

GRIDLY

PEER-TO-PEER ENERGY TRADING PLATFORM FOR RESIDENTIAL SOLAR OWNERS

SAMPLE REF	SMP_GRIDLY	SUBMITTED	2026.02.24
DOMAIN	ENERGY / CLEANTECH / P2P	STATUS	ANALYSIS COMPLETE
ANALYST	ASSAY AI – 5 AGENTS	DURATION	8 MIN 42 SEC
TARGET	EU – DACH + NORDICS	SPECS	3/3 GENERATED

READING SCORE

71
/100

VIABLE

<small>MARKET</small> 82 _{/100}	<small>COMPETITION</small> 55 _{/100}	<small>TECHNICAL</small> 74 _{/100}	<small>REGULATORY</small> 58 _{/100}	<small>BUSINESS</small> 78 _{/100}
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Strong market timing. EU energy transition creates a €340B opportunity. Residential solar capacity growing 28% YoY. P2P trading is technically proven (blockchain optional) but **regulatory fragmentation across EU member states** is the primary risk. Competition is emerging but no dominant player in residential P2P. Unit economics are strong once critical mass is reached. **Proceed to specification with focus on regulatory-first GTM.**

0–39 VOLATILE 40–69 CAUTION 70–100 VIABLE

EXECUTIVE SUMMARY

GRIDLY enables residential solar panel owners to sell surplus energy directly to neighbors via a digital marketplace, bypassing traditional utility intermediaries. The platform handles metering, billing, and settlement in real-time.

The EU Energy Community Directive (2019/944) explicitly mandates member states to enable peer-to-peer energy trading, creating a **regulatory tailwind** unique in cleantech. Germany's §42a EnWG (2024) and Austria's EAG (2021) have already transposed this – providing **two validated launch markets**.

Primary risk: each member state implements the directive differently, requiring market-by-market compliance work. The window is **2026–2028** – after which incumbents will have built or acquired their way into this space.

MARKET ANALYSIS

ADDRESSABLE MARKET

TAM €340B EU DISTRIBUTED ENERGY	SAM €18B P2P ENERGY TRADING	SOM €240M DACH + NORDICS Y3	CAGR 34% 2024–2030 PROJECTED
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GROWTH DRIVERS

- + EU Energy Community Directive mandating P2P trading enablement
- + Residential solar installations: 52GW installed EU (2025), +28% YoY
- + Electricity price volatility driving consumer interest in alternatives
- + Smart meter rollout: 77% household penetration in target markets by 2027
- + Grid congestion creating financial incentive for local energy balancing

MARKET TIMING

WINDOW: 2026–2028. Regulatory frameworks are finalized but adoption is early. Smart meter infrastructure is deployed but P2P platforms are nascent. After 2028, expect utility incumbents (E.ON, Vattenfall, Enel) to launch competing offerings or acquire early movers. First-mover advantage in community trust and grid integration is defensible if achieved within this window.

COMPETITIVE LANDSCAPE

COMPETITOR	MODEL	MARKET	FUNDING	GAP
Lumenaza	White-label utility platform	DE	€12M Series A	B2B only, no consumer app
Sonnen Community	Battery + community (Shell-owned)	DE, AT, IT	Acquired by Shell	Hardware lock-in, high entry cost
Vandebrom	Direct producer-consumer matching	NL	€3M	Farm/wind only, not residential
Powerpeers	Vattenfall subsidiary	NL	Corporate	Shut down 2023 (restructured)
EnergyWeb	Blockchain infrastructure layer	Global	\$25M	Infrastructure, not end-user product
GRIDLY (proposed)	Consumer P2P marketplace	DACH → EU	–	Hardware-agnostic, mobile-first

COMPETITIVE GAP ANALYSIS

Gap identified: no hardware-agnostic, mobile-first P2P energy trading app exists for residential users.

Lumenaza (closest competitor) operates B2B only – selling white-label to utilities. Sonnen requires their battery hardware. Vandebrom targets farms, not rooftops. The consumer-facing P2P slot is **open in DACH, Nordics, and Benelux.**

Risk: this gap may exist because it's genuinely hard to fill (regulatory complexity, metering integration) rather than because nobody has tried. Powerpeers' shutdown is a warning signal worth investigating.

