




# Role of Energy Efficiency in a Net Zero Strategy

**Net Zero has become the phrase that defines the ambition of how society will act on climate. It is achieved when all the carbon emissions associated with an organisation are zero or negative. Energy efficiency is the “first fuel”, supporting net-zero energy goals at lower costs, and delivering a wide array of benefits for organisations and society.**

**We will need to radically accelerate the pace of energy efficiency to achieve our Net Zero goals. Ambitions for Net Zero are incomplete without tackling energy efficiency in a transformational way.**

Five key considerations should inform energy and sustainability professionals as they set strategic energy efficiency goals for their organisations:

## **I. Energy efficiency must be driving force for transformation.**

There is significant potential for energy savings in every aspect of our lives -- from the homes we live in, to the places we work, the transport we take, the products we make and the food we eat.

More can and must be done. The historic rate of energy efficiency improvement is around 1% per year<sup>1</sup>. Improving on that has proven exceptionally hard.

At the UN Global Climate Action Summit, the Energy Efficiency Global Alliance launched the Three Percent Club of countries and companies committed to 3% annual energy efficiency improvements<sup>2</sup>.

The 3% annual efficiency improvement is the rate needed to meet the Paris climate goals

and achieve sustainable energy for all, i.e. Sustainable Development Goal 7 (SDG7). If such efficiency gains cascade through our energy systems, the impact can be critical for Net Zero.

## **II. Renewable energy alone will not achieve Net Zero.**

Renewable energy captures the headlines, but it is a much lesser known fact that energy efficiency – through reducing energy demand – has historically played a very important role in reducing emissions.

<sup>1</sup> <https://eeglobalalliance.org/three-percent-club>

<sup>2</sup> <https://www.iea.org/news/iea-welcomes-commitment-by-leading-countries-to-drive-global-progress-on-energy-efficiency>

Given how critical energy efficiency is, it is remarkable how little attention is devoted to it, about how and where critical savings can be made, and how much unfulfilled potential for improving there still is.

However, because energy efficiency is not “visible,” it often is not given the policy and investment priority it deserves. A football analogy helps to illustrate the point: renewable energy is always seen as the star striker scoring all the goals, but energy efficiency is the box-to-box midfielder, the driving force for the team, essential to have any chance of winning.

At a macro level, this means something profound: net zero emissions will remain but a pipe dream without dramatic increases in the rate and quality of investment into energy efficiency. To illustrate this point, across infrastructure and buildings, the

UK Green Building Council has outlined that net-zero requires reductions in current energy consumption and emissions in the order of 60-80% by 2050<sup>3</sup>.

### III. Timeframe matters. Acting earlier has a higher positive impact for the climate.

Net zero by 2050 does not mean starting in 2049. The Paris Agreement outlines that global warming should be limited to pursuing limits to 1.5°C. Peaking of emissions should be as soon as possible as timing is critical. Earlier activities have a higher impact. Energy efficiency represents more than 40% of the emissions abatement needed by 2040, according to the IEA Sustainable Development Scenario<sup>4</sup>.

Investing in energy efficiency today avoids emissions in the future. According to the IEA Efficient World Scenario, currently existing cost-effective technologies are sufficient to double global energy efficiency

“RENEWABLE ENERGY IS ALWAYS SEEN AS THE STAR STRIKER SCORING ALL THE GOALS, BUT ENERGY EFFICIENCY IS THE BOX-TO-BOX MIDFIELDER, THE DRIVING FORCE FOR THE TEAM, ESSENTIAL TO HAVE ANY CHANCE OF WINNING.

by 2040.

On average, every EUR 1 invested in energy efficiency saves EUR 3 over the lifespan of a technology<sup>5</sup>. Allowing society to re-invest those savings in projects to deliver Net Zero. Energy efficiency can boost our economies quickly, with long lasting benefits.

### IV. Net Zero demands an “And-And” approach.

Net Zero strategies vary and according to the IEA latest report, Net Zero by 2050: a Roadmap for the Global Energy Sector<sup>6</sup>,

3 UK Green Building Council. Net Zero Energy Performance Targets for Offices. See [here](#).

4 IEA Report <https://www.iea.org/reports/world-energy-model/sustainable-development-scenario>

5 Three Percent Club <https://eeglobalalliance.org/wp-content/uploads/2019/12/ThreePercentClub-Brochure.pdf>

6 <https://www.iea.org/reports/net-zero-by-2050>





whilst the number of countries announcing pledges to achieve Net Zero over the coming decades is increasing, even if all pledges made to date were achieved, it would still not be enough to bring global emissions to Net Zero by 2050 and limit the global temperature rise to 1.5°C.

“WHILST THE NUMBER OF COUNTRIES ANNOUNCING PLEDGES TO ACHIEVE NET ZERO OVER THE COMING DECADES IS INCREASING, EVEN IF ALL PLEDGES MADE TO DATE WERE ACHIEVED, IT WOULD STILL NOT BE ENOUGH TO BRING GLOBAL EMISSIONS TO NET ZERO BY 2050 AND LIMIT THE GLOBAL TEMPERATURE RISE TO 1.5°C.”

The report outlines pathways needed to increase efforts and states that a major worldwide push to increase energy efficiency is also an essential part of the efforts, resulting in the global rate of energy efficiency improvements averaging 4 per cent a year through 2030 – about three times the average over the last

two decades. Net Zero strategies require transformation in both energy efficiency and renewable energy: one will not succeed without the other.

#### “And-And Approach”

- **Energy efficiency transformation through setting and delivering energy reduction targets**
- And
- **Renewable energy deployment through increased use of renewable energy in operations**

Committing to energy efficiency improvements in the short term and taking steady strides to achieving a Net Zero through renewable energy in the long-term, are mutually dependent goals. For organisations, energy efficiency means taking critical short-term strategic decisions to reduce emissions now, whilst not losing sight of the strategic compass, balancing the here-and-now with the long-term Net Zero vision.

#### V. Take a leap of faith.

Part of our challenge in energy efficiency is an emotional – not technical – one. We must take a leap of faith that Net Zero can be delivered; that it is do-able, though it may not be currently provable. Radical improvements to energy efficiency will reduce the overall costs of mitigating carbon emissions while advancing social and economic development, enhancing energy security and quality of life, and creating jobs.

Energy efficiency is not siloed to one sector; therefore, policies must target the efficiency of buildings, industry, equipment, appliances, and vehicles. There is an enormous gap between our current position on energy efficiency and where we need to be for Net Zero.

Here at the EMA, we recognise that we cannot do this alone; but with the right engagement, change at the scale required can be achieved. We are confident the race to Net Zero can be won. The time for transformational energy efficiency has well and truly arrived.