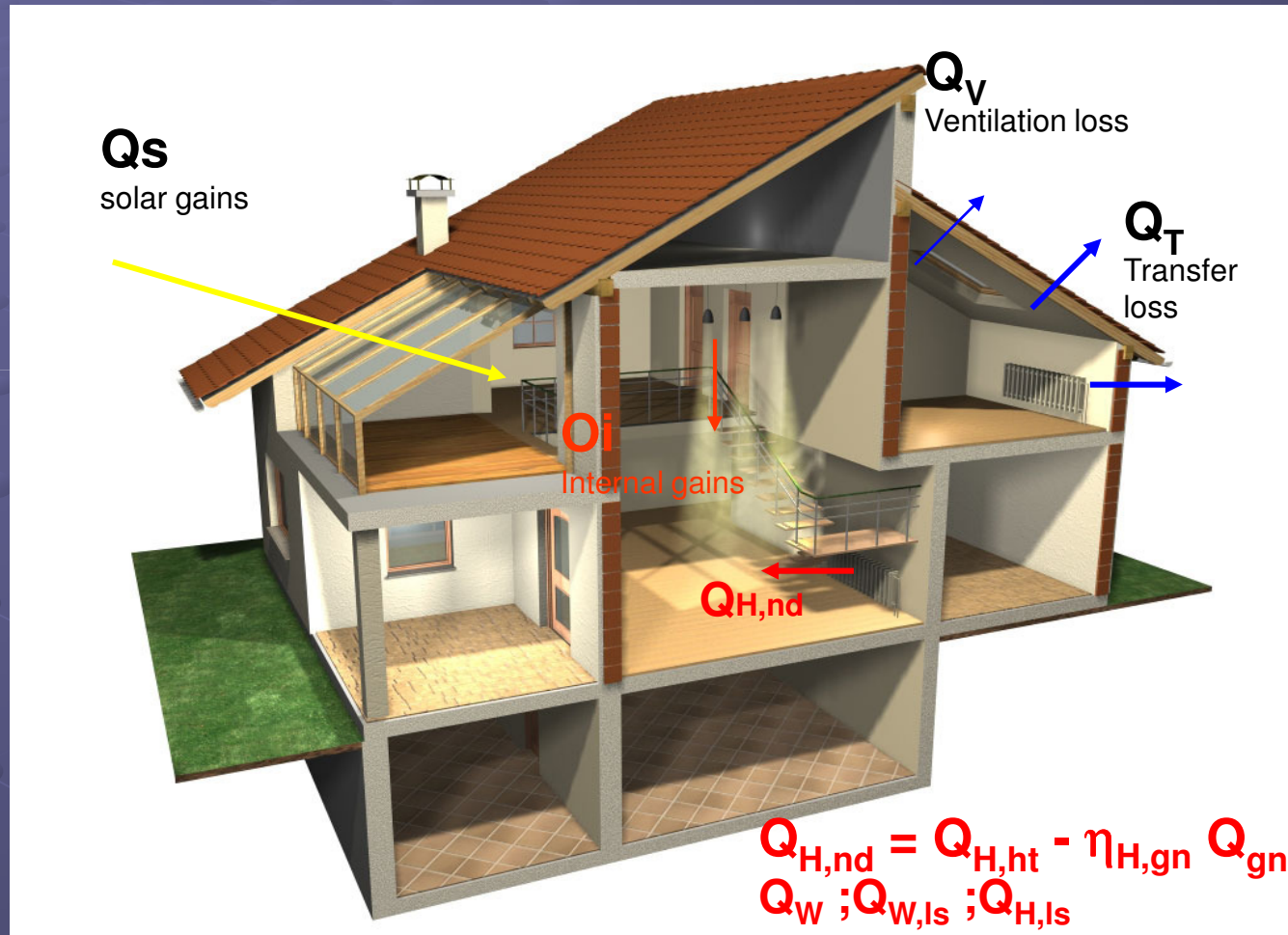
PROCESSES FROM BUILDING PERMIT TO USE PERMIT with obligatory certificate prior to the use of a building



