

## DKV-Statusbericht Nr. 42

### Net zero emissions and the refrigeration, air conditioning and the heat pump sector

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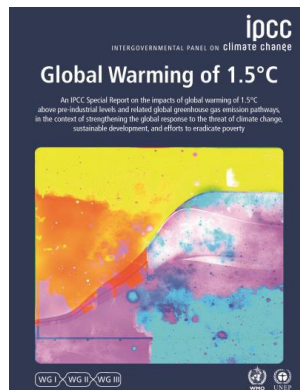
#### Foreword

#### "The world is fighting for survival"

– as UN Secretary-General António Guterres said at the World Climate Change Conference in Egypt in October 2022<sup>1</sup>. At the World Economic Forum in Davos in January 2023, he repeated:

- "Greenhouse gas emissions are at record levels and rising. Without additional action, we are heading for an increase (in global mean temperature) of 2.8 °C. As we all know, the consequences would be devastating: several regions of our planet would be uninhabitable, and for many people, this would mean a death sentence<sup>2</sup>."
- "The battle to *maintain the* 1.5 °C limit will be won or lost this decade."
- "We need to end our dependence on fossil fuels."

The way to solve the problems was already described in 2018 in a Special Report by the Intergovernmental Panel on Climate Change, according to which emissions of all greenhouse gases are to be reduced to net zero by 2050 and the remaining emissions removed from the atmosphere through technical measures:



The refrigeration, air conditioning, and heat pump (RACHP) sector can make a significant contribution to national and global emission reductions – in a highly energy-efficient and non-fossil way.

This status report first presents the net zero emissions target and its background, followed by the world community's dependence on energy supply, the associated emissions, and finally the technical, energy and economic potential of "heat pumping" processes and the prospects for the industry.

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<sup>1</sup> <https://www.zdf.de/nachrichten/politik/guterres-klima-ueberhitzung-treibhausgase-cop27-100.html>

<sup>2</sup> <https://www.un.org/sg/en/content/sg/statement/2023-01-18/secretary-generals-remarks-the-world-economic-forum>