



# WHY ARTIFICIAL INTELLIGENCE IS THE KEY TECHNOLOGY FOR THE ENERGY TRANSITION

The energy landscape is changing. In fact, we are experiencing a perfect storm with a growing focus on renewables and decentralization, more congestion points, and rapidly evolving market prices influenced by geopolitical conflicts. To deal with these transitions and meet our Net Zero targets, digitalization and automation will be key in the design and management of the grid of the future.

During the **2022 Recharge Earth Conference in Rotterdam**, SAS organized a roundtable discussion on the role of artificial intelligence in the energy transition. This was attended by stakeholders from different companies and backgrounds: grid operators, energy suppliers, banks and large consumers.

## Here are four key takeaways



### **Real-time Sensor Data is indispensable when optimizing Grid Performance**

As in manufacturing, access to large amounts of real-time sensor data will enhance the ability of experienced engineers to optimize grid performance and resource utilization. For example, AI can prevent power outages by calculating when a cable needs to be replaced before it is damaged.



### **Energy Forecasting becomes more important for distributed energy sources**

The transition to low-carbon energy is driving the growth of distributed power generation. In the meantime, more and more consumers are feeding green electricity back to the grid. Energy forecasting will be critical to balancing supply & demand, and managing flexible energy assets. It will also support the shift to more demanding energy patterns, for example for electric cars.



### **Growing complexity makes it difficult to establish an integrated database**

As the number of stakeholders and data sources increase, data becomes more fragmented and distributed. This complex infrastructure can make it harder to create an integrated view of customers & operations. AI can help to automatically assess, validate and categorize these disparate data sources and build a single view of the business.



### **Customer Intelligence can empower relationships between utilities and customers**

AI can help to predict, prioritize and preempt customer issues that may lead to dissatisfaction, increased costs and churn. True Customer Intelligence helps utilities to generate higher response rates and greater ROI by delivering a consistent, relevant customer experience across all channels.

## Why AI?

The current crisis makes it more urgent than ever for the energy market to use intelligent software solutions. Algorithms can get valuable insights out of tons of data to accurately predict energy demand and bring it in line with supply, including irregular sources such as wind and solar energy. Here are the four main benefits of analytics and AI in energy transition:

- **Energy Forecasting:** supporting financial & operational decisioning, grid design & capital planning
- **Asset & Grid Performance:** reducing outages and (unplanned) downtime
- **Procurement Integrity:** enabling audit teams to reduce fraud, waste and abuse
- **Customer Intelligence:** creating appealing, moments-based customer experiences



## Why SAS?

SAS is the most experienced partner for all types of complex analytical challenges. Today, **90% of Fortune 500 utilities** and **560 energy companies** around the world rely on SAS. The SAS platform makes AI more accessible and empowers domain experts to work with Artificial Intelligence.

To learn how SAS can help your business getting ready for the energy transition, email [simon.lamsens@sas.com](mailto:simon.lamsens@sas.com) (BeLux) or [martina.vanOosten@sas.com](mailto:martina.vanOosten@sas.com) (The Netherlands).

Do also check our [website](#) regularly.