

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

Flare Minimization Analysis MCP

Turn wasted gas volumes into measurable economic value.

Flare Minimization Analysis MCP gives your AI client the technical tools to evaluate industrial gas flaring. You can determine the energy content of specific gas streams, calculate how much gas you can actually save, and convert those recovered volumes into real dollar amounts. It also helps you rank different mitigation projects so you know where to put your engineering focus first.

A+

Quality Score 100/100

flare-reduction

gas-recovery

emissions-analysis

economic-modeling

oil-and-gas



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.

Flare Minimization Analysis MCP

4 tools available

Cloud-hosted on Vinkius

You can use this MCP to turn raw flaring data into actionable engineering and financial insights. Instead of manually calculating the energy density of gas streams or guessing the ROI of a recovery project, you let your agent handle the math. You provide the chemical composition or the current flare volumes, and the MCP returns the specific energy content, potential savings, and projected monetary gains.

This is built for industrial operations where gas flaring is a significant cost and environmental factor. You can use it to identify the root causes of gas loss and quantify exactly how much volume can be diverted back into sales pipelines. Once you have the data, you can use the prioritization tools to decide which capital projects will yield the highest return. It moves you from simply monitoring waste to actively managing recovery opportunities through your AI client.

Core Capabilities

01 — Gas Composition Analysis

Your agent uses this to find the energy density of specific gas streams.

02 — Volume Recovery Estimation

The AI calculates how much gas can be diverted from the flare based on identified causes.

03 — Financial Modeling

Your agent converts gas volumes into specific monetary values.

04 — Project Ranking

The AI organizes mitigation projects by their potential impact to guide your decisions.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/flare-minimization-analysis — connect your AI agent in three steps.

- 01 Connect your preferred client like Claude or Cursor to Vinkius.
- 02 Provide gas composition or volume data to your agent.
- 03 The agent uses the MCP tools to run the specific calculations.
- 04 Review the energy content, savings, or economic value returned by the agent.

You connect the MCP to your AI client and start asking technical questions about your gas data.

Built For

This MCP is designed for professionals in the oil and gas or industrial energy sectors who need to manage gas waste. You can hand off complex chemical and volumetric calculations to your agent.

Process Engineer

You use the MCP to analyze gas stream properties and identify technical causes for flaring.

Operations Manager

You use the tool to prioritize which equipment or process changes will reduce flare volumes most effectively.

Financial Analyst

You use the economic tools to turn technical gas recovery data into budget-ready financial projections.

What Changes When You Connect

- 01 Converts chemical composition data into energy content metrics.
- 02 Turns gas volume savings into specific dollar amounts.

-
- 03** Ranks mitigation projects to guide capital allocation.
-
- 04** Identifies the gap between current flaring and potential recovery.
-

Real-World Applications

Capital Allocation

Use the prioritization tool to decide which flare reduction project deserves the most funding.

Economic Justification

Turn technical gas recovery estimates into a business case for new equipment.

Operational Auditing

Analyze current flare volumes to find where the most significant gas losses are occurring.

Gas Quality Assessment

Check if the energy content of a specific gas stream meets sales pipeline requirements.

4 Tools Available

#	TOOL	DESCRIPTION
01	analyze_flare_composition	This tool calculates the energy content of a gas stream by looking at its chemical makeup. It tells you the specific properties of the gas you are flaring.
02	calculate_reduction_potential	Use this to find out how much gas you can actually save. It looks at current flare volumes and the root causes of the flaring to give you a realistic recovery number.
03	evaluate_economic_value	This tool converts recovered gas volumes into a dollar amount. It translates physical gas savings into a clear financial metric.
04	prioritize_opportunities	This tool ranks your different reduction projects. It helps you decide which engineering or capital projects to tackle first based on their potential impact.

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 energy content of a gas stream with C1: 95%, C2: 3%, C3: 2%?



The energy content is 42.5 MJ/m3 and the composition is suitable for standard sales pipelines.

U If I flare 1000 units of gas due to equipment failure with a 0.8 efficiency, how much can I recover?



You can recover 800 units of gas, leaving 200 units as unavoidable flare.

U Calculate the value of 500 units of gas if the price is \$2.50 per unit.



The total economic value of the captured gas is \$1250.00.

Frequently Asked Questions

01 What can this MCP do for gas flaring analysis?

It provides tools to analyze gas composition, calculate how much gas can be recovered, determine the economic value of that gas, and rank different reduction projects.

02 Which AI clients can I use with this MCP?

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

03 How does it help with project prioritization?

The `prioritize_opportunities` tool ranks different mitigation projects so you can focus engineering and capital resources on the most impactful areas.

04 Can I calculate the money saved from gas recovery?

Yes, the `evaluate_economic_value` tool translates recovered gas volumes into specific monetary terms.

05 Do I need to host the MCP myself?

No, Vinkius hosts and manages the MCP for you. You just connect your client and start working.

06 How can I determine if a gas stream is suitable for recovery?

You can use the `analyze_flare_composition` tool to check the chemical makeup and energy content of the gas.

07 How do I rank multiple reduction projects?

Use the `prioritize_opportunities` tool to rank projects based on their economic value and implementation difficulty.

08 Can I calculate the monetary value of captured gas?

Yes, the `evaluate_economic_value` tool calculates the total monetary value based on the recoverable volume and market price.

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>"flare-minimization-analysis": { "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

Flare Minimization Analysis 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

INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by Flare Minimization Analysis. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

DOCUMENT INFORMATION

Generated	September 2026
MCP Server	Flare Minimization Analysis MCP
Server ID	01a094ea-c42c-7122-8c42-c2ac7052371c
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/en/ai-agent-connect/flare-minimization-analysis.