

What is a Near Zero Energy Building



NZEB

- Basically no one knows yet!
- Still to be defined in many EU Countries
- Driven by ReCast of Energy Performance of Buildings Directive
- Near vs Far! – Father Ted!



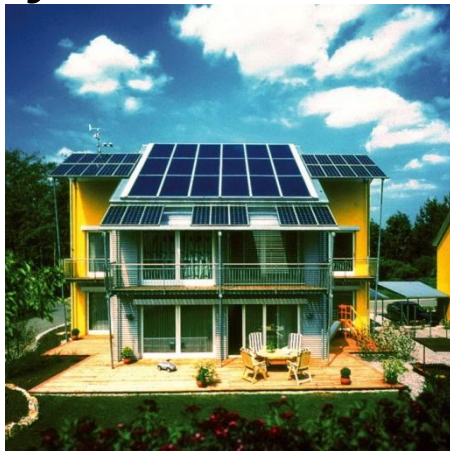
Recast EPBD

- [Directive 2010/31/EU](#) (EPBD recast) Article 9 requires that *“Member States shall ensure that by 31 December 2020 all new buildings are nearly zero-energy buildings; and after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings”*.



Recast EPBD

- Member States shall furthermore “*draw up national plans for increasing the number of nearly zero-energy buildings*” and “*following the leading example of the public sector, develop policies and take measures such as the setting of targets in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings*”.



Recast EPBD

- A nearly zero-energy building is defined in Article 2 of the EPBD recast as *“a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby”*.



