With the highest efficiency standards, countries can cut household carbon emissions at no cost to consumers – and achieve the UN's climate goals.

Massive savings in carbon emissions are possible worldwide if governments adopt the highest energy efficiency standards for lighting and other household appliances such as fridges, freezers and washing machines, researchers say.

Not only would this go a long way to meeting the Paris Agreement goal of keeping average temperature rise as close as possible to a 1.5°C maximum. It would cost consumers no more than they pay already, and would save on their utility bills.

The research team is from the Climate Action Tracker, an independent scientific analysis produced by three research organisations who since 2009 have tracked climate action towards the Paris Agreement's aim of holding warming well below 2°C, and ideally to 1.5°C.

Many countries have already adopted higher energy efficiency standards, including the entire European Union. But if the best standards were applied globally, more than 1,100 average-sized coal-powered generating plants, each producing about 600 MW, could be closed.

If low carbon electricity production were used to generate the remaining electricity needed, and fossil fuel plants were closed, then a reduction of 60% of all emissions from buildings would be possible by 2030, CAT says. This is 5.2 gigatonnes of carbon dioxide, more than the EU's entire current emissions.

"We found examples around the world where people are reaping the benefits by switching off lights in cities at night, switching to LEDs, smart lighting and smart metering"

CAT's report looks at case studies where energy efficiency has been encouraged by governments. In India, for instance, a scheme to boost the use of efficient LED lights at no extra cost to consumers has resulted in the sale of 230 million bulbs since 2014 – a 50-fold increase in two years.

It meant at peak times that India needed 6,000 megawatts less electricity to satisfy demand than if ordinary bulbs had been used. The government was able to negotiate for better prices for mass orders of LEDs from the manufacturers, lowering prices and increasing jobs at the same time.

Other countries are also producing excellent results with different policies. In France lighting installations in non-residential buildings must be switched off at night, to reduce both energy waste and light pollution. The resulting energy savings are comparable to the annual electricity consumption of 750,000 households, lowering CO2 emissions by 250 kilotonnes and saving French businesses €200m in energy costs.

Professor Niklas Höhne of NewClimate Institute, one of the three members of the CAT

consortium, said: “We found examples around the world where people are reaping the benefits by switching off lights in cities at night, switching to LEDs, smart lighting and smart metering, apps provided by energy companies to encourage customers to save energy or to use appliances at off-peak hours.”

Downward trend

In other countries in the EU where governments have made fewer direct interventions in the market but still adopted the EU-wide regulations, this has still reduced demand for electricity, to the surprise of some governments.

The United Kingdom, where housing is among the least energy-efficient in Europe, had predicted that the British demand for electricity would rise continuously until 2030, but in fact it has gone down year on year since 2008. This is attributable partly to the increasing energy efficiency of lighting and household appliances forced on manufacturers by EU directives.

The CAT report also covers the plight of the one billion people who still have no access to electricity. One in three of them still uses kerosene for lighting, which damages lungs and has other serious health effects, while adding to carbon emissions.

Off-grid solar lighting or microgrid renewable solutions with energy efficient lighting will give them opportunities to improve their lives without adding to climate change.

“Lighting and appliance efficiency improvements, together with renewable energy, are key to simultaneously meeting the sustainable development goal of providing access to affordable and clean energy for all and the Paris Agreement 1.5oC limit”, said Jasmin Cantzler of Climate Analytics, another consortium member.

Source: climatenewsnetwork