



Health made possible

PyConZA 2023
Green Coding with Python

5 October 2023





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@rudigiesler

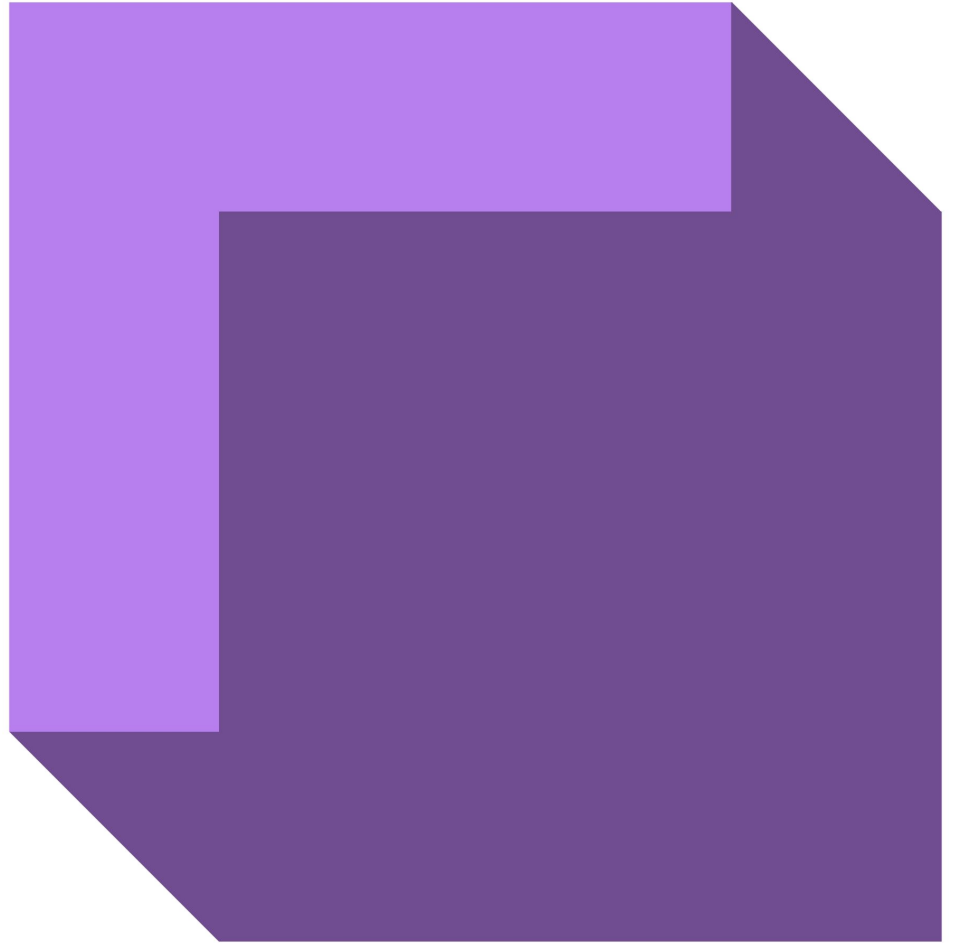


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REACH

Health made
possible

REACHDIGITALHEALTH.ORG





Why should you care?
What is running?
Where is it running?
Who is creating it?



Caveats



THE GLOBAL GOALS

For Sustainable Development

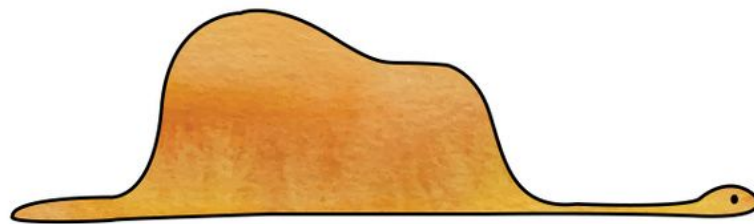




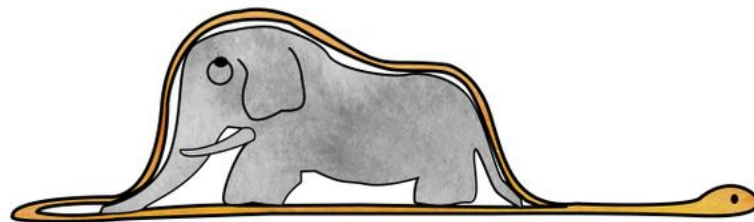
Dashboards: ● SDG achieved ● Challenges remain ● Significant challenges remain ● Major challenges remain ● Information unavailable

Trends: ↑ On track or maintaining SDG achievement ↗ Moderately improving → Stagnating ↓ Decreasing ●● Trend information unavailable

Green coding is an environmentally sustainable computing practice, seeking to minimise the environmental impact of software



"My drawing was not a picture of a hat.
It was a picture of a boa constrictor digesting an elephant."

