MCP SERVER | NO CODE | CLOUD HOSTED

Nord Pool MCP

Analyze cross-border European electricity flows instantly.

Nord Pool connects your AI client directly to the heart of European energy trading. It lets you query real-time day-ahead electricity prices, track cross-border power flows, and analyze auction volumes across 16 countries instantly.

A+ Quality Score 100/100

electricity-market | energy-trading | price-forecasting | market-data | utility-analytics

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vinkius.com/mcp/nord-pool

SCAN TO VIEW

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.

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.

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.

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	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	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.

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.

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.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken 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.

Agent Activity

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

FinOps

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

Tool Health

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

Firewall & DLP

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

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.

Nord Pool MCP

10 tools available
Cloud-hosted on Vinkius

You need a clear picture of what's happening in Europe's electric grid without opening ten different dashboards. This MCP gives your agent access to Nord Pool, the region's leading exchange for electricity market data. You can ask complex questions about energy flows and prices—like comparing auction volumes between Denmark and Germany from year to year—and get accurate answers instantly.

Forget manually exporting CSV files or flipping through specialized terminals. Through Vinkius, your AI client treats this whole system like a natural conversation. Whether you're predicting load requirements using consumption forecasts or needing the latest transmission capacity numbers, everything is available in one place. Your agent becomes a real-time energy market analyst right inside your chat window.

Core Capabilities

01 — Analyze day-ahead pricing

Get clearing prices for major European bidding zones for specific dates and currencies.

02 — Track cross-border energy movements

Check the scheduled physical flows of power between two interconnected regions.

03 — Forecast power consumption

Predict expected electricity load for a specific area, which drives planning and trading strategies.

04 — Determine market capacity limits

Find out the maximum available transmission capacity between two zones based on market coupling rules.

05 — Review historical pricing trends

Compare aggregated auction prices or volumes across multiple years for long-term planning.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/nord-pool** — connect your AI agent in three steps.

01 Subscribe to the Nord Pool MCP on Vinkius and enter your unique API Client ID and Secret.

02 Your AI client authenticates with these credentials, granting it access to live European market data tools.

03 You simply ask questions using natural language—like 'What are the prices for NO1 vs SE3 tomorrow?'—and get immediate, structured results.

The bottom line is you direct your agent's attention to complex energy data without needing to write code or switch applications.

Built For

Energy traders and portfolio managers who wake up frustrated by manual data aggregation. You need a single source of truth for cross-border market dynamics, not a dozen dashboards.

Commodity Trader

Uses the MCP to instantly compare day-ahead clearing prices and track scheduled physical flows across multiple European zones to inform intraday positions.

Energy Portfolio Manager

Compares year-over-year price trends or analyzes historical auction volumes for different bidding zones without leaving the conversation.

Grid Operations Analyst

Accesses consumption forecasts and transmission capacities to ensure operational planning aligns with predicted load requirements.

What Changes When You Connect

01 Get immediate pricing intelligence. Using the `get_day_ahead_prices` tool, you can pull 15-minute clearing prices for major zones like NO1 and SE3 to compare market spreads in seconds.

02 Forecasting is simplified. Instead of guessing load needs, running `get_consumption_forecasts` gives your agent reliable estimates of expected consumption, helping shape trading models.

03 Understand grid limits instantly. The `get_transmission_capacities` tool tells you the hard physical limits between zones, which is critical for knowing if a trade is even possible.

04 Compare performance over time. You can use `get_yearly_prices` and `get_yearly_volumes` to analyze multi-year trends across different bidding areas without complex database queries.

05 Visualize scheduled transfers. By running `get_scheduled_physical_flows`, you see exactly how much power is planned to move between two regions, complementing the day's auction results.

Real-World Applications

Assessing Interconnectors

A portfolio manager needs to know if a cross-border trade is viable. They ask their agent to check both `get_transmission_capacities` and `get_scheduled_physical_flows` between two zones, immediately seeing the available physical capacity versus the planned flow.

Yearly Market Comparison

A research team wants to model long-term market shifts. They use `get_yearly_prices` and compare Finland's historical price trends against Lithuania's, generating a quick report on regional cost convergence.

Pre-Trade Planning

A trader needs to position for the next quarter. They run `get_consumption_forecasts` and then cross-reference those predicted loads with available capacity using `get_flow_based_constraints` to hedge risks.

Verifying Data Access

Before starting a major analysis, the user runs `get_user_subscriptions`. This confirms if their current credentials have access to the specific data product they need, preventing hours of failed queries.

Patterns to Avoid

Treating it like general weather data

✗ AVOID

Asking for 'the average electricity price' without specifying a zone, date, or unit. The agent won't know which market you mean.

✓ INSTEAD

Always specify the scope. Use `get_day_ahead_prices` and list specific codes (e.g., NO1, SE3) along with the required date format to get accurate results.

Confusing flow limits with physical transfers

✗ AVOID

Assuming that because a region has high auction volumes, it means unlimited physical capacity is available.

✓ INSTEAD

Check both `get_auction_volumes` for market depth and use `get_flow_based_constraints` or `get_transmission_capacities` to understand the actual allowed technical limits.

Forgetting data scope

✗ AVOID

Asking for a year-over-year comparison without specifying the exact bidding zones (e.g., just saying 'Baltic states').

✓ INSTEAD

Use `get_yearly_prices` and list the specific, standardized zone codes you need to ensure apples-to-apples comparisons.