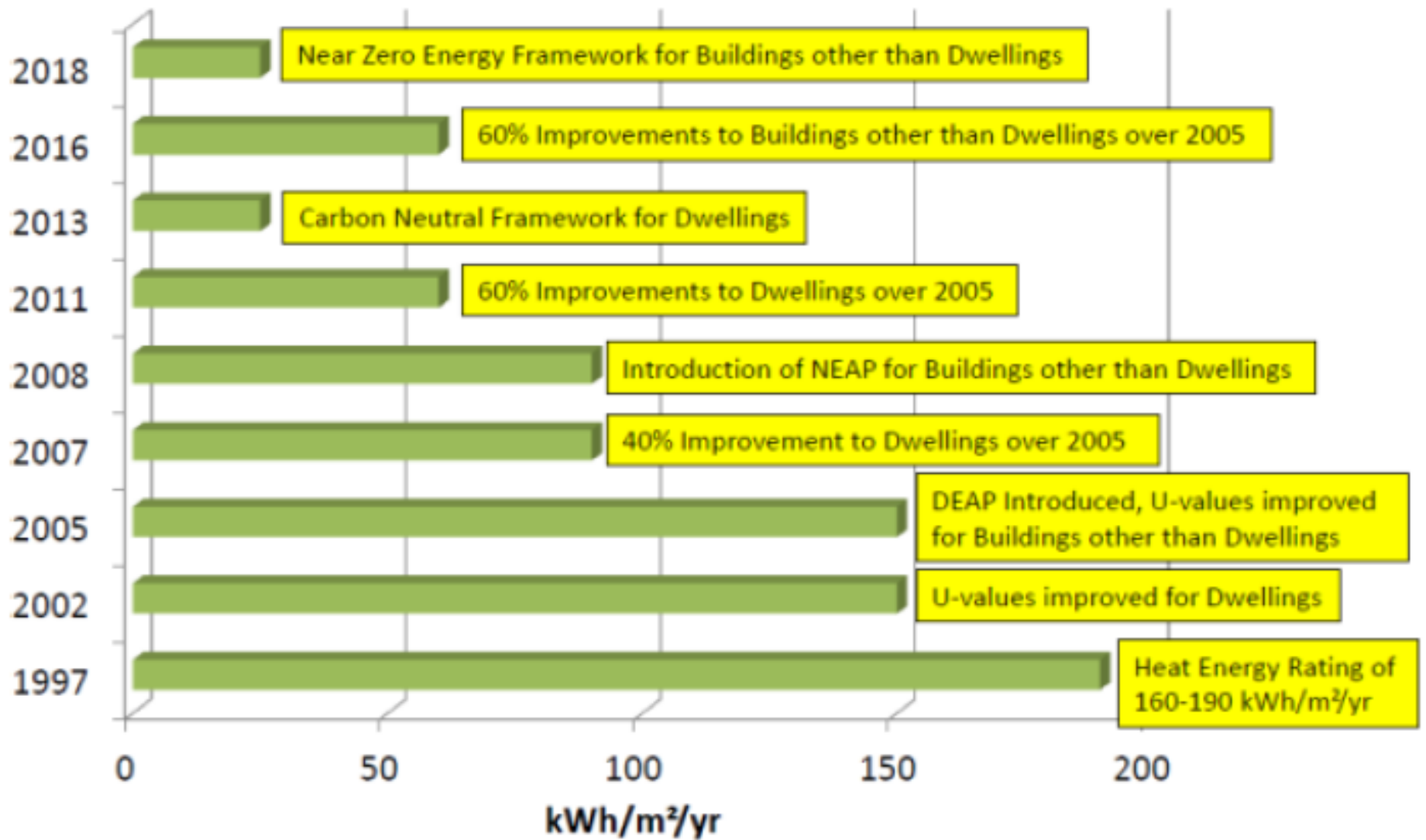
Near, Net, Passiv, Low Carbon

- There is often a near religious debate regarding whether buildings should be Near Zero, Net Zero, Passiv Haus or Low Carbon
- Political Reality in Europe went for Near Zero
- Country specific requirements will determine what it will emerge as
- Climate, Typology, Economic Factors etc. will all be factors in defining standard



Affirmative Integrated Energy Design Action (AIDA)	Market Transformation for the Integrated Energy Design of Nearly Zero Energy (MATRID)
http://www.aidaproject.eu/	
01/06/2012	01/06/2012
05/01/2015	05/01/2015
NZB2021 'Doors Open Days' – sharing experiences from low energy buildings to meet nearly zero building standards by 2021 (NZB2021)	POWER HOUSE NEARLY ZERO CHALLENGE! (POWER HOUSE NZC)
http://www.bblv.be (Coordinator's site)	http://www.powerhouseeurope.eu/
01/08/2012	01/06/2012
31/03/2015	05/01/2015
Passive House Regions with Renewable Energies (PASSREG)	Policies to enforce the transition to nearly zero energy buildings in the EU-27 (ENTRANZE)
http://www.passreg.eu	http://www.entranze.eu/about/home
01/05/2012	01/06/2012
30/04/2015	05/01/2015





SustainCo and NZEB

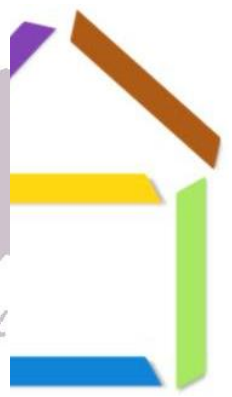
- Development of Toolkits which focus on technical and financial aspects of NZEB, in relation to energy efficiency and renewable energy usage
- Promotion of 40 Case Studies with extensive details on NZEB front runner projects
- Development and hosting of a capacity building event and training for project developers including conferences, seminars, training, site visits, demonstrations etc.
- Capacity building for 1.400 energy professionals



SustainCo and NZEB

- Selection of 8 high profile NZEB projects which will be supported from project idea to implementation process
- Support to 50 NZEB pilot projects already launched
- Dissemination of the CoM to more than 1.000.000 citizens in rural communities
- Creation of specific promotion campaign toolkit, internet web portal which highlights all relevant sustainable energy actions contributing to a NZEB development





