

Reinventing the smart home with innovative LED lighting and energy storage

(From Canadian GreenTech (<http://www.canadiangreentech.ca/>))

Behind the meter energy storage has been hailed as a game changer for residential and commercial users to shed load, shave peak demand and as a simple backup power solution in the case of an outage. But one Canadian company, **illumina-Drive**, aims to change the way we think about the smart home and the connected business by combining centrally controlled intelligent LED lighting with energy storage.

Derek Hopkins, founder, president and CEO of **illumina-Drive** told Canadian Green Tech in an interview at the end of last month that the company has been built from the ground up to be a DC grid outfit. Launching the lighting platform was the first order of business, but its energy storage product, Neo, has quickly followed. And soon, the firm will be introducing a software platform that can interact with a variety of connected products including its lighting and energy storage systems.

"It seemed to make sense to us to be able to launch LED lighting first on that DC grid with intelligent control and then the energy storage has come right along with it. It's a great marriage of products because being able to operate your DC lighting directly from an energy storage solution which is in turn charged by the grid or solar makes sense," he added.

While the Burlington ON-based company offers both LED lighting and the Neo energy storage device as a single solution, households and businesses can start off with lighting component first. In a nutshell, illumina-Drive's **iD1 lighting controller** can take the LEDs off the grid so to speak. The controller has a battery integrated into it and it can either be charged by the grid or directly through a rooftop solar array.

There are significant advantages to going with a DC-based LED lighting deployment. It's low-power so there are electricity savings, upwards of 90%. There are also additional cost savings resulting from centrally controlling the fixtures themselves. As well, installation costs are about 30% less because of the wiring - Hopkins said it's similar to speaker wire or network cables.

He said that the return on investment (ROI) for its LED lighting solution in commercial settings is less than 12 months. For higher and outdoor lighting applications, the ROI can drop to six to nine months.

Combining the LED lighting with **Neo** and renewable energy (rooftop solar, or wind energy) adds yet another dimension. It can take lighting completely off the grid but it can also provide power for critical load appliances. This is because there is AC to DC power inversion which allows certain appliances to get the power they need.

ROI is almost always a big question for energy storage. Hopkins said that while the final figures aren't yet available for Neo, they are "very attractive." Neo's base model, a 2 kW system has a \$4,500 price tag. An 8 kW system goes for \$9,500.

Illuma-Drive is seeing considerable demand for its lighting and energy storage products. Hopkins said the company was at the **Light Fair Conference and Trade Show** last month where it may have secured a million plus in orders. NSL Lighting in the US and Magic Light in Canada are its national distributors. The two firms represent a distribution network of about 450 agents.

The company is also preparing to hit the ground running later this year when it officially launches product availability. August 1 is the official delivery date of in stock products as illuma-Drive continues to showcase its solutions, conduct pilot programs, and build traction.

The next step for the company will be the introduction of its software. Dubbed **THEA** (totally homogenated energy automation), it will be a platform through which users can control the lighting, the thermostat, the security, their home automation, audio, video and more.

It will "be able to give them that full solution that can talk to as many different products as possible without having to go application by application," explained Hopkins.

LED lighting over DC makes sense. The business case for behind the meter energy storage is getting better. Combining the two and adding in a software platform to control these two elements in addition to other smart connected devices adds even more value to the system.

This may be a case where the value of the entire system is much greater than the sum of its individual parts.