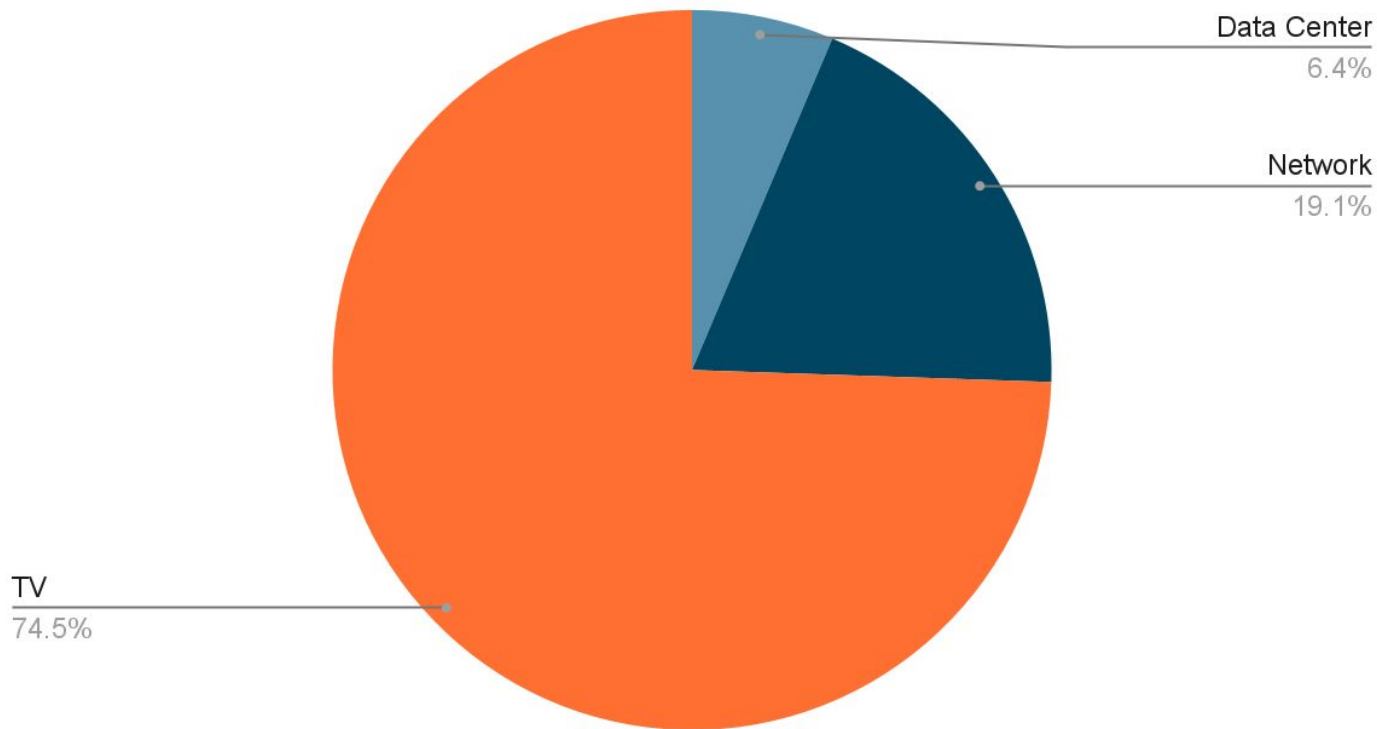


Measure
Algorithms and Data Structures
Caching
Libraries
PyPy
pythonspeed.com

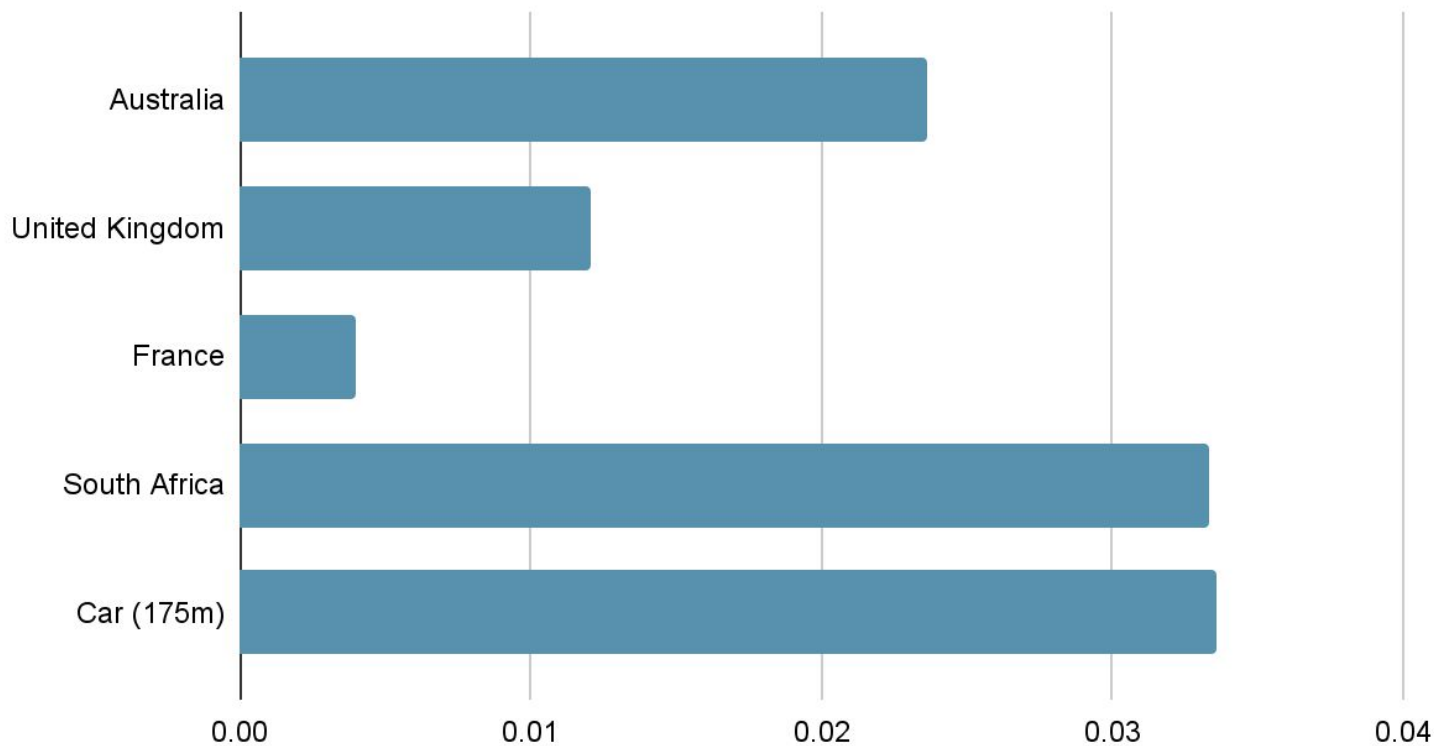
Embodied Energy



Energy usage of streaming Netflix



CO2e emissions for 30 minutes of a Netflix show





CO₂e



U.S. East (Northern Virginia)

Europe (Milan)

GovCloud (U.S. East)

Europe (Paris)

U.S. East (Ohio)

Europe (Stockholm)

U.S. West (Oregon)

Europe (Spain)

GovCloud (U.S. West)

Europe (Zurich)

U.S. West (Northern California)

Asia-Pacific (Mumbai)

Canada (Central)

Asia-Pacific (Hyderabad)

