Diehl Metering

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Energy efficiency: the key to decarbonizing and moving back Earth Overshoot Day

On July 29, we officially overconsume the planet's natural resources for the year. Known as Earth Overshoot Day, this date is a reminder that our planet is living on borrowed time – unless we all take action. Reducing our carbon footprint is one of the most effective ways to move back the date of Earth Overshoot Day, and greater energy efficiency is crucial for achieving this.

Save energy, save the planet

According to the Global Footprint Network, we can move Earth Overshoot Day back by 93 days – more than three months – if we manage to reduce the carbon component of humanity's ecological footprint by 50%. One of the major contributors to carbon emissions is heating and cooling in buildings and industry, which accounts for half of the energy consumed in the EU, making it the biggest energy end-use sector ahead of both transport and electricity. Furthermore, heating and hot water alone account for 79% of total final energy consumption in EU households. It is therefore essential to optimize our use of heating and cooling if we want to decarbonize.

There are many ways to achieve greater energy efficiency, including actions that have an almost immediate effect. As individual consumers, we can all make efforts to reduce our consumption of energy through small gestures like switching to more efficient light bulbs or washing our clothes in cold water. We can go further by installing programmable thermostats, modernizing the insulation of our windows, and upgrading household appliances for more energy-efficient models. We can also change our heating behaviour by optimizing the settings on our heating system or eliminating wasteful habits like leaving windows open. Every initiative counts if we all work together in the same direction.

But reducing consumer demand is just one part of the equation. By improving efficiency in the supply and distribution of energy, we can make even greater gains in carbon reduction.

Data-driven insights

The key to creating sustainability in existing heating and cooling networks is information. If utilities know what is happening across their network, they can quickly identify areas for improvement – and that's where smart metering has an essential role to play.

Smart solutions for heating and cooling networks are already available on the market and offer proven benefits to utilities. They revolve around smart meters, such as Diehl Metering's ultrasonic SHARKY thermal energy meter range, which gather valuable data, including energy consumption, forward and return temperatures, flow rates and current output. In a fixed network solution provided by Diehl Metering, these readings are automatically taken on a regular basis and analyzed using IZAR data management software. Alarm messages can also be sent out in case of leaks or other anomalies, with all information presented in an easy-to-read dashboard. This empowers utilities to identify issues and rapidly address them to improve their network's performance and efficiency.

The opportunities to transform thermal energy meter data into valuable intelligence are wide-ranging, and include smart leak detection, smart analysis for improved temperature spreads, optimization of heat distribution, and analysis to maintain maximum heating system efficiency.

Diehl Metering – PR Department – 67 rue du Rhône 68300 Saint Louis - France
Head of PR Department: Caroline Erhard, caroline.erhard@diehl.com, www.diehl.com/metering

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Concrete results

Through such solutions, Diehl Metering has enabled many communities to benefit from increased energy efficiency. For over a decade, it has worked with Izmir Jeotermal, which operates one of the world's largest geothermal district heating networks, to implement remote data reading and enable network optimization. In Denmark, a network modernization enabled the district heating company Støvring Kraftvarmeværk to cut CO_2 emissions by 80%.

Furthermore, utilities can involve consumers in saving energy. The Danish district heating and water supplier Brønderslev Forsyning uses an innovative smartphone app from Diehl Metering to empower its customers to follow their consumption patterns and change their habits to further increase network efficiency.

Long-term vision

By making their networks more intelligent, utilities can thus realize significant energy savings. While these solutions enable relatively rapid efficiency gains, the long-term vision for decarbonization in the energy sector must give pride of place to district heating and cooling.

District heating, which consists of generating heat in a central location and distributing it through a pipe circuit to buildings, is well-adapted to renewable energy sources such as solid biofuel, geothermal and waste heat from industry. It must therefore be more widely adopted if we are to further delay Earth Overshoot Day.

Ultimately, every contribution helps to move the date of Earth Overshoot Day, and we can all play our part, whether that is through small gestures in our homes or smart solutions for an entire energy distribution network.

About Diehl Metering

Diehl Metering is a worldwide leader in the design, manufacture and supply of smart metering solutions. With over 150 years of experience, we empower utilities, municipalities and industries to take control of their infrastructures, bringing new efficiencies to the way they manage water and energy.

Our extensive range of services and solutions includes data-driven insights, IoT connectivity, fully-flexible software, and seamless intelligent metering. We also utilise artificial intelligence to boost performance and deliver cost savings for our customers.

Headquartered in Germany, we are a family-owned business with an international reach. We are proud to maintain our founding principles of quality, reliability and customer proximity while proactively shaping a better future for our customers and the communities they serve. Our approach is to think global and act local. By anticipating trends and remaining agile, we adapt and develop our strategy with our customers and for them.

In supporting their long-term growth, we also contribute to the sustainability of the planet, crafting innovations that enable our customers to make ever better use of the natural resources we all rely on.

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Head of PR Department: Caroline Erhard, caroline.erhard@diehl.com, www.diehl.com/metering