

# AWS Forecast - what it can do for Your energy distribution forecasts

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Amazon.com share its forecasting models and knowhow in the tool AWS Forecast

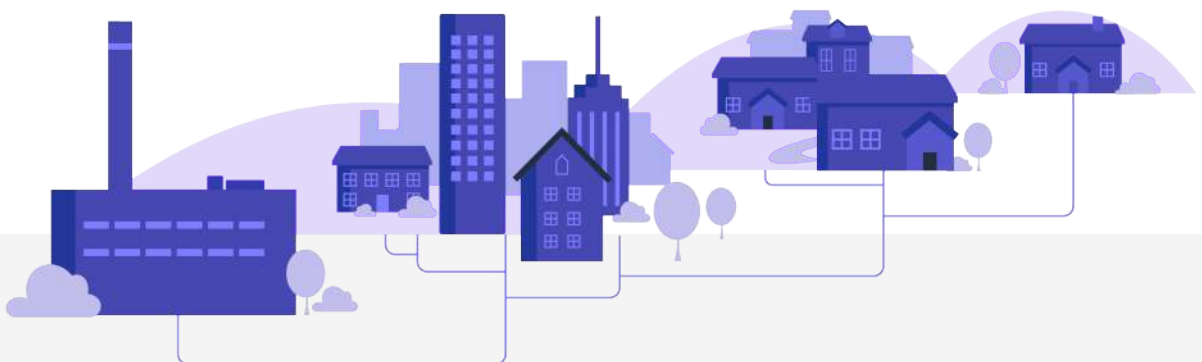
# The Energy domain

**Domain status and challenges.** District heating companies are exposed to risk in several parts of their supply chain. This spans from varying fuel prices to weather risk which effects consumption. A robust risk management of outstanding risks underpins the need of good forecasting methods. To keep pace with the market in an environment with rapid technological development, companies ought to continuously test new ways of retaining business value.

**Solution.** Applying AI and machine learning (ML) on customer demand has never been easier or faster. Utilizing the power of the AWS platform Sigholm together with Cybercom has combined their competencies in modelling and data mana-

gement to create a fast process for creating self-learning forecasts. Now it is possible for future focused district heating companies to get hold of a new way to create and improve the ability to predict the future.

Sigholm calculates the business value for improved forecasts to 10.000 € per percent and year. An increased proficiency in forecasting also reduces frustration over changeovers and late changes in production planning. It also has an impact on overall equipment efficiency as planning improves. The business value of better forecasts can furthermore be applied on other markets which impact the business risk. All put together, robust ability in forecasting is a strategically important competence.



## About Cybercom

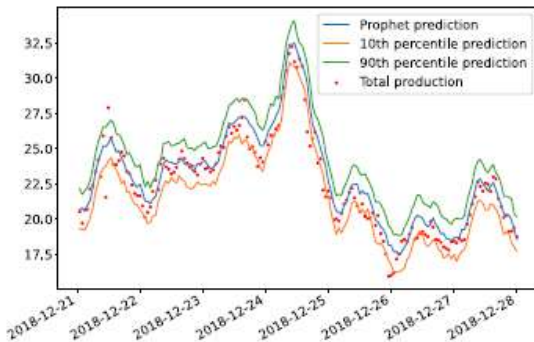
Cybercom is an IT consulting company enabling companies and organisations to benefit from the opportunities of the connected world and to enhance their competitiveness. Combining technical edge and strong business insight we provide innovative and sustainable solutions.  
[www.cybercom.com/aws](http://www.cybercom.com/aws)

## About Sigholm

Sigholm offers high-quality services within business development, optimization of district heating, digital solutions, project management in the construction industry, management, development and visual communication. We have three offices in Sweden; Stockholm, Västerås and Gothenburg.  
[www.sigholm.se](http://www.sigholm.se)

# Sigholm and Cybercom pilot with AWS Forecast

To pilot the value of the ML-algorithms, we assigned a team of 5 people to spend a few weeks on using a two-year dataset of customers data in a distribution system from a midsize Swedish city. After cleaning the data, we applied



our knowledge of factors effecting the customers' behaviors and trained the model to forecast the variations. We used five different methods to test for accuracy and anomalies.