Europe (Ireland)

China (Beijing)

Europe (Frankfurt)

China (Ningxia)

Europe (London)

The New York Times

When One Almond Gulps 3.2 Gallons of Water

May 13, 2023

Shortcuts Food

Almond milk: quite good for you - very bad for the planet

Subscribe to newsletters

Forbes

FORBES > TECH > SCIENCE

In The Midst Of Drought, California Farmers Used More Water For Almonds

The Guardian

Lifestyle



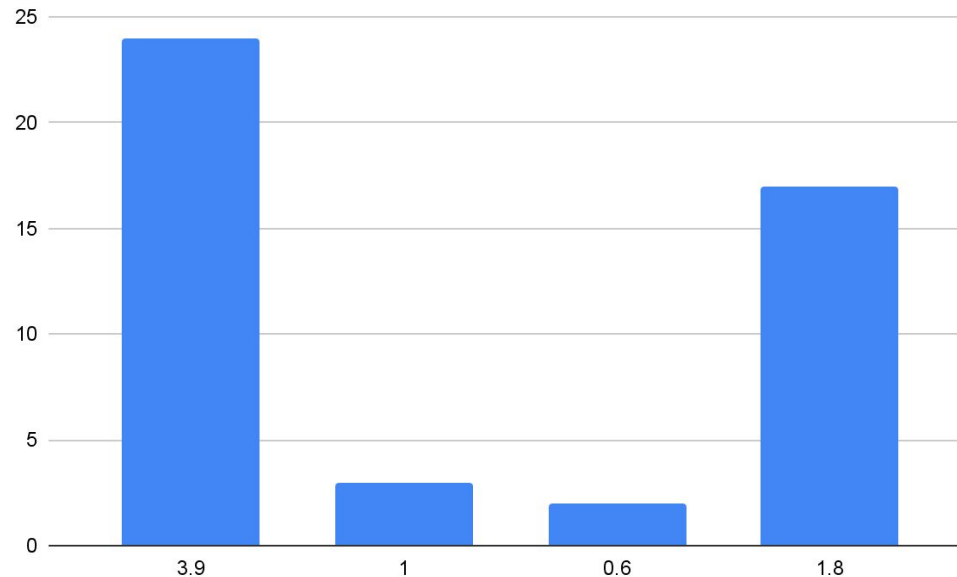
Home & garden Women Men Family

How much more water does almond milk require to produce compared to cow's milk?

