GHG MITIGATION IMPACT OF HONEYWELL **TECHNOLOGIES***

We estimate that Honeywell technologies will have a cumulative impact of mitigating 2.0 billion metric tons of CO_{2a} between 2023 and 2030.*

This is **175 times** Honeywell's projected Scope 1 and 2 GHG emissions over the same time period... ...and equivalent to**



Emissions from 59 MILLION gasoline cars, or

Emissions from **33 MILLION** homes in the U.S., or



Carbon dioxide absorbed by **292 MILLION** acres of U.S. forests, or



1.5 TIMES the amount of carbon dioxide absorbed by all U.S. National Forests

...over the same time period.

GHG MITIGATION IMPACT BY TECHNOLOGY



We estimate that Honeywell technologies for methane emissions detection and flare monitoring will have a cumulative impact of mitigating 140 MILLION metric tons of CO₂₀ between 2023 and 2030.1



We estimate that Honeywell technologies for sustainable aviation will have a cumulative impact of mitigating 270 MILLION metric tons of CO_{2e} between 2023 and 2030.²



We estimate that Honeywell technologies for sustainable buildings will have a cumulative impact of mitigating 420 MILLION metric tons of $\rm CO_{2e}$ between 2023 and 2030.³





We estimate that Honeywell technologies for **carbon capture and utilization or sequestration** (CCUS) will have a cumulative impact of mitigating **320 MILLION** metric tons of CO_{2e} between 2023 and 2030.⁴



We estimate that Honeywell technologies for **industrial automation** will have a cumulative impact of mitigating **200 MILLION** metric tons of CO_{2e} between 2023 and 2030.⁵



We estimate that Honeywell technologies for substitution of high global warming potential (GWP) fluorinated gases (F-gases) with **lower GWP alternatives** such as the Honeywell Solstice line of products based on hydrofluoro-olefins (HFOs) will have a cumulative impact of mitigating **600 MILLION** metric tons of CO_{2e} between 2023 and 2030.⁶

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We estimate that Honeywell technologies for **hydrogen combustion** will have a cumulative impact of mitigating **50 MILLION** metric tons of CO_{2e} between 2023 and 2030.⁷



Notes:

* Includes technologies for: (1) methane emissions detection and flare monitoring, (2) sustainable aviation,
(3) sustainable buildings, (4) carbon capture and utilization or sequestration (CCUS), (5) industrial automation, (6) substitution of high global warming potential (GWP) fluorinated gases
(F-gases) with lower GWP alternatives such as the Honeywell Solstice line of products based on hydrofluoro-olefins
(HFOs), and (7) hydrogen combustion.

All global anthropogenic greenhouse gas emissions by sector used in the estimates described herein have been based on 2018 emission data reported by the IPCC Working Group III AR6 assessment (Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA.).

In all cases, actual numbers may differ if market adoption rates change (either increase or decrease) or customers change project timelines (either sooner or later) due to legislative or other factors. Actual GHG savings can vary between projects depending on location, age of facility and other factors. ** All GHG equivalents calculated using the U.S. EPA Greenhouse Gas Equivalencies Calculator.

1. Honeywell Versatilis detectors, Emissions Monitor Software and Rebellion imaging system enable identification of methane emissions from venting, fugitive sources and underperforming flares, allowing targeted remediation. This estimated impact assumes that (i) 3.65% of global GHG emissions are attributable to venting and fugitive emissions of methane from the oil and gas industry and 0.65% of global GHG emissions are attributable to faulty flaring in the oil and gas industry, (ii) 35% of emissions from venting and fugitive emissions of methane from

the oil and gas industry and 10% of emissions attributable to faulty flaring in the oil and gas industry are identified and addressed by 2030, and (iii) Honeywell technology contributes to identifying 10% of the addressed emissions.

- 2. Honeywell flight management software has been demonstrated in a customer test flight to save 16% of aviation emissions. This estimated impact assumes (i) 16% reduction in flight emissions from use of flight management software, (ii) 50% of global flights use advanced flight planning software by 2030, and (iii) Honeywell software is used for 10% of these flights, giving emissions savings of 20 Mt of CO₂ by 2030 from flight management software. We estimate that 250 Mt of CO₂ emissions will be avoided by 2030 by use of sustainable aviation fuel that will be produced by our customers using Honeywell UOP Ecofining, Ethanol-to-Jet and e-Fining technologies, based on current and projected licenses and expected plant start-up dates.
- Honeywell sustainable buildings technologies include building management systems, energy and power management software and

building energy efficiency projects. Honeywell products, software and services have been deployed in over 10 million buildings worldwide. This estimated impact assumes (i) 30% of global government and commercial buildings deploy energy management systems by 2030, (ii) Honeywell building energy management systems are deployed in 17% of these buildings, (iii) 20% reduction in emissions is achieved from deployment of Honeywell building energy management systems.

- This estimated impact is based on current and projected licenses of Honeywell UOP Separex, ASCC and Blue hydrogen technologies for capture of carbon dioxide from process gases and waste gas streams and expected plant start-up dates.
- 5. Honeywell industrial automation technologies are used for automatic control of plants in the chemical process industries, fuels production, pharmaceuticals, food and beverages, pulp and paper, mining and metals production, discrete manufacture and warehouse automation. This estimated impact assumes (i) 16.1% of global

greenhouse gas emissions are from industries that can deploy process automation (not including the cement, primary metals, and oil refining sectors that are already extensively automated), (ii) 25% of industrial plants in these sectors deploy advanced process control automation systems, (iii) Honeywell technology is used in 20% of them, and (iv) Honeywell technology deployment yields 10% energy savings.

- 6. This estimated impact is based on expected cumulative production of hydrofluoro-olefins and avoided emissions of the high GWP refrigerants, blowing agents and propellants that they displace.
- This estimated impact assumes

 (i) 3.7% of anthropogenic GHG
 emissions are addressable by fuel
 switch from fossil fuels to hydrogen,
 (ii) 5% of these emissions will be
 addressed by fuel substitution by
 2030, (iii) Honeywell hydrogen
 burner solutions will be deployed in
 20% of such applications, and (iv)
 98% reduction in CO₂ emissions
 will be achieved by fuel switch
 from fossil fuels to hydrogen.

Honeywell