TECHNICAL FEASIBILITY

RECOMMENDED STACK

LAYER	TECHNOLOGY	RATIONALE
Frontend	React Native (iOS + Android)	Mobile-first, single codebase, energy dashboards
Backend	Node.js + PostgreSQL	Real-time matching, time-series metering data
Metering	Smart Meter Gateway API (SMGW)	DE: BSI-certified, AT: IMA standard
Settlement	Stripe Connect + SEPA	Automated billing, multi-party settlement
Matching	Custom algorithm (no blockchain)	15-min interval matching, grid-aware optimization
Infra	AWS eu-central-1	GDPR compliance, data residency, TimescaleDB for metering

COMPLEXITY ASSESSMENT

- + Core marketplace logic: **MODERATE** – proven patterns (matching, settlement)
- + Smart meter integration: **HIGH** – varies by country, certification required in DE
- + Grid balancing optimization: **HIGH** – requires DSO cooperation and real-time data
- + Regulatory compliance engine: **HIGH** – per-market rules for energy trading licenses
- + Consumer mobile app: **MODERATE** – dashboards, notifications, onboarding

Technical verdict: feasible but non-trivial. The core marketplace is straightforward. The hard parts are metering integration (country-specific APIs and certifications) and regulatory compliance (energy trading licenses). Recommend: start with Austria (simplest EAG framework) as proof-of-concept before tackling German SMGW certification.

REGULATORY & COMPLIANCE

JURISDICTION	FRAMEWORK	STATUS	COMPLEXITY
Austria	EAG 2021 – Erneuerbaren-Ausbau-Gesetz	Fully transposed, active communities	LOW – best entry market
Germany	§42a EnWG + SMGW certification (BSI)	Transposed, SMGW rollout ongoing	HIGH – BSI cert required
Netherlands	Energiewet (2025 update)	In transition, new law pending	MEDIUM – regulatory uncertainty
Sweden	Electricity Market Act updates	Pilot phase	MEDIUM – limited precedent

KEY REGULATORY RISKS

- Energy trading license requirements vary per member state (€50K–€200K compliance cost per market)
- DSO cooperation not guaranteed – some distribution operators resist P2P models
- Tax treatment of P2P energy income is unsettled in most jurisdictions
- Consumer protection rules for energy products are stricter than general SaaS

FINANCIAL PROJECTION

UNIT ECONOMICS

TAKE RATE 8% OF ENERGY TRANSACTION	AVG TRADE €12 PER HOUSEHOLD / MONTH	CAC €85 CUSTOMER ACQUISITION	LTV €340 36-MONTH PROJECTED
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REVENUE PROJECTION

METRIC	YEAR 1	YEAR 2	YEAR 3
Active households	800	5,200	22,000
Monthly energy traded	€96K	€624K	€2.64M
Platform revenue (8%)	€92K	€598K	€2.53M
COGS + operations	€380K	€620K	€1.2M
Net	-€288K	-€22K	+€1.33M

Break-even at ~5,400 active households (projected mid-Year 2). LTV:CAC ratio of 4:1 is healthy for marketplace models. Key assumption: 8% take rate is viable against utility alternatives (standard utility markup is 15–25%). Below 5% take rate, the model becomes unprofitable at current CAC.

RISK MATRIX

RISK	SEVERITY	PROBABILITY	MITIGATION
Regulatory fragmentation prevents scaling beyond 1-2 markets	HIGH	MEDIUM	Start with Austria (simplest), build compliance engine as product
DSO refuses grid integration cooperation	HIGH	MEDIUM	Partner with progressive DSOs first (Netz NÖ, Stromnetz Graz)
Utility incumbents launch competing product	MEDIUM	HIGH	Speed – community trust is defensible moat
Smart meter penetration slower than projected	MEDIUM	LOW	Offer manual meter reading fallback (reduces UX but enables MVP)
Cold start: not enough sellers and buyers in same area	HIGH	HIGH	Geo-focused launch in solar-dense neighborhoods, seed with community energy cooperatives

VERDICT: VIABLE – PROCEED WITH SPECIFICATION

NEXT STEPS:

- 01 Generate IDENTITY specification – brand, positioning, naming options
- 02 Generate ARCHITECTURE specification – detailed technical blueprint
- 03 Validate Austrian EAG requirements with energy law counsel
- 04 Identify 2–3 solar-dense residential areas for pilot (Vienna suburbs, Graz)
- 05 Contact progressive DSOs for early partnership discussion

CRITICAL DECISIONS REQUIRED:

- Blockchain or traditional settlement? (Recommendation: traditional – faster, cheaper, same result)
- B2C direct or B2B2C via existing energy cooperatives? (Recommendation: B2B2C first – solves cold start)
- Austria-first or Germany-first? (Recommendation: Austria – simpler regulation, faster to market)

SPECIFICATION FILES GENERATED FOR THIS SAMPLE

ANALYSIS

IDENTITY

ARCHITECTURE

THIS DOCUMENT IS THE ANALYSIS FILE. IDENTITY AND ARCHITECTURE ARE SEPARATE DELIVERABLES.
