SOLVENTIA ENERGY

EIT InnoEnergy | Application dossier

Compiled application answers · 16 November 2026

AI Gigafactory Energy Risk Observatory

Document scope

Compilation of the nine application fields drafted in this conversation. The answers appear in English, ready for review and transfer into the application form. No claim is made that the proposed platform is already connected to electricity grids or locally validated.

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01 How did you hear about InnoEnergy?

Selected answer: Website

InnoEnergy official website

02 One Line Pitch

SolventIA Energy is developing an AI-powered energy risk intelligence platform to anticipate where the rapid expansion of AI data centers could exceed local electricity infrastructure capacity, helping utilities, investors and governments make smarter, more resilient and sustainable energy decisions.

03 Industry (technology areas)

Selected answer: Smart Electric Grid

Selected as the single technology area most closely aligned with the proposal.

04 Problem/needs identification

The rapid global expansion of artificial intelligence is driving unprecedented electricity demand from hyperscale data centres and AI gigafactories. However, electricity generation, transmission infrastructure and grid connection capacity are not always expanding at the same pace.

This growing imbalance creates significant risks: grid congestion, delayed industrial investments, increased infrastructure costs, pressure on electricity prices, higher emissions and potential competition for limited electrical capacity between data centres, local industries and communities.

A critical challenge is the lack of accessible, integrated and forward-looking information connecting announced AI infrastructure investments with regional electricity demand, grid constraints and available generation capacity.

Energy companies, infrastructure investors, policymakers and public authorities need reliable tools to identify where these risks may emerge, understand their potential consequences and evaluate mitigation strategies before committing substantial resources.

SolventIA Energy aims to address this information gap by developing an AI-assisted energy risk observatory that combines infrastructure inventories, electricity demand scenarios and verified energy system data to support earlier, more informed and sustainable planning decisions.

05 Solution and value proposition

SolventIA Energy is developing an AI-assisted energy risk intelligence platform designed to anticipate potential mismatches between the electricity demand of AI gigafactories and data centres and the capacity of regional power systems.

Our proposed solution integrates four capabilities:

1. Global infrastructure intelligence: mapping operational, planned and announced AI data centres, including location, project status and estimated electricity requirements.

2. Energy demand simulation: modelling alternative growth scenarios and translating estimated power requirements (MW) into annual electricity consumption (GWh).

3. Grid and territorial risk assessment: comparing projected demand with verified information on electricity generation, transmission constraints and grid connection capacity, where reliable data are available.

4. Decision-support reporting: generating evidence-based risk assessments, highlighting uncertainties and evaluating potential mitigation strategies for utilities, investors and public authorities.

Our value proposition is to transform fragmented energy and infrastructure information into actionable intelligence, helping stakeholders identify potential bottlenecks earlier, improve investment decisions and prioritise grid reinforcement and energy planning.

The platform will be designed to quantify risk through indicators such as projected peak demand (MW), annual electricity requirements (GWh), demand-to-capacity ratios and infrastructure development timelines.

For example, an additional continuous load of 100 MW represents approximately 876 GWh of annual electricity demand at full utilisation. This illustrates why early identification of large electricity loads is critical for regional energy planning.

Our initial research already includes an international infrastructure inventory, calculated demand scenarios and institutional data sources. The next development phase will focus on building a functional prototype, validating regional risk indicators and assessing commercial value with potential customers.

SolventIA Energy aims to reduce uncertainty, improve infrastructure planning and support a more resilient, affordable and sustainable energy transition.

06 IP rights

SolventIA Energy is currently at an early research and development stage. No patents have been filed or granted for the proposed solution to date.

Our intellectual property strategy will focus on protecting original software, proprietary analytical methodologies, energy risk assessment models, database structures and the SolventIA Energy brand.

We intend to evaluate appropriate protection mechanisms, including software copyright, trade secrets, confidentiality agreements and potential trademark registration.

Where applicable, we will assess the patentability of specific technical innovations developed during the next stages of the project.

Our approach will distinguish proprietary developments from publicly available energy and infrastructure data, respecting third-party intellectual property rights and applicable data licences.

As the project progresses, we aim to establish a clear intellectual property ownership and protection framework to support commercialisation, investment and international expansion.

07 Market description

SolventIA Energy targets the rapidly expanding market for energy intelligence, electricity grid risk assessment and AI data centre infrastructure planning.

Our primary customers are electricity transmission and distribution operators, energy utilities, data centre developers, infrastructure investors and engineering consultancies. Secondary customers include governments, energy regulators, regional development agencies and public authorities responsible for energy security and industrial planning.