**The result was surprising!** Not only were we able to get fairly accurate forecasts but we started to see possibilities to apply this technology to other areas. Being able to zoom from system to sections and individual customers it could be used in price modelling, failure detections and data validation. Although these are mature processes at the energy companies they would benefit from a method with scalability, accuracy, and speed. This touches on the potential for combined heat and power companies to increase their knowledge in the future of forecasting.









## Amazon.com and Amazon Web Services (AWS)

Amazon.com is the world's largest online marketplace and cloud computing company measured by revenue and market cap. In 2002 Amazon started Amazon Web Services (AWS) which provides on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. AWS customers can obtain global, large scale computing capacity quicker and cheaper than building an actual physical server farm. AWS is today the global dominant in public clouds with 34% market share, bigger than Microsoft, Google and IBM together. But most av all, AWS is a hyper-fast-growing innovation platform adding 2000-ish new features every year, were AI/ML is one of the most active areas. AWS offers the broadest and deepest set of services to government agencies and international companies matching the highest security demands - from pre-trained AI services to fully managed, comprehensive machine learning solutions.

See more at <https://aws.amazon.com/machine-learning/>

One of many ML services is AWS Forecast - Build accurate forecasting models based on the same machine learning forecasting technology used by Amazon.com. To benchmark or enhance your existing forecasts with the world's leading online company, is highly valuable for any company in any domain.

Cybercom is the leading AWS partner in the Nordics and one of very few with Premier Consulting partner status. Cybercom AWS business group (CABG) is fully focused on the partnership with AWS and has more than 200 certified AWS experts helping customers to innovate, migrate and operate their solutions on AWS platform.

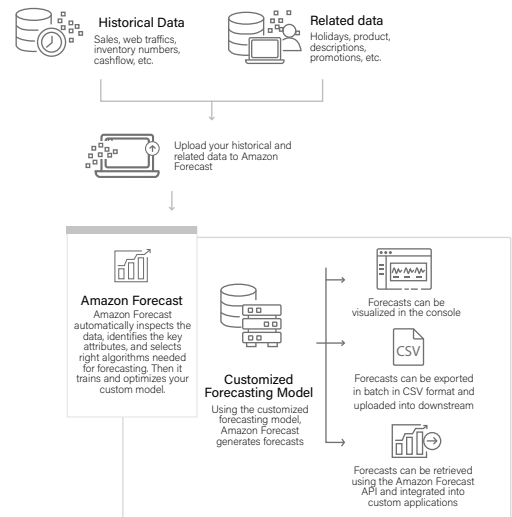
 Recommendations	 Forecasting	 Image and Video Analysis	 Advanced Text Analytics
 Document Analysis	 Voice	 Transcription	 Translation

# Workshop

## Energy distribution planning supported by AWS Forecast

Sigholm and Cybercom jointly offer a **customized half-day workshop with your management / key stakeholder team** where we will guide you through topics like;

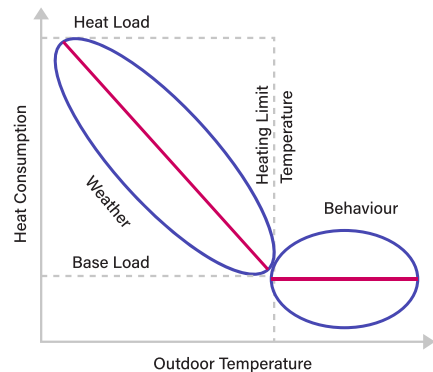
- Challenges and opportunities in the Energy domain
- Introduction to AWS Cloud platform in general and AWS Forecast in detail
- Combining Sigholm Aurora and AWS Forecast
- Inspiration examples on how to use ML models with energy distribution data
- Brainstorm session to capture your ideas and needs
- Quantify the business value of forecasting



## Key benefits and expected outcomes of the workshop

- 1 New insights on how ML can enhance your existing forecasts
- 2 Understand how AWS Forecast can enhance your existing forecasts or create new
- 3 Understand how AWS cloud platform can support your future business innovation
- 4 A more aligned view in management team on forecasting

- 5 A list of quantified business values for new forecast models
- 6 A list of proposed What-To-do-on-Monday activities



Please reach out to your Sigholm / Cybercom contact to get more info and to schedule the workshop for your team!