

Exposing Climate Myths

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Authors*	Leonardo Barreto-Gomez, Austrian Energy Agency Gabriele Brandl, Austrian Energy Agency Eva Janechová, Austrian Energy Agency Thea Löw, Austrian Energy Agency Bao An Phan Quoc, Austrian Energy Agency

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INTRODUCTION

Climate myths are false beliefs and common misconceptions regarding the on-going climate crisis. When dealing with the climate crisis, examining human decision-making processes is key in expediting measures towards achieving a climate-neutral state. Therefore, it is crucial to debunk widespread climate myths through climate literacy.

These myths impede the progress of actions taken against the climate crisis. A fundamental shift in human mind-set and societal structure is necessary to initiate constructive measures cooperatively. This relies on a comprehensive understanding of the climate crisis, achieved by raising public awareness of the issue while simultaneously counteracting false accusations.

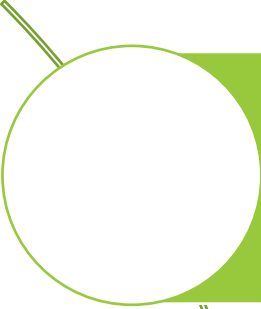
Sources:

Thomas Brudermann Workshop, 12.10.2023

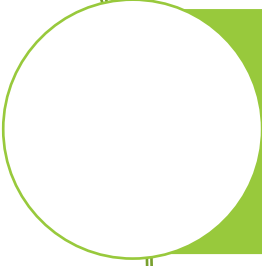
United Nations: <https://www.un.org/en/climatechange/science/mythbusters>

I. MYTH: "THE CLIMATE HAS ALWAYS CHANGED – IT IS A NATURAL PHENOMENON AND IS NOT CAUSED BY HUMANS"

Fact is:



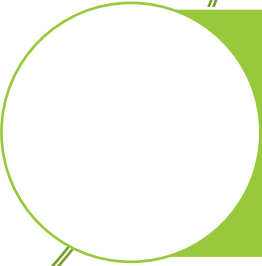
Today, it's humans that are adding more and more greenhouse gases to the atmosphere. Independent evidence of temperature changes in different layers of the atmosphere has shown that the warming of the last 50 years is primarily due to human-caused increases in greenhouse gases.



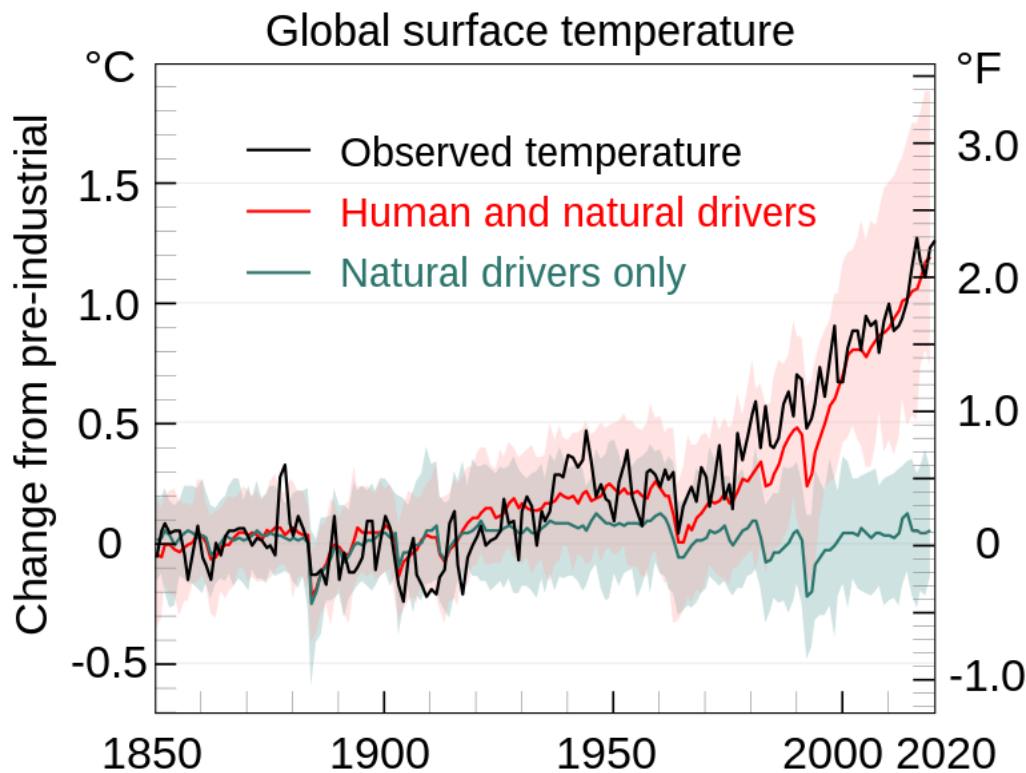
Since the 18th century, human drivers have increased CO₂ levels in the atmosphere by 50%, and CO₂ levels are currently 150% higher than they were in 1750. It is obvious that the human-induced increase is much greater than the natural increase observed at the end of the last ice age.