The Right Fit

You should use this MCP if your work involves cross-border energy analysis—specifically, when you must correlate pricing with physical capacity or predict consumption across multiple European zones. If your job requires analyzing complex commodity movements (like gas or oil), this tool isn't for you. Don't use it if you only need simple historical data; while `get_yearly_prices` helps, dedicated financial databases might offer more granular index tracking. Use this when the relationship between price, flow, and capacity is paramount. If your core task is simply to write a report summarizing company financials, stick to general document retrieval tools instead.

The Pain of Cross-Border Energy Data

Today, assessing the true cost and viability of cross-border power trades requires navigating multiple vendor dashboards. You open one tab for auction volumes, switch to another for transmission capacity limits, and a third just for consumption forecasts. Copying data from these disparate sources into a single spreadsheet is tedious, error-prone, and takes hours.

With this MCP, the process collapses into conversation. Instead of opening three tabs and manually compiling data points, you simply ask your agent to compare available transmission capacity alongside forecasted load needs. You get a clean summary that tells you exactly what the market can handle right now.

Accessing Nord Pool Data with `get_day_ahead_prices`

Manually checking day-ahead pricing involves logging into the exchange portal, selecting multiple zones (NO1, SE3, DE-LU), choosing a date, and then running the query for each combination. If you need to compare prices across 5 different zones, you repeat that process five times.

Now, your agent handles it all in one prompt. You ask for day-ahead clearing prices for multiple zones and dates using `get_day_ahead_prices`. The result is a structured comparison, allowing instant analysis of regional price differences.

Nord Pool: 10 Tools for Energy Market Analysis

These ten tools give you granular control over energy trading data, letting you query specific market volumes, capacity limits, prices, and consumption forecasts from across Europe.

#	TOOL	DESCRIPTION
01	`get_auction_flows`	Retrieves the scheduled energy exchange amounts between a source and destination area for a given date.
02	`get_auction_volumes`	Gets the total cleared energy quantity per market time unit for specified delivery areas on a specific day.
03	`get_transmission_capacities`	Calculates the maximum available power transfer capacity between two interconnected zones, factoring in daily limits.
04	`get_consumption_forecasts`	Predicts expected electricity consumption for a delivery area, critical for both production planning and trading strategy.
05	`get_day_ahead_prices`	Pulls the day-ahead clearing prices in 15-minute intervals for multiple European bidding zones.
06	`get_flow_based_constraints`	Retrieves defined limits on allowable power transfers within specific regional market coupling domains (Core, Nordic).
07	`get_scheduled_physical_flows`	Shows the planned physical electricity transfers, covering both commercial exchanges and loop flows between two areas.
08	`get_user_subscriptions`	Verifies which specific data products (like day-ahead or intraday) are available to your current API account credentials.
09	`get_yearly_prices`	Gathers aggregated annual auction prices for a delivery area, useful for long-term trend comparison.
10	`get_yearly_volumes`	Retrieves aggregated yearly auction volumes to analyze annual energy usage and trading patterns in an area.

See It in Action

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

U What are the day-ahead electricity prices for Norway zone NO1 and Sweden zone SE3 for tomorrow?

I have retrieved the day-ahead clearing prices for NO1 and SE3. Norway NO1 shows an average of 42.15 EUR/MWh with a peak at 67.80 EUR/MWh between 17:00-18:00. Sweden SE3 averages 39.20 EUR/MWh, with converging prices in off-peak hours. The spread between zones is approximately 2.95 EUR/MWh. Would you like me to also pull the transmission capacity between NO1 and SE3?

U Show me the cross-border transmission capacity from Denmark DK1 to Germany DE-LU for today.

Here is the Available Transmission Capacity (ATC) from DK1 to DE-LU. The interconnector shows 1,700 MW of available capacity during off-peak hours and drops to 1,200 MW during peak demand between 08:00-20:00. The capacity utilization rate is running at approximately 78%. Shall I overlay the actual auction flows for the same corridor so you can compare scheduled transfers against available capacity?

U Compare the yearly electricity prices for Finland and the Baltic states for the last two years.

I have pulled the yearly aggregate data for four zones. Finland (FI): 2024 averaged 51.30 EUR/MWh, 2025 dropped to 43.80 EUR/MWh (-14.6%). Estonia (EE): dropped from 62.10 to 48.90 EUR/MWh (-21.3%). Latvia (LV): from 59.40 to 47.20 EUR/MWh. Lithuania (LT): from 58.80 to 46.50 EUR/MWh. All Baltic zones converged closer to Finnish levels over the period. Shall I also get the corresponding volume data to see if consumption patterns shifted?

Frequently Asked Questions

01 **How often can I check cross-border flows with Nord Pool MCP?**

Theoretically, you can run the `get_scheduled_physical_flows` tool whenever you need to confirm planned power transfers. The data reflects scheduled exchanges determined during the market coupling process.

02 **Can I compare prices for multiple zones using get_day_ahead_prices?**

Yes, the `get_day_ahead_prices` tool supports passing multiple European bidding zone codes separated by commas. This lets you run a single query across several regions simultaneously.

03 **What is the difference between get_auction_volumes and get_scheduled_physical_flows?**

Volumes show the total energy quantity that was cleared in an auction (`get_auction_volumes`). Flows track the *planned* physical movement of power between zones, regardless of the final traded volume.

04 **Do I need to know my API subscription first? (Using get_user_subscriptions)**

It's highly recommended. Running `get_user_subscriptions` first confirms which data products are available under your account, preventing wasted queries and immediate errors.

05 **What is the best way to check long-term trends with Nord Pool MCP?**

Use the annual tools like `get_yearly_prices` or `get_yearly_volumes`. These aggregate data, making it simple to compare price changes across multiple years without querying every single day.

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 `"nord-pool": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → 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

Nord Pool 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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