Q&A-Digital energy transition accelerating, but not by enough to meet aggressive climate targets: John Markus Lervik, Cognite

Digital energy transition activities by companies, both on account of setting ambitious objectives and initiating larger projects, have been accelerating, but uncertainty remains on whether the speed is enough to meet the aggressive climate targets that have been set by various countries, **John Markus Lervik, founder and CEO at Cognite**, told the Reuters Global Markets Forum on Monday, May 3.

A combination of regulations and commercial incentives like a common global CO_2 (carbon dioxide) tax regime, along with data-driven transparency and artificial intelligence (AI)-led analytics will aid the world transition to cleaner energy, Lervik said.

The future of mobility will be probably be a mix of electric, hydrogen and green hydrogen, Lervik said.

Following are edited excerpts from the conversation:

Q: What are your thoughts on the progress of digital energy transition targets, and if they are going in line with formal commitments that countries have made?

A: There is clearly an acceleration in digital energy transition activities, both from individual companies setting ambitious objectives, and also initiating larger projects, e.g. in the renewable space. However, it is quite uncertain whether this all adds up to the overall climate objectives.

Q: How much can artificial intelligence (AI) and machine learning (ML) help the transition to cleaner energy, and what would be the areas you would say are the most important?

A: From our perspective the solution consists of a combination of regulations and commercial incentives -- e.g. a common CO_2 (carbon dioxide) tax regime globally, as well as a data-driven transparency and analytics/AI. Digitalisation will be the backbone of the energy transition, providing instant access to trustworthy, contextualised data, which again fuels AI. As for AI/ML, there is lower hanging fruits, e.g., using AI/ML to improve the efficiency of existing assets --> making renewable and green tech more competitive short-term.

Longer term, it is about digitalising the whole renewable value chain, from conception through the project development and construction phase and into operations. At Cognite, we are working with leading companies in the energy space in both areas.

Q: Do you see these regulations and commercial incentives coming through? Also, which countries do you see leading such an initiative for it to make the maximum impact?

A: In Europe, we have the CO_2 tax regime, which is incentivising companies to move in the right direction even faster. There are also strong voices for expanding this globally, and with the new U.S. President who also has energy transition high on his agenda, there are positive signs that things will accelerate.

Another example is the Norwegian government, which has said it intends to increase the CO_2 taxes significantly over the next decade; which again will make it more attractive for companies to drive energy efficiency for existing industrial companies, and also lay the foundation for energy transition projects.

Q: Where do you stand on the mobility debate, electric versus hydrogen?

A: From our perspective, the future is electric, but we also need hydrogen in the mix. We also see many great initiatives towards green hydrogen, where green electricity is a necessity. We in Cognite work with companies all over the world, from Japan to

Europe/U.S. on projects related to green hydrogen. Again, access to industrial data - through DataOps - is a critical enabler for making these projects successful and cost effective.

Q: So, in continuation, you think the future of mobility will be a mix of electric, hydrogen and green hydrogen?

A: Correct. One example of this is the project with leading green power producer Statkraft, global fertilizer producer Yara, and Aker Clean Hydrogen to combine these.

Q: Our guest this morning, Tim Gould of the IEA (International Energy Agency) said hydrogen features in quite a few of the recovery spending plans, notably in Europe, but its relatively small. How green can hydrogen be in the next five years?

A: It can become 100% green, but we need to make it more cost effective for this to be sustainable from a commercial perspective. Here, technology -- data, software AI -- is an absolute necessity to succeed. Again, this is exactly what we are working on with the companies mentioned above, and also, e.g. with Japanese companies like Mitsubishi and the Japanese government.

Q: What kind of savings can companies expect to make with the deployment of AI/ML in their transitions? And how do progressive savings correlate with initial costs of deployment?

A: For cost savings and efficiency increasing, for existing assets, we readily see improvements of 15%-18%. However, there is more to be had if one can change the operational model to fully embrace digital technologies. For the development of new projects -- e.g. in the renewable space -- one can reduce both time to market -- i.e., project time -- substantially, and also reduce capex (capital expenditure) costs with 8%-12%.

All industries' future profitability will be inextricably bound to sustainability; it's time to make sustainability profitable. The policy landscape will continue to pressure operators to meet sustainability and emissions targets, so it's time to be proactive. Sustainability is integral to the survival and success of all industrial companies.

Some starting points:
- Energy infrastructure needs to be addressed;
- Hydrocarbons will need to transition to renewables;
- Power grid needs to be upgraded and optimized to best handle multiple sources. Data is the most powerful driver of sustainability in industry.

By liberating data, our customers can better ensure both sustainability and profitability.

Q: How is your joint venture (JV) with Aramco shaping up? Have there been any new developments?

A: This is progressing well, including formal approvals. Aramco is taking significant steps not just in digitalization of its own business, but also taking responsibility for transforming the rest of industry in the Middle East region, including also in sustainability area to reduce the environmental footprint of industrial operations.

Q: What is the scope in other industries, for instance like energy derivatives, where Cognite's solutions could make a difference?

A: As energy derivatives are focused on risk. Forward thinking industrial data solutions like Cognite Data Fusion can deliver contextualized real time data that can help mitigate that risk. This has implications for all energy sectors including electricity, oil and gas, wind, and all industries that are dependent on supply.

One example is Statnett, the system operator of the national Norwegian power system, to develop and deliver a data contextualization platform and digital solutions

As the electrification of society accelerates, grid operators such as Statnett and those around the world, need to be able to connect new power generation systems and consumers to the grid in a safe and efficient manner. To process grid connection applications, analysts need to examine large quantities of data to determine whether the grid must be upgraded to handle the increased load.

Q: Do you have expansion plans into different geographies over the next two to three years? If so, where are you looking at? Also, in terms of sectors/companies, are you looking to expand out as well?

A: We are growing quite well in North America/USA and Europe, and also see solid growth in Japan. In addition, we have ambitious plans for the Middle East – through our JV -- and also South East Asia. From an industry perspective, the broader energy sector is quite important for us, as well as manufacturing – including process industry, discrete manufacturing.

Q: Do you see any ramifications for companies, especially energy majors, if they don't stay on track to meet the ambitious environmental goals that have been set?

A: Sure, there are a number of pressures from government -- CO2 tax, financial institutions -- e.g. EU Taxonomy, and also from employees and other stakeholders. Technology is the single most important driver for sustainable operation.

Q: How can developed economies aid -- both financially and otherwise -- emerging ones to make the transition faster, alongside themselves?

A: Great question -- one example is obviously that developed economies can invest in profitable and sustainable technology and solutions for renewable energy, and then make these available for developed countries so that they can jump to future-proof energy solutions -- instead of going through intermediate steps like we are doing in developed countries. Similar to what has happened, e.g. with internet going via fixed line internet to mobile in developed countries --> emerging economies jump straight to mobile internet. E.g.: Africa put in place intelligent microgrids based on solar power++, where again technology is used to optimise and make it easily consumable.

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