Human activity releases 100 times more CO₂ into the atmosphere than volcanism, and even all possible natural drivers together would account for only a tiny part of the global temperature changes.



The earth's surface continuously radiates heat, and greenhouse gases such as CO₂, nitrous oxide, methane, etc. absorbs and slowly releases it over time. This means that the greenhouse effect itself is a natural phenomenon that is useful and necessary to keep the earth's surface warm and support life. The current CO₂ imbalance is trapping too much heat and therefore causing an increase in global temperatures.



Source: IPCC (2021)

The table shows that the global Earth's surface temperature would have remained almost unchanged - near zero from 1950 until 2020 only if natural drivers (green line) had been present, whereas human and natural drivers (red line) have caused the temperature increase of almost 2 degrees in the last 70 years.

Sources:

[IPCC \(2021\). Masson-Delmotte, V.; Zhai, P.; Pirani, A.; Connors, S. L.; et al. \(eds.\). *Climate Change 2021: The Physical Science Basis* \(PDF\). Contribution of Working Group I to the *Sixth Assessment Report* of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom and New York, NY, US: *Cambridge University Press* \(In Press\).](#)

URL 1: <https://climate.nasa.gov/vital-signs/carbon-dioxide/>

URL 2: <https://justenergy.com/blog/8-climate-change-facts-and-myths/>

URL 3: <https://climateprimer.mit.edu/dispelling-myths/>

II. MYTH: "CLIMATE ACTION HARMS ECONOMIC DEVELOPMENT AND PROSPERITY"

Fact is:



Sources:

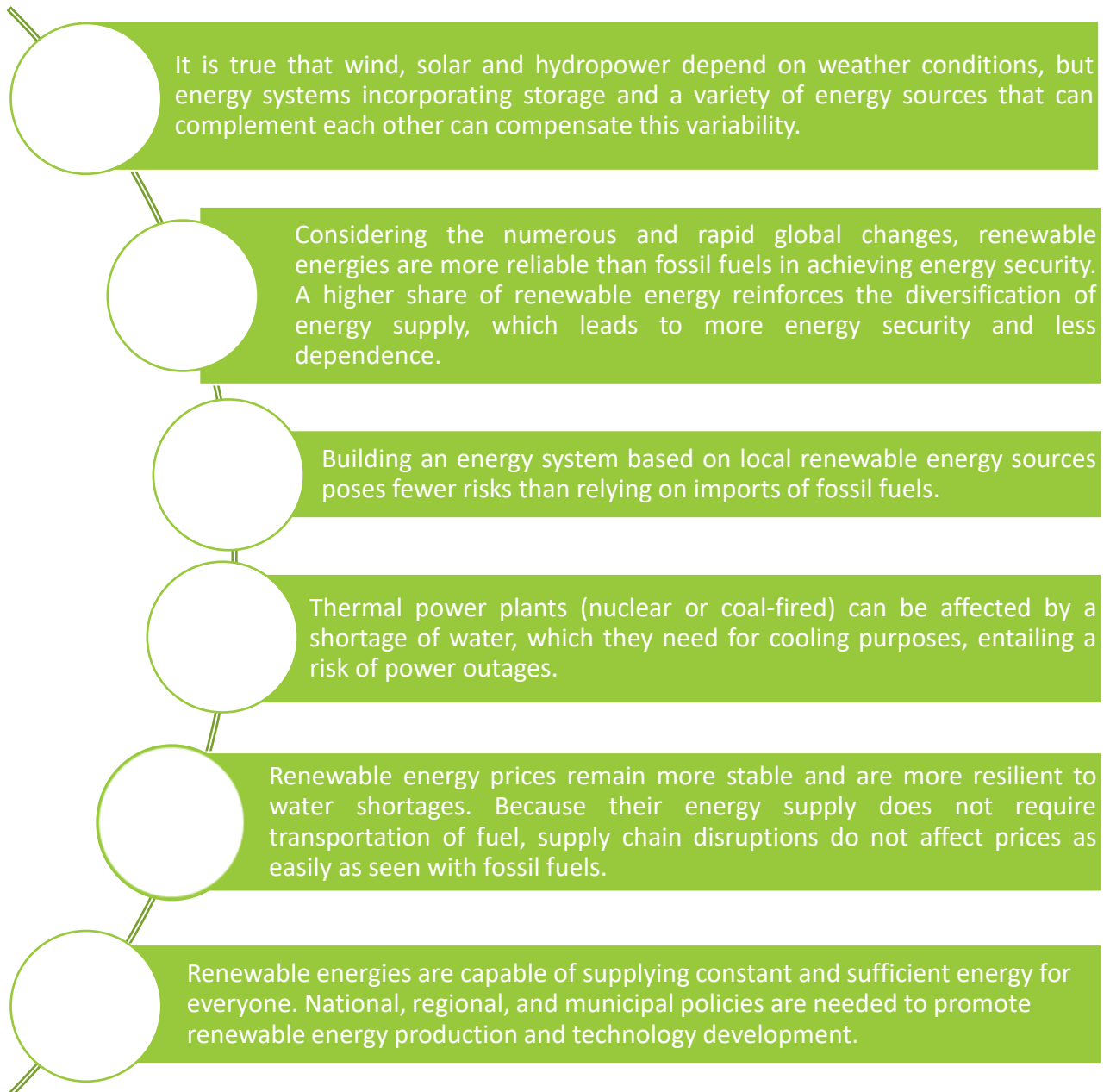
URL 1: <https://www.germanwatch.org/en/87410>

URL 2: <https://news.climate.columbia.edu/2019/06/20/climate-change-economy-impacts/>

URL 3: <https://academic.oup.com/icc/article/32/2/277/7043810>

III. MYTH: "100% RENEWABLE ENERGY (WIND, SOLAR, GEOTHERMAL, HYDROPOWER, OCEAN AND BIOENERGY) IS NOT RELIABLE"

Fact is:



Source:

URL: <https://www.germanwatch.org/en/87482>

IV. MYTH: "RENEWABLE ENERGY (WIND, SOLAR, GEOTHERMAL, HYDROPOWER, OCEAN AND BIOENERGY) IS EXPENSIVE"

Fact is:



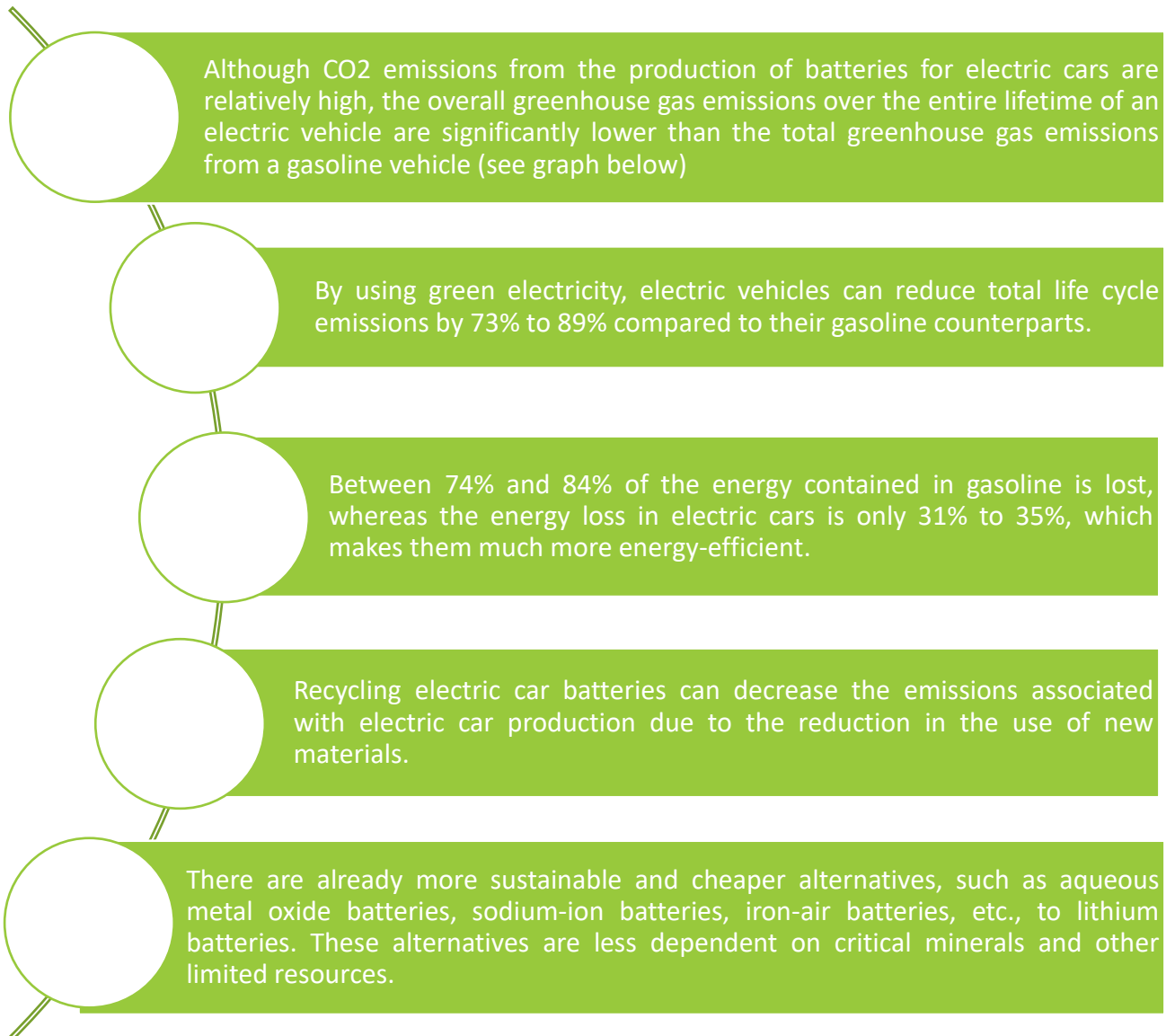
Sources:

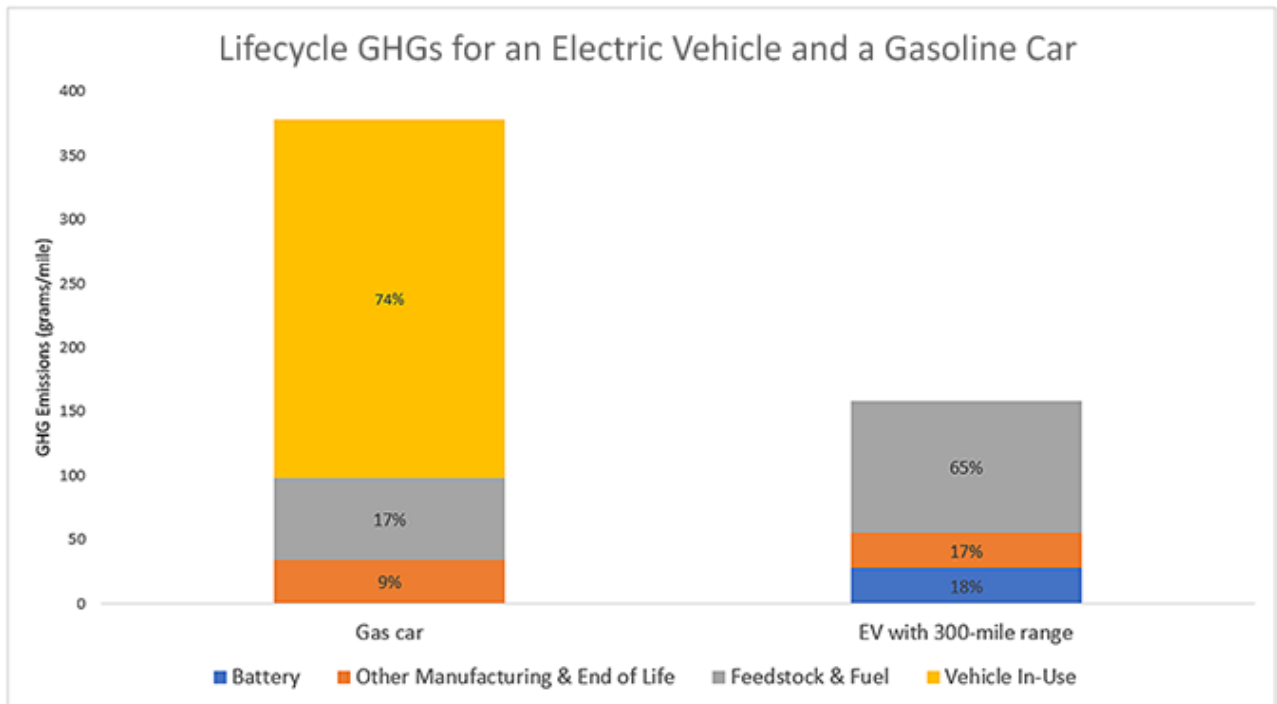
URL 1: https://wwfint.awsassets.panda.org/downloads/myth_buster_brochure.pdf/

URL 2: https://www.activesustainability.com/renewable-energy/debunking-myths-renewable-energy/?_adin=02021864894

V. *MYTH: "ELECTRIC CARS ARE WORSE FOR THE CLIMATE THAN GASOLINE CARS BECAUSE OF THEIR BATTERY PRODUCTION"*

Fact is:





Source: GREET 2 (2021)

The graph below illustrates the average CO2 emissions of electric and conventional gasoline vehicles. The blue bar represents the emissions associated with battery production, while the orange bars show the emissions from vehicle production and disposal. The grey bars indicate the emissions linked to the production of gasoline and/or electricity, and the yellow bar depicts use-related emissions. The overall greenhouse gas emissions over the entire lifetime of an electric vehicle are significantly lower than the total greenhouse gas emissions from a gasoline vehicle.

Sources:

URL 1: <https://www.epa.gov/greenvehicles/electric-vehicle-myths#Myth2>

URL 2: <https://www.sciencedirect.com/science/article/pii/S1364032122000867>

URL 3: <https://www.alsym.com/blog/what-are-the-alternatives-to-lithium-ion-batteries/>