The market opportunity is driven by the unprecedented expansion of artificial intelligence infrastructure and its increasing electricity requirements. According to the International Energy Agency (IEA), global data centre electricity consumption is projected to rise from approximately 485 TWh in 2025 to 950 TWh by 2030, creating growing demand for grid capacity assessments, energy forecasting and infrastructure risk intelligence.

Our initial commercial focus will be Spain and the European Union, with potential expansion into the United States and other high-growth data centre markets.

The proposed business model combines subscription-based access to energy risk intelligence, customised territorial assessments, scenario simulations and strategic advisory reports.

Competitors and adjacent providers include DC Byte, which offers global data centre market intelligence, energy market analytics companies, specialised engineering consultancies and electricity system modelling providers.

SolventIA Energy aims to differentiate itself by specifically connecting AI infrastructure expansion, projected electricity demand, regional grid constraints and socioeconomic risks within an integrated decision-support framework.

Our initial research and scenario modelling provide a foundation for developing this approach. However, our addressable software market, customer willingness to pay and competitive differentiation still require validation through pilot projects and customer interviews.

Our ambition is to become a specialised European energy risk intelligence provider supporting more informed infrastructure investment, grid planning and sustainable AI development.

08 Further development

SolventIA Energy has completed an initial research phase involving an international inventory of AI data centre infrastructure, electricity demand scenarios and the identification of relevant institutional energy data sources.

The next stage is to transform this research foundation into a validated, scalable and commercially viable energy risk intelligence platform.

Our development roadmap includes five priorities:

1. Functional prototype (0–6 months): Develop a minimum viable product (MVP) integrating geospatial infrastructure mapping, electricity demand simulation, preliminary risk indicators and automated reporting.

2. Data integration and validation (6–12 months): Incorporate reliable electricity generation, transmission and grid capacity data where available. Validate the analytical methodology against documented regional conditions, explicitly accounting for uncertainty and data limitations.

3. Predictive intelligence (9–18 months): Research and test AI-assisted forecasting and scenario analysis models, benchmarking their performance before deploying predictive capabilities.

4. Pilot projects and commercial validation (12–18 months): Seek partnerships with electricity utilities, grid operators, infrastructure investors and public institutions to test the platform, evaluate practical decision-making benefits and validate willingness to pay.

5. Commercialisation and international scaling (18–24 months): Develop a secure cloud-based platform, establish subscription and customised reporting services, protect intellectual property where appropriate and prepare expansion across European energy markets.

To achieve these milestones, we will need expertise in power systems engineering, energy data science, software development, geospatial modelling and business development, as well as access to relevant datasets, pilot partners and early-stage funding.

We seek EIT InnoEnergy's support in technology validation, industry partnerships, business model development and access to investment opportunities.

Our goal is to evolve from an evidence-based research initiative into a trusted commercial decision-support solution that helps anticipate electricity infrastructure risks associated with the global expansion of artificial intelligence.

09 Company interests

Our primary interest in joining EIT InnoEnergy is to accelerate the transformation of SolventIA Energy from an early-stage research initiative into a validated, commercially viable energy intelligence business with international impact.

We are seeking a strategic partner that can provide expertise, industry connections and support in five key areas:

1. Technology development and validation: Access to energy systems experts, technical mentorship and reliable industry data to develop and validate our AI-assisted electricity infrastructure risk assessment platform.

2. Industrial partnerships: Connections with transmission and distribution system operators, utilities, data centre developers and infrastructure investors to establish pilot projects and test our solution in real-world environments.

3. Business model development: Support in identifying early customers, validating willingness to pay, refining our value proposition and developing a scalable business model.

4. Funding and investment readiness: Guidance in accessing suitable public and private funding opportunities, preparing for investment and building the capabilities required for sustainable growth.

5. European and international expansion: Access to InnoEnergy's innovation ecosystem to establish strategic partnerships and explore opportunities in European and global energy markets.

We believe SolventIA Energy aligns with InnoEnergy's mission by addressing a critical emerging challenge: ensuring that the rapid expansion of artificial intelligence infrastructure can be supported by resilient, efficient and sustainable electricity systems.

Our objective is to develop a trusted decision-support technology that helps energy stakeholders anticipate infrastructure constraints, reduce investment uncertainty and make better long-term planning decisions.

We are looking for more than financial support: we seek an experienced innovation partner to help us build, validate and commercialise a solution with measurable energy, economic and societal impact.

Review notes before submission

- Confirm that the statement regarding patent filings and trademark registrations is accurate.
- Validate market figures against the cited IEA publication before external submission; the text preserves the wording used in the prior draft.
- Confirm the initial international inventory, scenarios and source records are available to substantiate the research phase.

- Development timelines are proposed milestones, not commitments or achieved results.
- No grid integration, local prediction validation, commercial traction or signed industry pilots are claimed.