

MCP SERVER

NO CODE

CLOUD HOSTED

Shower Water Calculator MCP for AI Agents

Calculate Resource Consumption and Utility Costs of Daily Showers

The Shower Water Calculator helps you track, analyze, and lower the environmental impact of your daily showers. It calculates total water consumption in liters, estimates utility costs for your home, quantifies carbon emissions (CO₂e), and checks your usage against global sustainability benchmarks. This MCP gives AI agents precise data so you can make measurable changes to reduce waste.

A+ Quality Score 100/100

water-usage

carbon-footprint

cost-estimation

sustainability-benchmark

resource-management



The connectivity layer between AI and the world's software.



Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Shower Water Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Understanding where household resources go is the first step toward changing them. This connector lets your AI client analyze everything from shower duration to water flow rate, giving you a clear picture of your environmental and financial footprint. Instead of guessing, you get hard data on total liters used, how much that impacts your utility bill, and exactly what your carbon emission count looks like. You can even check your usage against the UN's 5-minute sustainability benchmark to see where improvements are needed.

Getting this information is easy with Vinkius; we host this MCP right alongside thousands of others, so you connect once and gain access to accurate resource management data for your home.

Core Capabilities

01 — Calculate total water usage and benchmark status

Determines the precise amount of water used during a shower session and compares that duration to recognized sustainability standards.

03 — Quantify carbon emissions from water use

Converts total water liters into an estimated carbon dioxide equivalent (CO₂e) footprint, showing its environmental cost.

02 — Estimate utility costs for consumption

Calculates how much money your household will spend based on measured water usage rates.

04 — Generate a full usage report

Compiles all data points—usage, cost, and emissions—into one comprehensive summary for easy review.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/mcp/shower-water-calculator — connect your AI agent in three steps.

- 01 Tell your AI agent the details of your shower session, including duration (minutes) and flow rate (liters per minute).
- 02 The MCP processes this input to calculate total consumption, then independently estimates both the associated utility costs and the carbon emissions.
- 03 You receive a final summary report showing liters used, money spent, CO2e generated, and if you passed the sustainability benchmark.

The bottom line is that your AI client takes raw usage data and converts it into actionable metrics: cost, environmental impact, and efficiency scores.

Built For

Anyone focused on reducing their household's ecological footprint needs this. It's perfect for homeowners aiming to save money while being green, or sustainability consultants running audits for clients who want quantifiable data.

Eco-Conscious Homeowner

Uses the MCP to track their daily water use and compare it against sustainable benchmarks to find immediate ways to cut consumption.

Sustainability Consultant

Runs client audits, generating detailed reports that quantify both the utility costs and carbon footprint of current resource usage patterns.

Property Manager

Uses the data to benchmark water efficiency across multiple properties, identifying which units are significantly above sustainable consumption limits.

What Changes When You Connect

- 01 You immediately see the total utility cost associated with your shower, thanks to `estimate_cost`, so you know exactly where your money goes.

- 02 The MCP tells you if your usage exceeds the global 5-minute sustainability benchmark using `calculate_consumption`, giving you clear goals for change.

- 03 It moves beyond liters by calculating your carbon footprint (CO₂e) via `calculate_emissions`, which is essential for true environmental accountability.

- 04 Instead of juggling three different numbers, the `get_shower_summary` compiles everything into one clean report: usage, cost, and emissions all in one place.

- 05 By knowing these metrics, you can make specific changes—like reducing shower time or optimizing flow rate—that result in measurable savings.

Real-World Applications

Running a Home Efficiency Audit

A homeowner asks their agent: 'I need to know the full environmental cost of my morning routine.' The agent runs `calculate_consumption` to check against benchmarks, then uses `estimate_cost` and `calculate_emissions` to give them three hard numbers for water waste.

Calculating Travel Footprint for Clients

A sustainability consultant asks: 'What is the carbon impact of this hotel's plumbing?' The agent uses `calculate_emissions` to quantify the CO₂e, providing hard data for a client pitch.

Comparing Water Usage Across Units

A property manager needs to identify wasteful units. They feed data into the MCP to run a comparison, using `get_shower_summary` to generate comparative reports showing which properties are far above sustainable limits.

Budgeting for Utility Upgrades

A family plans to install low-flow fixtures. They ask the MCP to model the savings: the agent uses `estimate_cost` to project annual money savings based on reduced usage metrics.

Patterns to Avoid

Ignoring the benchmark status

✗ AVOID

Thinking that using less water just means less cost. You might cut back, but still not know if you've met global sustainability targets.

✓ INSTEAD

Always run ``calculate_consumption`` first to check against the UN 5-minute benchmark. This ensures your savings are truly sustainable, not just incidental.

Focusing only on money

✗ AVOID

Running a calculation that only shows dollars saved but completely ignores the environmental impact, leading to incomplete data.

✓ INSTEAD

Combine ``estimate_cost`` with ``calculate_emissions``. This provides both the financial and ecological picture, giving you complete accountability.