Literature Review



Toolkits - Technical

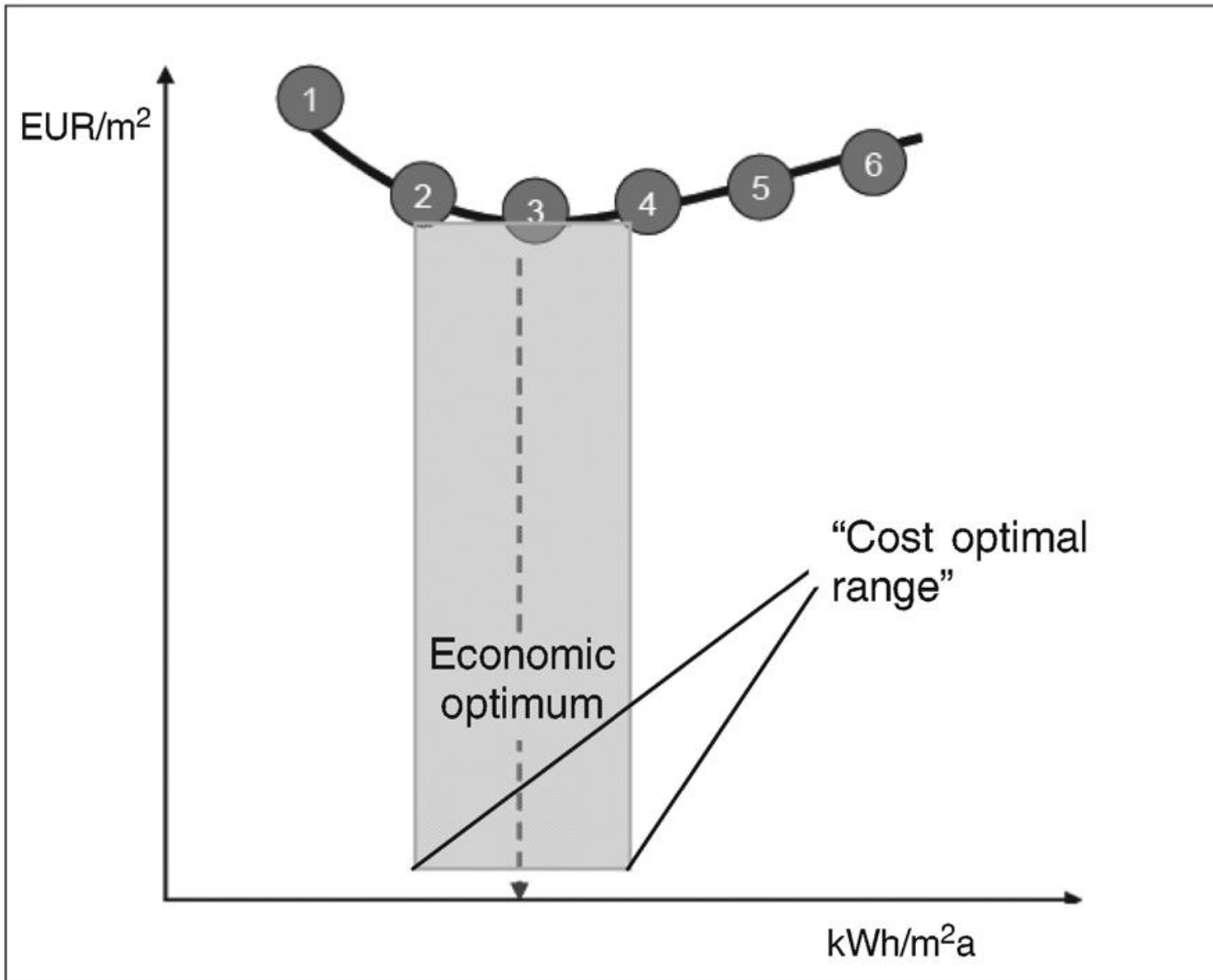
- NZEB – EU Standards & Definitions
- NZEB - National/regional Standards & Definitions
- Technical Aspects
 - Residential vs Non Residential
 - New Buildings (Fabric, Heating, Lighting, Ventilation etc)
 - Retrofitting (Fabric, Heating, Lighting, Ventilation etc)
 - RES-Heat:
 - RES-Electricity:
 - RES-Cooling/ventilation:
- Practical Aspects
 - New Buildings:
 - Retrofitting:
- Residential vs Non Residential

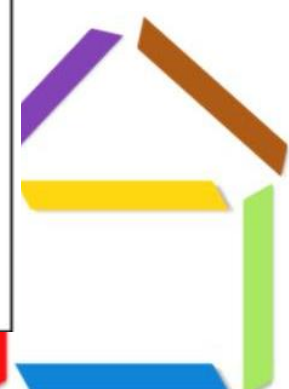


Toolkits - Financial

- Cost optimization
- Comparison of NZEB vs 2005/2010 standard build – per country where data is available
- Financial Mechanisms
- Cost Models



