



AI X ENERGY: 6 KEYS TO UNDERSTANDING NEW MODELS, FROM EUROPE TO AFRICA

At the **IA x Energie** event, organized by **AFD** and **Onepoint**, 4 actors from the energy value chain: **Antoine Djigbenou (Eranove)**, **Thomas Metais (EDF)**, **Bruno Fiastre (Deepki)** and **Thierry Pierre (AWS)** shared their experience during a **moderated roundtable** led by **François Krempf**.

At the heart of the discussion: **the practical uses of AI, scaling up, its deployment in Africa, and energy efficiency.**

Discover the 6 key takeaways from this roundtable.

1. AI IS ALREADY CREATING TANGIBLE VALUE ACROSS THE ENTIRE ENERGY VALUE CHAIN.

One of the first takeaways from the roundtable is that **artificial intelligence is already being used at scale** in many energy-related activities. The use cases presented cover production, distribution, infrastructure maintenance, and the energy efficiency of buildings.

Antoine Djigbenou (Eranove) presented several projects deployed across water and electricity networks in Africa. The most striking case concerns **the fight against fraud**. Thanks to data analysis models coupled with mobile applications used in the field, teams can **target inspections much more precisely**. According to Antoine Djigbenou (Eranove), this approach made it possible to **multiply by fifteen the revenues generated by anti-fraud operations** over a five-year period.

In real estate, **Bruno Fiastre (Deepki)** explained that AI is used to automatically build **decarbonization and energy performance roadmaps** for **more than 700,000 buildings**. Simulations make it possible to identify the most relevant actions while taking financial and environmental constraints into account.

Thomas Metais (EDF) presented several uses related to document research, archive processing, and the first agents capable of executing certain actions in information systems.

Finally, **Thierry Pierre (AWS)** observed, through projects carried out with international energy companies, a strong rise in use cases related to **predictive maintenance, infrastructure inspection, digital twins, and network optimization**.

Key takeaway

*AI is no longer at the testing stage. It is already generating **measurable operational benefits** across the entire energy value chain.*

2. DATA REMAINS THE TRUE FUEL OF ARTIFICIAL INTELLIGENCE.

As use cases multiply, all the speakers emphasized that their **success depends above all on the quality of the available data**. Without reliable, accessible, and sufficiently abundant data, models quickly reach their limits.

For **Bruno Fiastre (Deepki)**, access to data is today **the main obstacle** to the development of many projects. In the real estate sector, information often remains scattered across different systems and is sometimes even missing. Some buildings have comprehensive instrumentation, while others have neither connected sensors nor usable historical data. Under these conditions, the quality of AI-generated recommendations can vary considerably.

The situation is similar for **Antoine Djigbenou (Eranove)**. The large-scale deployment of sensors across water, electricity, and public lighting networks has made it possible to collect considerable volumes of information. But this abundance also creates new challenges: how should all the alerts be processed? Which ones should be considered priorities? AI is then used not only to analyze data but also to help teams **prioritize interventions**.

The discussions also highlighted an often-underestimated reality: **data comes at a cost**. As Antoine Djigbenou (Eranove) pointed out, when data does not exist, it sometimes has

to be produced, cleaned, or collected in the field before an AI project can even be considered.

Key takeaway

*The performance of an artificial intelligence system depends directly on **the quality, availability, and acquisition cost of the data** that feeds it.*

3. THE MAIN OBSTACLE TO SCALING UP IS NOT TECHNICAL; IT IS HUMAN.

One point achieved consensus among all the speakers: technologies are progressing rapidly, but **human adoption remains the determining factor in success**.

Antoine Djigbenou (Eranove) shared a particularly telling example. His team had developed an innovative mobile application based on a **conversational interface similar to ChatGPT**. Users could formulate their requests directly using text or a voice message. Despite the solution's technical qualities, most users preferred familiar buttons corresponding to specific actions such as subscribing or moving house. Although the project was technically effective, it did not receive **the expected adoption**.

The same issue exists internally. In some technical professions, employees naturally continue to place more trust in **their field experience** than in an algorithm's recommendations. This reality should not be seen as resistance to change but as an element to take into account when designing solutions.

To support this transformation, **Thomas Metais (EDF)** presented the AI awareness initiatives implemented within the group. The **"AI Tours"** made it possible to meet with teams, show them concretely what artificial intelligence can bring to their daily work, and answer their questions.

Finally, **Thierry Pierre (AWS)** emphasized the importance of **executive sponsorship, governance, and trust**. In his view, the success of an AI project depends as much on human support as on its technological performance.