Over-relying on manual math

✗ AVOID

Trying to manually multiply flow rate by time, risking calculation errors or forgetting the emissions factor in the process.

✓ INSTEAD

Use ``get_shower_summary``. It takes all your inputs and handles the complex calculations for consumption, cost, and carbon footprint automatically.

The Right Fit

Use this MCP if you need to quantify resource waste. Specifically, connect it when you must calculate three things simultaneously: usage volume, direct utility expenditure, and CO2e emissions. If your goal is simply to track consumption over time without needing financial or environmental metrics, a basic metering tool might suffice. However, if you are trying to prove sustainability—whether for a client audit or personal savings plan—this MCP is necessary because it combines the data from `calculate_consumption`, `estimate_cost`, and `calculate_emissions` into one comprehensive view. Don't use this if you only care about water pressure; focus instead on usage metrics.

Shower Water Calculator: Quantifying Utility Costs and Emissions

Right now, tracking water waste is a messy process. You might check your utility bill for the total volume used, then separately look up local cost rates to estimate dollars spent. To figure out your carbon footprint, you have to jump onto another site and manually calculate emissions based on liters—it's time-consuming, error-prone, and gives you three separate data points that don't talk to each other.

With this MCP, the process is instant. You input the basic shower details, and the system instantly provides a combined report. You get one number for total consumption, another for dollars spent, and yet another for CO₂e—all calculated accurately in one go.

Shower Water Calculator: Benchmarking Sustainability Performance

Before this MCP, figuring out if your routine was actually sustainable meant knowing the UN 5-minute benchmark by heart and hoping your manual calculation matched. You'd spend time cross-referencing multiple guidelines to determine if you were doing enough to help the planet.

Now, whether through `calculate_consumption` or the full summary report, you get an immediate pass/fail status against global sustainability standards. It's instant feedback that tells you exactly what you need to change.

4 Shower Water Calculator Tools for Tracking Consumption Metrics

These tools let you calculate resource usage, estimate money spent on water, and measure the resulting carbon emissions from shower sessions.

#	TOOL	DESCRIPTION
01	<code>estimate_cost</code>	Calculates how much money is spent based on the total liters of water used.
02	<code>calculate_consumption</code>	Determines the exact volume of water consumed and checks if that duration meets sustainability goals.
03	<code>calculate_emissions</code>	Provides an estimate of the carbon emissions generated by a specific amount of water usage.
04	<code>get_shower_summary</code>	Compiles all calculated data—usage, cost, and emissions—into a single, comprehensive report.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What is the environmental impact of my 12-minute shower this morning?



Shower Usage Analysis Report

- **Duration:** 12 minutes
- **Flow Rate:** 9 liters/min
- **Total Consumption:** 108 Liters

⚠ Warning: This duration exceeds the UN sustainability benchmark. You are significantly above the recommended limit.

Estimated Cost: \$0.21

CO₂e Footprint: 54g

U Calculate the cost and emissions for a family of four using water today.



Daily Water Audit

METRIC	VALUE
Total Liters Used	350 L
Estimated Cost	\$0.70
Carbon Emissions (CO ₂ e)	175g

To reduce cost and emissions, consider installing low-flow showerheads to cut consumption by at least 20%.

U Give me a summary of my water use for the last week.



Weekly Water Summary

Over the past seven days, your usage metrics are:

- **Average Daily Usage:** 85 Liters.
- **Total Cost:** \$1.70 (down from a high of \$2.15 last week).
- **Carbon Savings:** You saved an estimated **110g CO2e** by reducing your average shower length to 8 minutes.

Frequently Asked Questions

01 How does the Shower Water Calculator help me save money?

It helps you save money by giving you a clear estimate of utility costs (`estimate_cost`) based on your actual usage. By knowing this number, you can pinpoint exactly where reducing consumption will lead to measurable financial savings.

02 Can I use the Shower Water Calculator to check my carbon footprint?

Yes, it quantifies your environmental impact using `calculate_emissions`. It translates your water usage into specific grams of CO2e, helping you track and reduce your overall carbon output.

03 What is the sustainability benchmark I should aim for?

The MCP checks your duration against the UN's 5-minute standard using `calculate_consumption`. If your shower exceeds this time, the tool tells you that you are above recommended sustainable limits.

04 Does the Shower Water Calculator report include everything I need?

The full summary feature compiles all metrics—usage volume, money cost, and carbon emissions—into one comprehensive report. You don't have to piece together three separate numbers; you get them all at once.

05 Is this useful for property management or commercial buildings?







Absolutely. Property managers can use the MCP to benchmark water usage across multiple units, identifying patterns and high-waste areas that need attention, making resource reports highly accurate.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"shower-water-calculator": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  **Ask ChatGPT** 
-  **Ask Claude** 
-  **Ask Perplexity** 
-  **Ask Gemini** 
-  **Ask Grok** 

READY TO CONNECT

Shower Water Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

[Start at cloud.vinkius.com](https://cloud.vinkius.com) →

vinkius.com · support@vinkius.com

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