

FOUR STEPS TO NET ZERO EMISSION BY 2050 – STEP 4

Projections in the Pathways Report and work done by ClimateWorks Australia and Australian National University, together with CSIRO and the Centre of Policy Studies at Victoria University provide four simple steps that help us achieve zero net emissions by 2050.

NET ZERO EMISSIONS – THIS MEANS THAT THE EMISSIONS WE RELEASE INTO THE ATMOSPHERE ARE NO GREATER THAN THE EMISSIONS WE REMOVE.

STEP 4.

SORT OUT AND STORE THE REST

Finally, we look at the need to bring any remaining emissions down to net zero. And this leads us to solutions including capturing - or sequestering - those emissions (known as carbon capture and storage).

CARBON CAPTURE AND STORAGE – THE PROCESS OF TRAPPING CO₂ AND STORING IT IN SUCH A WAY THAT IT IS UNABLE TO AFFECT THE ATMOSPHERE.

We can also reduce emissions generated through activities other than energy production - such as through livestock.

LIVESTOCK PRODUCE METHANE, ANOTHER POTENT GREENHOUSE GAS. METHANE IS A MORE POTENT GREENHOUSE GAS THAN CO₂: HOWEVER, THERE IS OVER 200 TIMES MORE CO₂ IN THE ATMOSPHERE THAN METHANE.

Finally, there are many ways to offset the remaining emissions imbalance - through activities such as planting trees (also known as bio-sequestration).

INDUSTRY

In addition to emissions produced through primary actions such as the combustion of fossil fuels, industrial processes produce significant added emissions called 'fugitive' emissions. These occur through leaks, venting and the irregular or unintended release of gases released during extraction, processing, production, storage, distribution and transmission of greenhouse gas emitting fuels.

Following Step Four of our plan, process emissions and fugitive emissions from the industry sector can be reduced via means including the partial use of bio-coke in iron and steel production, and CCS. It's worth noting that these non-energy emissions are well suited to CCS, given the relatively high purity of CO₂ outflows.

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AGRICULTURE

Soil and livestock emissions can be reduced through widespread use of best practice farming techniques. In the example of beef production, this includes intensification of breeding (increasing the productivity of livestock without increasing the amount of land needed for that livestock - for example, by choosing breeds of cows with a higher milk yield), improvements in feeding and pasture practices, as well as enhanced breeding and herd selection for lower livestock methane emissions.

CARBON FORESTRY

Australia has great potential to offset emissions via forestry bio-sequestration.

The implementation of price incentives for planting and raising carbon forests would assist large shifts in land use - from agriculture (in particular livestock grazing) to carbon forestry. Carbon forests provide farmers with an opportunity to diversify incomes, enhance biodiversity, and control salinity and erosion.