Key takeaway

*An AI system that is not **understood, accepted, and used** by employees creates **no value**, regardless of its technical performance.*

4. INDUSTRIALIZING AI REQUIRES BALANCING INNOVATION, RELIABILITY, AND VALUE CREATION.

The roundtable also showed that moving from a few experiments to **large-scale deployments** is a complex step. An innovative solution must not only work but also be **robust, reproducible, and economically viable**.

Bruno Fiastre (Deepki) explained that his clients expect **stability** above all. In a context where models evolve very quickly, it is not feasible to constantly change the analysis rules or the results presented to users. The pace of innovation must therefore be balanced with the need for reliability.

This issue is particularly sensitive when it comes to **generative artificial intelligence**. The **non-deterministic nature of models** can sometimes raise concerns among users who want consistent results over time.

For his part, **Thierry Pierre (AWS)** believes that this non-determinism should not be considered a weakness but rather a characteristic to be mastered through new architectures and appropriate control mechanisms.

Thomas Metais (EDF) also highlighted the importance of constraints related to existing information systems. Behind the technological demonstrations presented at specialized trade shows, there are often complex environments made up of legacy applications and heterogeneous processes that must be modernized gradually.

Everyone also emphasized that **cost remains a central issue**. Investments in models, infrastructure, or licenses must be justified by **real and lasting value**.

Key takeaway

*Successfully industrializing AI requires as much **operational rigor, governance, and cost control** as technological innovation.*

5. BETWEEN EUROPE AND AFRICA, USE CASES ARE TRANSFERABLE, BUT CONTEXTS DIFFER.

The speakers also discussed the transferability of AI solutions between Europe and Africa. The consensus is clear: the needs are largely similar, but **deployment conditions remain very different**.

For **Antoine Djigbenou (Eranove)**, the models, equipment, and approaches developed in Europe can often be reused in Africa. However, they must be **adapted to local realities**,

available data, and operational constraints. For example, some predictive models trained on European data must be recalibrated to function properly in other environments.

Bruno Fiastre (Deepki) confirmed this challenge. His company operates across much of the world but still encounters specific challenges on the African continent, particularly because of the **lack of available data** for some real estate assets. This situation sometimes limits the accuracy of simulations and slows deployments.

Thomas Metais (EDF) reminded the audience that issues of **sovereignty, regulation, and data localization** are also becoming major topics. The rules governing the use of certain technologies vary considerably from one region to another.

For **Thierry Pierre (AWS)**, these constraints can also represent an opportunity. In some contexts, the absence of legacy systems makes it possible to build directly **more modern architectures**, avoiding some of the complexities found in older organizations.

Key takeaway

*Use cases travel easily, but their success always depends on **their adaptation to local regulatory, technical, and operational realities.***

6. AI WILL NEED TO DEMONSTRATE ITS VALUE WHILE MANAGING ITS ENVIRONMENTAL IMPACT.

Finally, the roundtable concluded with a topic that is increasingly present in debates: **the energy and environmental impact** of artificial intelligence technologies.

For energy sector stakeholders, this issue is particularly strategic. As **Antoine Djigbenou (Eranove)** explained, the emergence of new data centers is now a factor to consider in electricity consumption forecasts. **The growth of AI mechanically increases the need for digital infrastructure.**

This discussion is not limited to electricity. Exchanges with the audience also addressed **the use of water to cool data centers.** Operators are now seeking to optimize the reuse and treatment of this resource.

To encourage more responsible use of AI, **Antoine Djigbenou (Eranove)** mentioned the development of a discussion around **"green prompting"**, aimed at promoting more measured uses of these tools. The objective is to encourage users to call on artificial intelligence when it provides genuine added value.

For his part, **Thierry Pierre (AWS)** presented efforts made to reduce **the carbon footprint of infrastructure** and improve the energy efficiency of processors dedicated to AI. **Thomas Metais (EDF)** reminded the audience that the availability of decarbonized

electricity was also a major lever for supporting this growth.

Key takeaway

The future of AI in energy will depend as much on its usefulness as on its ability to demonstrate **responsible use of the resources** it consumes.

IN BRIEF

This roundtable demonstrated that **artificial intelligence has already become a major driver of transformation** for energy sector stakeholders. The examples presented show that **the benefits are real** : improved maintenance, fraud prevention, energy optimization, automation of complex tasks, and decision support.

But the discussions also reminded us that the success of an AI project can never be reduced to **a model's performance. Data quality, user adoption, modernization of information systems, governance, and cost control** are all determining factors.

As AI enters **an industrialization phase**, the challenge will therefore no longer be simply to innovate, but to transform organizations sustainably while ensuring **trust, sovereignty, and sobriety**. It is under this condition that artificial intelligence can fully contribute to addressing the energy challenges of the coming years.