Croatian calculations for building permit



Croatian calculations for energy certification



SOFTWARE TOOLS

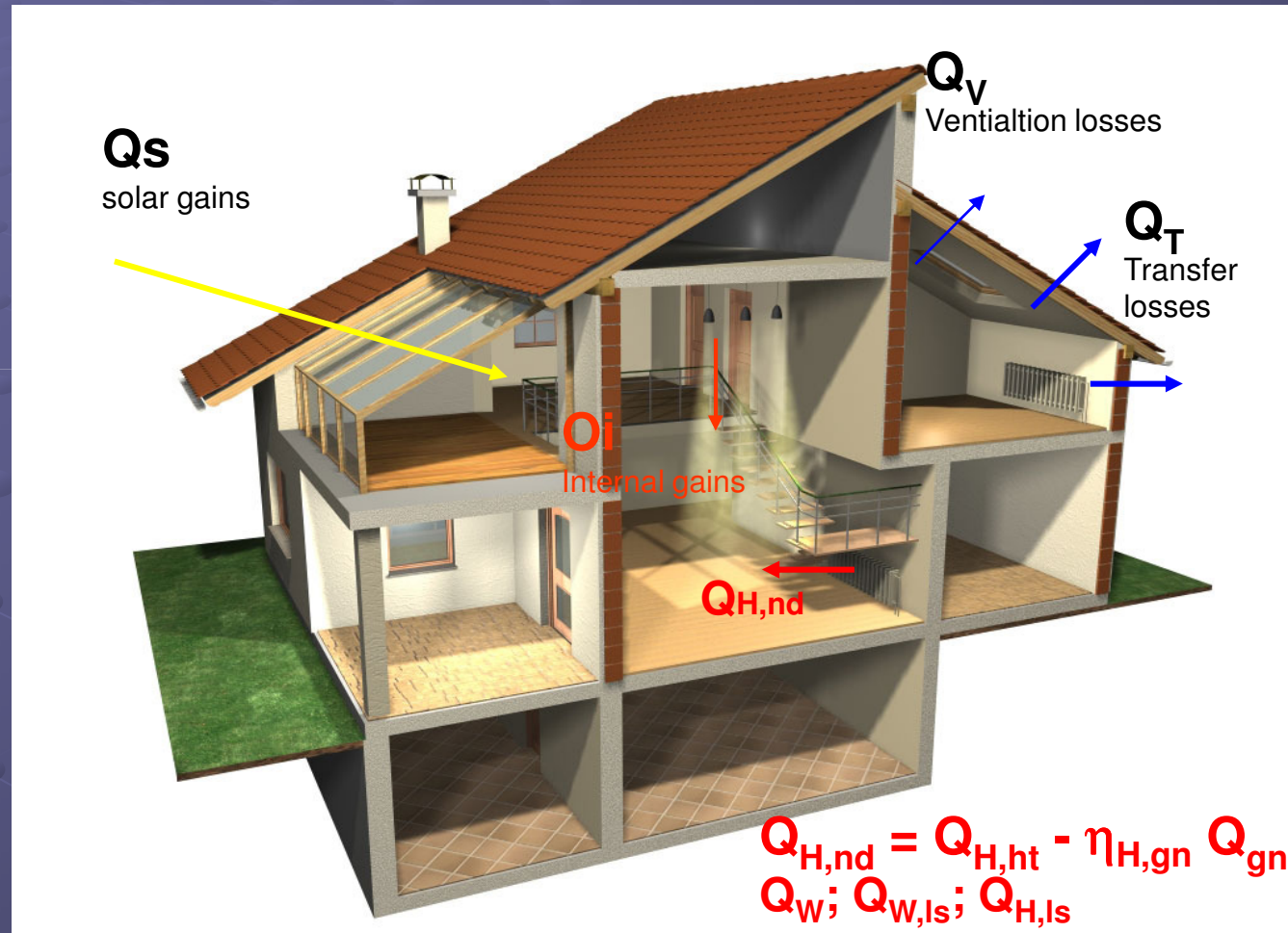
CALCULATION STEPS

➤ **DESIGN PHASE DOCUMENTS / CERTIFICATIONS**

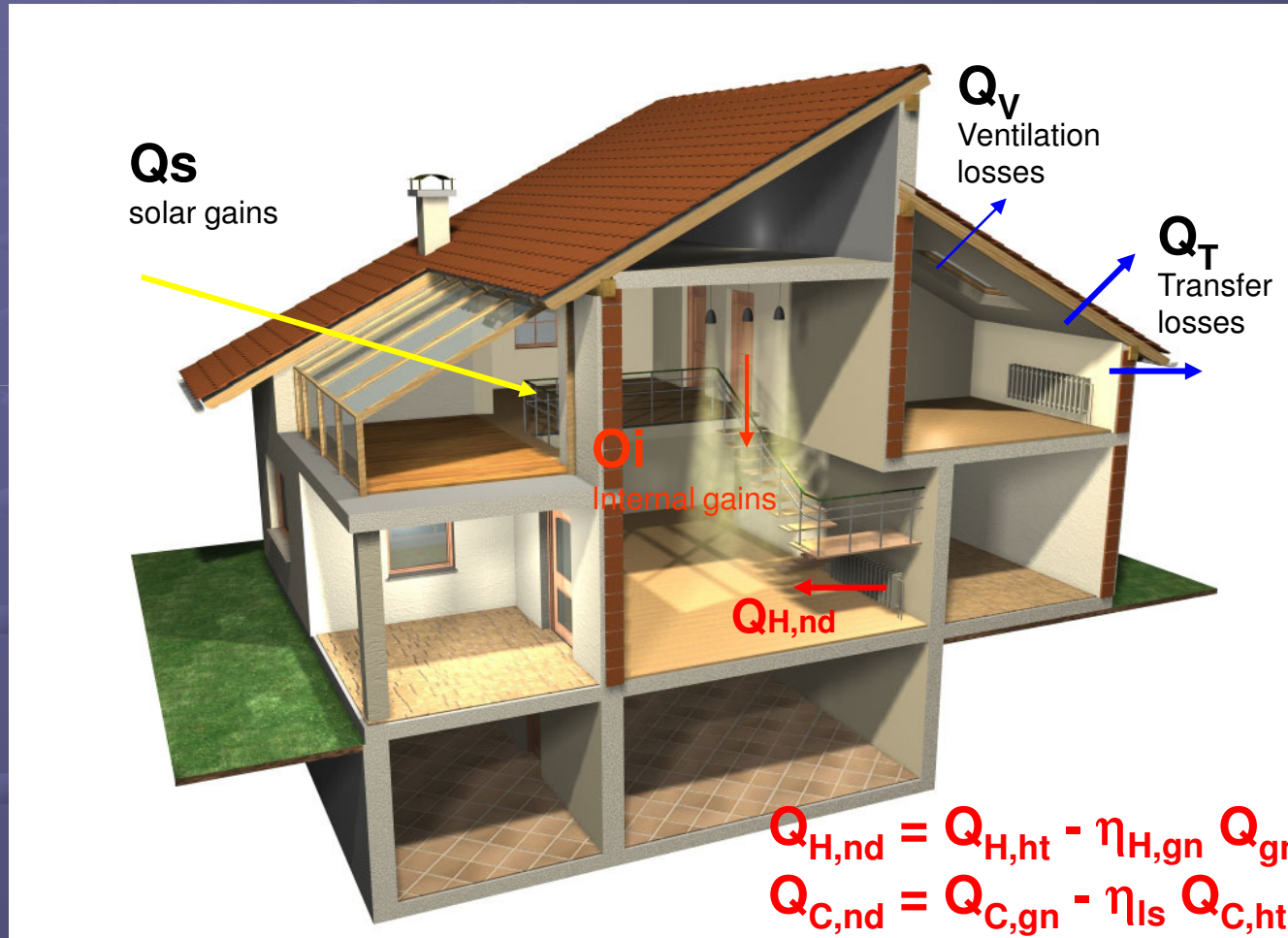
Taking into account weather data at the building site + for relevant climate data (continental and coastal), the following calculations have to be made:

- U value of structural parts and transparent elements (+ condensation)
- Protection against solar radiation
- Calculation of transfer losses: $H_D, H_g, H_U, H_A = H_{tr,adj}$
- Calculation of ventilation losses: $H_{Ve,adj}$
- Calculation of internal and solar gains
- Calculation of heat needed for cooling / heating $Q_{h,nd} ; Q_{c,nd}$
- Calculation of hot water consumption Q_w
- Calculation of system losses $Q_{w,ls}$
- Calculation of system losses $Q_{h,ls}$

Croatian calculations for energy certification



Croatian calculations for building permit



PROCEDURE FOR SOFTWARE VALIDATION

