

TOWARDS a 2025 Standard

The Active House standard concerning energy, comfort and sustainability can be used to firmly communicate the important task of integrating renewable energy into the buildings of the future.

Currently in Denmark there is no energy vision for 2025. The Nordic Built Charter stated that "Buildings should be CO₂ neutral over their lifetime", and agreed to use the Active House standard and prosumer levels 1-4 to document this in practice.

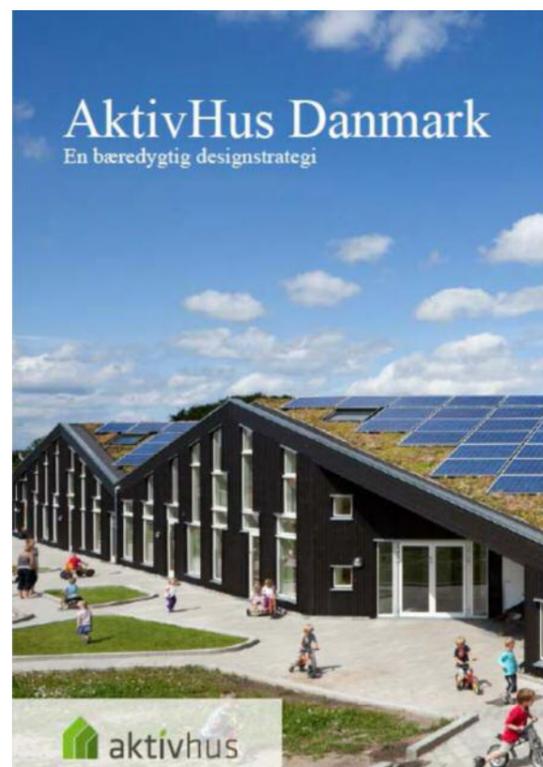
Cenergia – now a part of Kuben Management – aims to document 'low cost BIPV solutions' as part of an Active House standard. Several example projects have been developed, including the small Active House test house, "Living in Light Box".

Building integrated PV

Based on the huge reduction in costs of PV panels, there are now many examples of electricity producing building skins, which have very marginal extra costs compared to normal building skins.

Energy visions for 2025

The passive house standard has documented that you can actually realise buildings with a very limited heating demand. A vision for the Active House standard is to include a standard for different levels of zero energy building with the help of renewable energy (by different prosumer levels).



In Denmark we have the low energy class 2020 as an option for an improved low energy standard, which currently can be used instead of the existing building standard from 2015.

This has introduced new factors for district heating, where you can multiply the demands by a factor of 0.6, and for electricity by a factor of 1.8 (normal building regulation factors are 0.8 and 2.5). This makes it possible to reach an energy use of only 20kWh/m² per year, perhaps with a small contribution from PV panels as well.



Active House Denmark, Building Green, Copenhagen 2015

The AAU-IDA 2050 plan suggests around 200MWp per year to be implemented until 2050, reaching 5,000MWp (covering around 5% of electricity use).

Active House building in combination with Low Energy Class 2020, with prosumer level 1, 2, 3 and 4 for new buildings, larger renovations and new city areas, could help secure a stable BIPV market, which would pass regulation and could help secure good architecture, a stable BIPV market and Active House quality.

It has been argued that it could be beneficial to avoid the renewable energy contribution in building standards towards 2025. In that case you would need to find another way to highlight how you would try to reach an almost zero energy building standard.

As mentioned before, a solution here could be to introduce different "prosumer" levels, e.g. 1-4, the same way as the Active House Radar works. Prosumer level 1 being at a 100% zero energy or CO₂ neutral level.

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Illustration of how a low energy class 2020 building can look like with respect to windows to avoid overheating (new housing example from Aarhus)



Only limited window area towards south to avoid overheating



Large window areas towards north will not give problems with overheating and secures good daylight

