Hydro-Québec uses smart meters to shut down electricity theft network

Analysis of smart meter data has demonstrated its power in detecting theft of electricity in 10 Quebec homes.

Theft detection through review of unusual consumption patterns based on the data from smart meters is a key use case of the technology with the opportunity to narrow it to the household level.

Quebec state utility Hydro-Québec has demonstrated the power of this use case with the targeting of a dozen addresses in the Saguenay–Lac-Saint-Jean region in the province's south.

After analysing the smart meter data, the authorities responsible for the fight against electricity theft were able to identify areas where the electricity use appeared unusual. Hydro-Québec's teams of inspectors and investigators then intervened onsite in collaboration with the police and security authorities.

Electricity theft was confirmed to have occurred in 10 homes and is now under legal review.

Hydro-Québec says that the investigation is one of many led by its corporate security teams to ensure revenue protection and integrity. In any given year, the company handles close to 400 files related to electricity theft.

Annual losses from electricity theft are estimated at Ca$22 million to $75 million (US$17.5 to 59.5 million).

Energy theft occurs for various reasons but a common one is for illegal marijuana growing, with its high energy consumption requirement. Another high energy use activity that is seeing growing levels of electricity theft is Bitcoin mining with several cases reported in the UK and Malaysia for example.

In a recent case in England's West Midlands, what showed all the classic signs of being an illegal marijuana growing operation, including a 'hotspot' from drone detection, was found to be a mining operation with around 100 computers when it was raided.

With such numbers of computers running simultaneously and any cooling requirements, the value of the energy being used very rapidly mounts up in such cases.