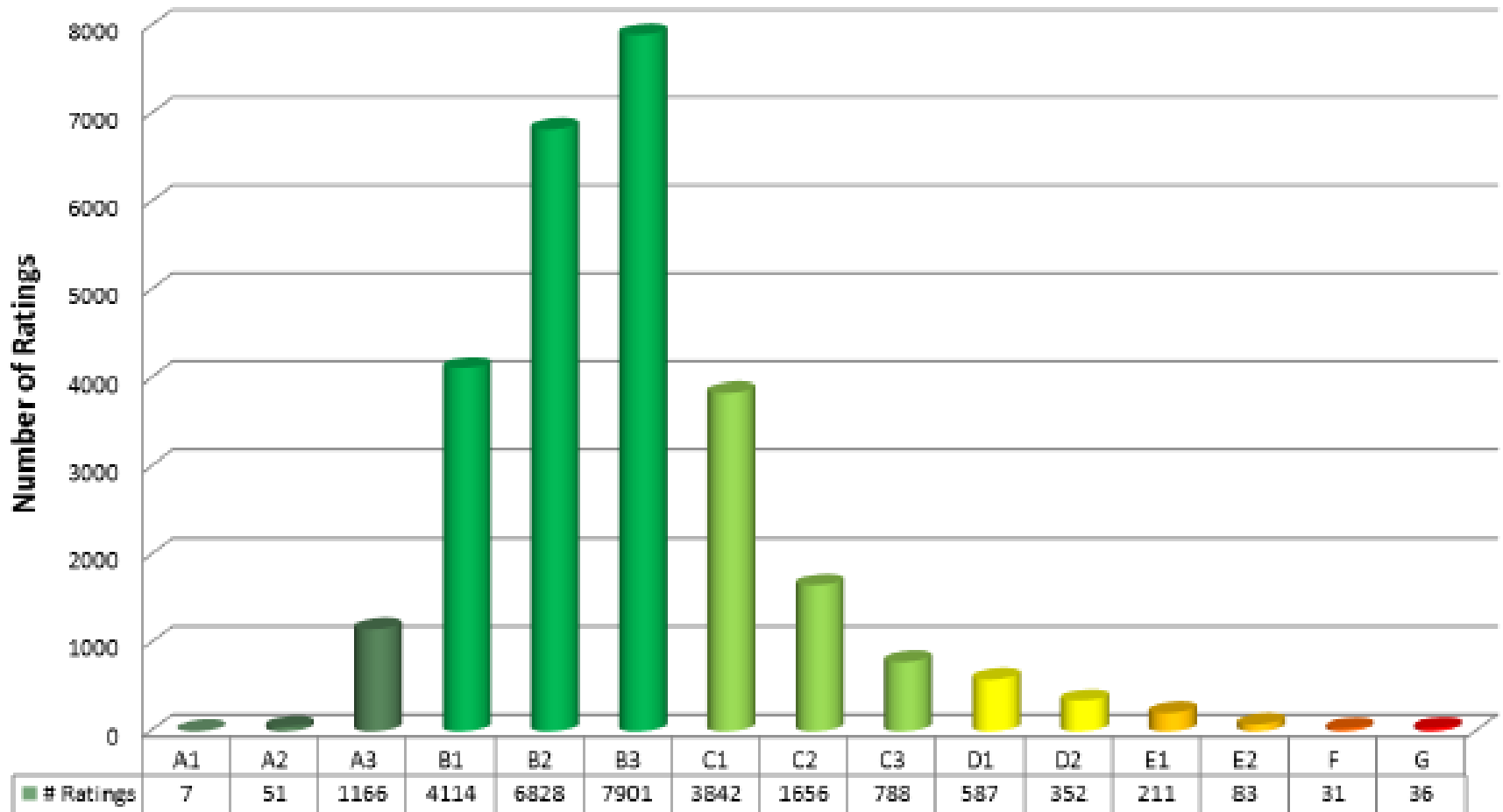




NZEB in Ireland

- Growing level of knowledge of designing and constructing low energy buildings
 - Residential and Non Residential
- Moving to NZEB as the norm will require increased training, inspection and quality control
- Building occupiers will have to adjust behaviour





(b) Distribution of Ratings for New Dwellings



Conclusion

- NZEB is coming – it is near!
- SustainCo hoping to support the sector to adjust to the new paradigm
- Looking for case studies and technical information
- Aiming to build open resources (toolkits) to support the industry
- Watch the SustainCo Space for

