Nearly Zero Energy Buildings

Where we are today in Europe

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Outline

- Policy foundation
  - Watch this date!
- Definition(s) & principles
- Policy progress
- How EU member states are implementing
- What next?
- If you want to follow progress . . .

There is a lot of interest

- Globally there is great interest in nearly zero energy buildings
- Related buildings are zero energy buildings, zero carbon buildings, passive houses, positive energy buildings, etc.
- They can be residential buildings or commercial/public buildings

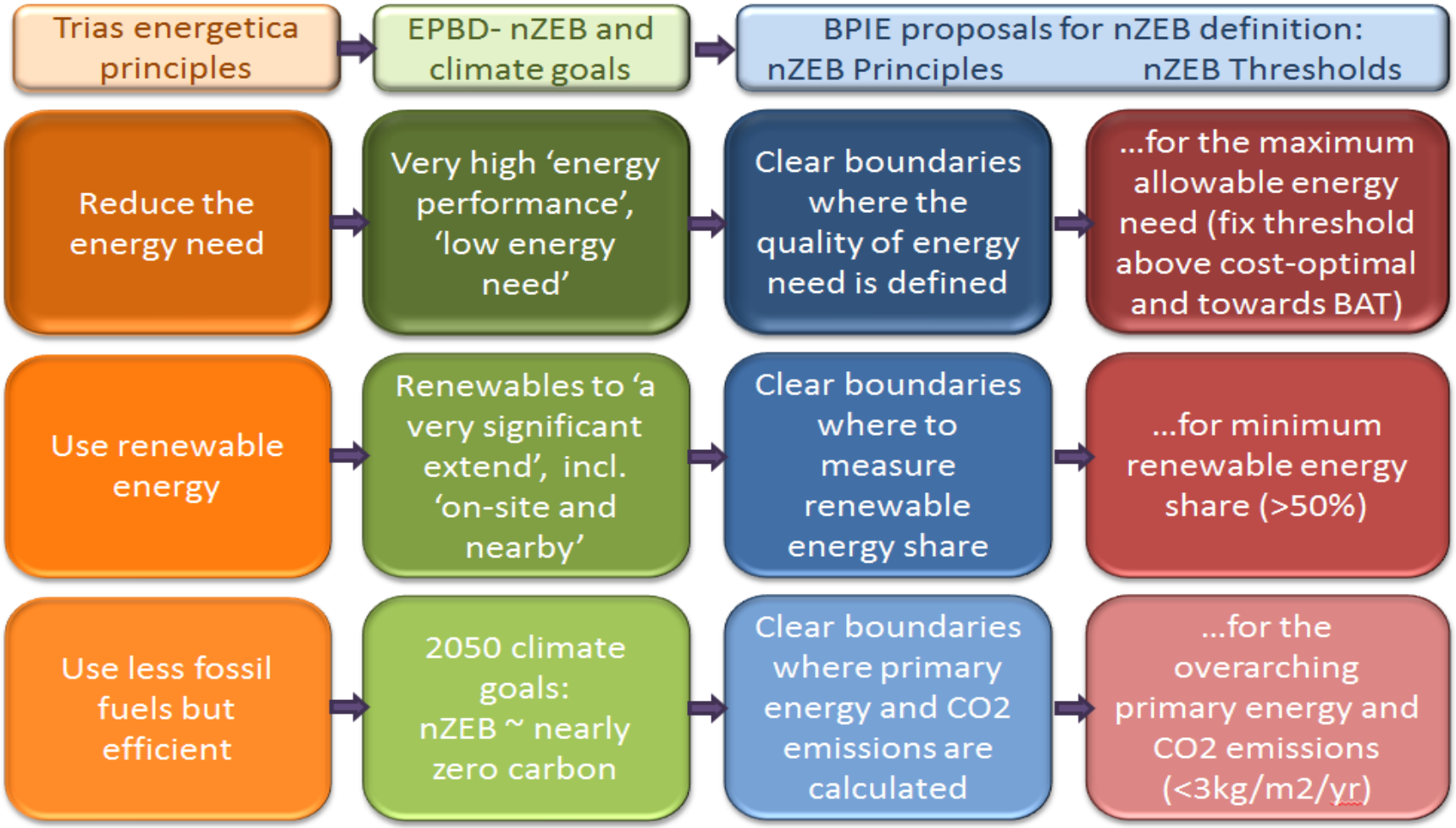
Policy Foundation in Europe

- In 2010 the recast of the Energy Performance of Buildings Directive was approved and member states started to transpose to national law and implement it.
- The obligation to implement nearly zero energy buildings was new.
- Article 9 of the Directive states that Member States shall ensure that (a) by 31 December 2020, all new buildings are nearly zero-energy buildings; and (b) after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.
- Member States shall draw up national plans for increasing the number of nearly zero-energy buildings.

Definition(s) & Principles

- Article 2 of 2010 EPBD recast described nearly zero energy buildings as **buildings that have a very high energy performance with the nearly zero or very low energy use, required to a very significant extent to be covered by energy from renewable sources including from renewable energy produced onsite and nearby.**
- Member States were given flexibility to define nZEB for their own national context
- Buildings Performance Institute Europe developed principles for helping Member States define nZEB

Principles


Trias energetica principles
EPBD- nZEB and climate goals
BPIE proposals for nZEB definition:
nZEB Principles
nZEB Thresholds
Reduce the energy need
Very high 'energy performance', 'low energy need'
Clear boundaries where the quality of energy need is defined
...for the maximum allowable energy need (fix threshold above cost-optimal and towards BAT)
Use renewable energy
Renewables to 'a very significant extend', incl. 'on-site and nearby'
Clear boundaries where to measure renewable energy share
...for minimum renewable energy share (>50%)
Use less fossil fuels but efficient
2050 climate goals: nZEB ~ nearly zero carbon
Clear boundaries where primary energy and CO2 emissions are calculated
...for the overarching primary energy and CO2 emissions (<3kg/m2/yr)

Policy Progress - Timeline

Member States have milestones before full implementation

Implementation Progress

- From Commission's evaluation report
  - National plans varied substantially reflecting different levels of development of national policies;
  - A few MS mentioned objectives beyond nZEB requirements: **zero energy buildings in the Netherlands, positive energy buildings in Denmark and France, climate neutral new buildings in Germany and zero carbon standards in the UK**;
  - Where there were numerical indicators, they ranged from 0 kWh/m2 to 220 kWh/m2;
  - Only a few MS defined minimum requirements for renewable energy;
  - No MS reported legislative regime for not applying the nZEB requirements in specific and justifiable cases where the cost benefit analysis over the economic life cycle of the building in question is negative
  - Only 15 of 27 MS had intermediary goals;
  - Only 3 MS set intermediate goals for refurbishment

What's next?

- In June 2014, MS will publish their third National Energy Efficiency Action Plans (NEEAPs) that should give a better indication on what overall progress has been made for energy efficiency as a whole.
- By the end of June 2014 the Commission will assess whether the EU's 2020 target is likely to be met (Article 3.2). If the Commission concludes that this is not the case, it will make further proposals to ensure the gap is closed (Article 24.7) and this could have an impact on the implementation of nZEBs.

If you want to follow progress

- eceee published: Understanding (the very European concept of) Nearly Zero-Energy Buildings - Steering through the maze #2 (revised) (11 April 2014)
- This report will be updated regularly

- Go to eceee's webpage on nZEB: http://www.eceee.org/policy-areas/Buildings/nearly-zero-energy-buildings

Thank you

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