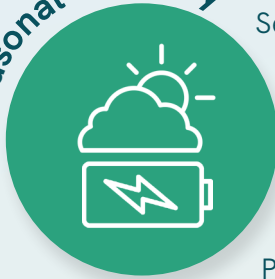


## Grid capacity



The current global electricity grid capacity is just over 7000 GW with projections expecting to reach just 14000 GW by 2050. By 2050 many sectors, including transport and heating buildings, will be drawing from this limited resource, as we move to electrify everything. Reducing energy demand is critical – especially as buildings represent 36% of the global final energy demand.

## Seasonal disparity



Seasonal disparity between energy demand and renewable generation results in a need for inter-seasonal energy storage, which will lead to storage losses. Primary Energy Renewable (PER) factors reflect the primary renewable resources needed to cover the final energy demand of a building, including distribution and storage losses. The higher the PER-factor, the higher the required resources and therefore the more important the implementation of efficiency measures in order to avoid compensation from non-renewable sources.

## Fuel poverty



Reducing energy demand makes buildings more affordable to run, and reduces our reliance on fuel. This shields us from energy price hikes, – often a lifeline for the most vulnerable in society. Cold damp buildings can cause serious long term health effects. In the European Union for example, it has been estimated that for every 3€ invested in improving housing conditions, 2€ is recouped within a year from savings on health care and publicly funded services.

# Why Efficiency First?

## Health and well being



Efficient buildings usually have better build quality which provides a catalyst for multiple co-benefits in terms of occupant health and to the wider society. No draughts, mould or condensation; less overheating and stable temperatures year round. Enjoy a peaceful and quiet environment that is affordable and resilient.

## Performance gap



In many countries, the average home is likely to use much more energy than predicted. In the UK, residential builds use 60% more, and the heating demand is 2 to 3 times greater than planned. This adds pressure on the grid and means customers are not getting what they paid for. Passive House eliminates this performance gap thanks to a rigorous quality assurance system.