

# Energy costs of ChatGPT

## The hidden impact

Welcome to our “Transforming your digital footprint” series. In our last post, we discussed the energy consumption of summer streaming marathons. Today, we’re exploring another common digital activity – using AI chatbots like ChatGPT.

AI chatbots have become integral to our daily digital interactions, providing instant answers and enhancing user experiences across platforms. But have you ever wondered how much energy is consumed during these seemingly simple conversations? Let’s dive into the surprising energy costs and discover some easy ways to make our digital habits more eco-friendly.

### Sneaky costs of ChatGPT

AI chatbots are changing online interactions, but they come with energy costs. Here’s where the energy goes:

- Data centres – ChatGPT relies on powerful data centres. These centres house servers that process data and require constant cooling, consuming a lot of electricity. On average, data centres use 1.8 litres of water for every kWh they consume.
- Computational power – Running AI models like ChatGPT needs a lot of computational power. Each time you ask a question, the system goes through complex calculations to provide an accurate response. This process uses a considerable amount of energy.
- Networks – Transferring data from data centres to your device also uses a lot of energy. This process involves a network of routers and transmission lines that all need electricity to function. Every time you interact with an AI like ChatGPT, data travels across this network, consuming energy along the way.

### Digital carbon footprint

According to research by Alex de Vries, a data scientist at the Dutch National Bank, ChatGPT consumes up to 17,000 times the daily electricity usage of an average U.S. household and requires about one bottle of water per query for cooling.

Each query you make to ChatGPT uses approximately 0.0025 kilowatts of electricity. If you interact with ChatGPT 100 times a day, you could be using around 0.25 kilowatts daily. Over a month, that’s around 7.5 kilowatts just through your AI usage.

To put this into perspective, the energy consumption of frequent ChatGPT use for a day is equivalent to:

- Microwave oven – Running a microwave oven for about 15 minutes
- Refrigerator – Running an average refrigerator for about 5 hours
- Laptop charging – Charging a laptop about 5 times
- Electric car – Driving an electric car for about 1.5 miles

## How to reduce energy impact

- Use AI wisely – Limit the use of AI chatbots. Not every question needs to be asked to an AI. For example, instead of daily weather updates from ChatGPT, use a weather app.
- Choose green AI providers – Select AI services from companies that use renewable energy. Look for providers that power their data centres with solar or wind energy, like Google, Amazon Web Services or even Fasthosts ProActive!
- Fine tune your prompt – When used for writing or for business, whatever you're asking AI to create, instead of asking 'Write a blog post on X' give GPT more context such as the word count, the tone of voice you'd like it to use, the number of headings, etc.. With a better prompt, you can ensure the answer is what you want without the need for further adjustments.
- Consolidate your questions – Combine multiple questions into one. For example, instead of asking, "What is the weather today?" and then "Will it rain?", ask, "What is the weather forecast for today, including rain chances?"

Our digital habits impact the environment. By adopting sustainable practices, we can reduce our digital carbon footprint.



At Fasthosts ProActive, sustainability is at the forefront of our mission to reduce energy consumption. Our data centres incorporate a variety of green technologies, run entirely on renewable energy, and hold ISO 50001 certification for energy management. You can learn more about our eco-friendly practices here.

Let's create a sustainable digital future together!