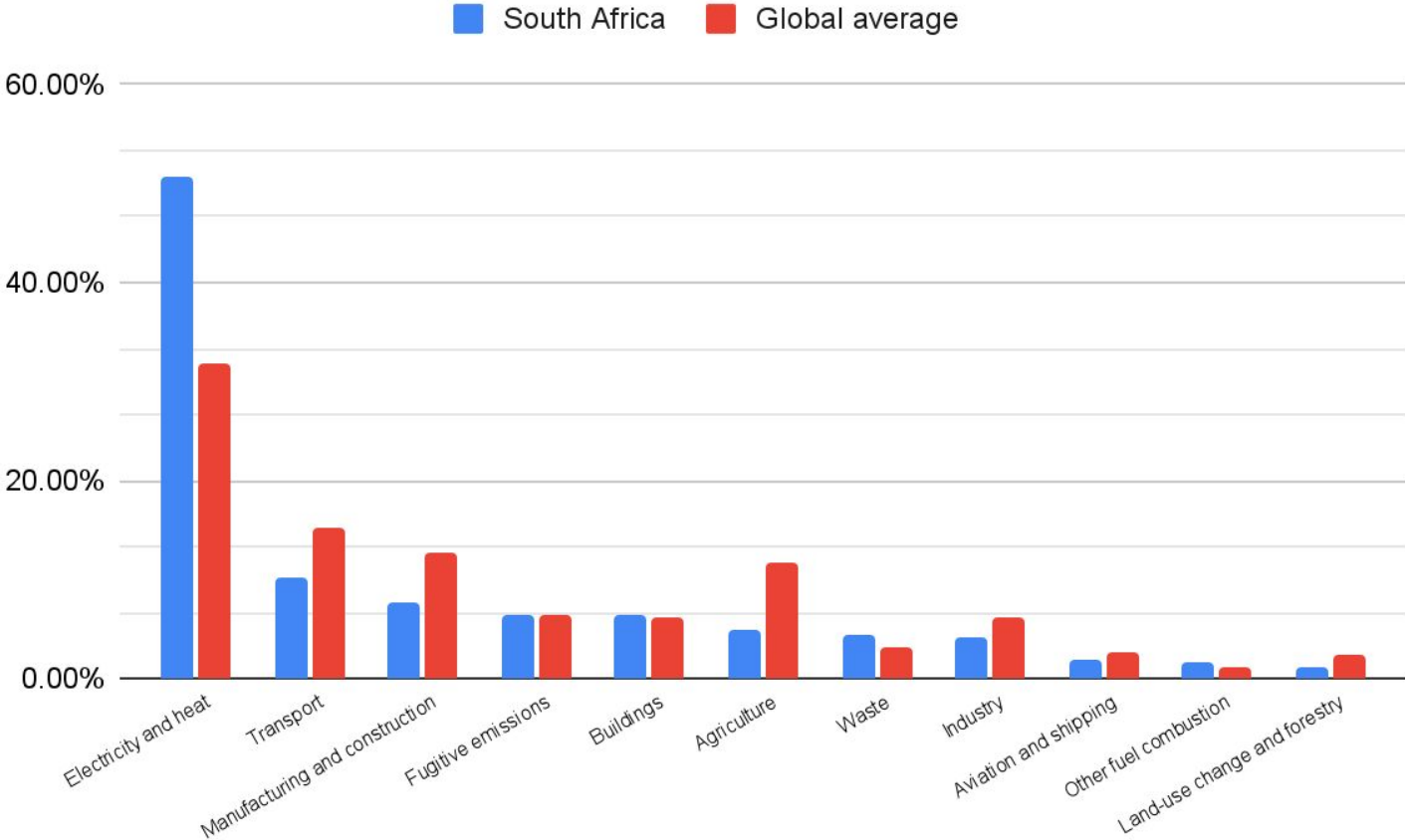
- A. 3.9
- B. 1.8
- C. 1.0
- D. 0.6



How much more water does almond milk require to produce compared to cow's milk?



“A vegan diet is probably the single biggest way to reduce your impact on planet Earth, not just greenhouse gases, but global acidification, eutrophication, land use and water use.”





What - Measure, algorithms, PyPy
Where - Server regions, user devices
Who - Estimate, start with biggest



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Thank you

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