

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Electric Vehicle Charge Cost Calculator MCP

Get precise data on your EV charging expenses and efficiency.

Electric Vehicle Charge Cost Calculator MCP gives your AI client the math skills to handle EV finances. It calculates the cost of single charging sessions, determines your cost per kilometer, projects monthly budgets, and compares home versus public charging rates to help you make better decisions about your electric vehicle ownership.

A+ Quality Score 100/100

ev

charging

cost-calculator

electric-vehicle

energy



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.

Electric Vehicle Charge Cost Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Managing the costs of an electric vehicle shouldn't involve messy spreadsheets or manual math. This MCP gives your AI agent the specific tools needed to handle the financial side of EV ownership. You can ask your agent to figure out exactly what a single charge will cost you, including taxes and energy losses, or find out how much you're spending for every kilometer you drive. If you're trying to plan your monthly spending, your agent can run projections based on your current habits. You can even use it to decide if it's cheaper to charge at home or at a public station by comparing different energy tariffs. It turns your AI client into a specialized financial assistant for your EV.

Core Capabilities

01 — Single Session Math

Your agent calculates the exact price of a charge including taxes and energy losses.

02 — Distance Efficiency

The AI determines your cost per kilometer based on your specific vehicle efficiency.

03 — Budget Planning

Your agent projects monthly energy spending based on your charging frequency.

04 — Tariff Comparison

The AI compares home and public charging rates to find the cheapest option.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/electric-vehicle-charge-cost-calculator — connect your AI agent in three steps.

- 01

Connect the MCP to your client like Claude or Cursor via Vinkius.
- 02

Provide your vehicle efficiency or charging session details to your agent.
- 03

The agent uses the specific tools to run the math.
- 04

Receive precise cost, distance, or budget data in your chat interface.

Connecting this MCP to your AI client gives your agent immediate access to EV financial tools.

Built For

This MCP is built for anyone managing the transition to electric mobility and looking for precise financial data.

EV Owners

Users who want to track their actual driving costs and monthly energy spend.

Fleet Managers

Professionals who need to project costs for multiple vehicles and compare charging locations.

Financial Planners

Analysts looking to model the cost-effectiveness of electric vehicle adoption.

What Changes When You Connect

- 01

Eliminates manual calculations for energy losses and taxes.
- 02

Provides clear comparisons between different charging locations.

- 03** Turns raw energy data into actionable monthly budget projections.
-

Real-World Applications

Daily Commute Costing

Calculate exactly how much your daily drive costs based on your car's Wh/km rating.

Home vs Public Decision

Determine if it is cheaper to wait to charge at home or use a public station now.

Monthly Budgeting

Predict your upcoming electricity bill based on your typical charging sessions.

Single Charge Totals

Get the final price of a charge session including all hidden fees and losses.

Patterns to Avoid

Ignoring energy losses

❌ AVOID

You ask your agent to calculate a charge cost based only on the battery capacity and the electricity rate.

✓ INSTEAD

Always account for heat and conversion losses. Use ``get_session_cost`` to get a total that includes those hidden energy losses and taxes.

Vague distance math

❌ AVOID

You try to guess your monthly fuel savings by multiplying your mileage by a generic energy price.

✓ INSTEAD

Use your specific vehicle's Wh/km rating. Run ``get_distance_cost`` to get an accurate cost for the exact distance you drive.

Ignoring tariff differences

❌ AVOID

You assume charging at a public station is always more expensive than home charging without checking current rates.

✓ INSTEAD

Compare your specific energy plans. Use ``get_tariff_comparison`` to see if the convenience of a public station outweighs the cost.

The Right Fit

Connect this MCP if you need to turn vehicle efficiency data into actual dollar amounts for budgeting or fleet planning. Do not connect it if you only want to track battery health or vehicle maintenance. The decision rests on whether you need to model the financial impact of driving an EV.



Electric Vehicle Charge Cost Calculator 4 Tools

These tools handle the math for EV energy costs, distance efficiency, and monthly budget forecasting.

#	TOOL	DESCRIPTION
01	get_distance_cost	This tool calculates the cost of traveling a specific distance based on your vehicle's efficiency.
02	get_monthly_projection	Use this to estimate your total monthly budget for EV charging.
03	get_session_cost	This tool finds the total financial cost for a single charging event, accounting for taxes and losses.
04	get_tariff_comparison	This tool compares the cost-effectiveness of home charging against public stations for your energy needs.

See It in Action

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

U How much will it cost to add 50kWh to my EV if the rate is \$0.25/kWh, with a 10% loss and 5% tax?



The total cost for this charging session is \$14.44.

U If a session costs \$12 and I added 40kWh, and my car uses 150Wh/km, what is my cost per km?



The cost per kilometer is \$0.45.

U I charge 10 times a month at an average cost of \$8 per session. What is my monthly projection?



Your estimated monthly cost is \$80.00, with a daily average of \$2.67.

Frequently Asked Questions

01 How does this MCP handle energy loss during charging?

The `get_session_cost` tool specifically accounts for energy losses to give you a realistic total cost.

02 Can I compare different charging stations?

Yes, the `get_tariff_comparison` tool lets you compare the cost-effectiveness of home versus public charging.

03 What clients can I use this with?

You can use this with any MCP-compatible client, including Claude, Cursor, Windsurf, and VS Code.

04 Does this calculate cost per kilometer?

Yes, the `get_distance_cost` tool calculates exactly how much it costs to travel a specific distance.

05 Can I use this for monthly budgeting?

Yes, the `get_monthly_projection` tool estimates your total monthly budget for EV charging.

06 How does the tool account for energy loss?

The `'get_session_cost'` tool uses an efficiency loss factor to account for the extra energy drawn from the grid that is lost as heat during the charging process.

07 Can I compare home and public charging costs?

Yes, you can use the `'get_tariff_comparison'` tool to compare the total cost of charging at home versus using a public station for a specific energy requirement.

08 How do I estimate my monthly EV spending?

You can use `'get_monthly_projection'` by providing the average cost of a session and how many times you charge per month.

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>"electric-vehicle-charge-cost-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

Electric Vehicle Charge Cost 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 →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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