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On the road to riches: BitPay launches prototype bitcoin miner powered by regenerative car braking

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At BitPay, it is our aim to make every part of the bitcoin ecosystem accessible to as many people as possible. And today, we are delighted to announce the launch of a product that we believe will put bitcoin mining within the reach of millions more people.

Bitcoin mining is growing in popularity, but there are various factors affecting the profitability of a bitcoin mining operation. The hardware cost is one, while the price of bitcoin and mining difficulty also have an impact. But until now, the most prohibitive part of bitcoin mining has been the on-going cost of electricity.

The average US retail electricity cost is 10 cents per kilowatt hour (kWh) according to eia.gov, and although companies such as BitFury have been working hard to produce increasingly energy efficient bitcoin mining ASICs, the high cost of running even a modest bitcoin mining operation has prevented many bitcoin users from even considering it as an option.



The **BitPay Klondike** that we are announcing today is the first bitcoin mining rig of its kind.

We looked to the automotive industry for inspiration: more notably the rapid progress being made in lithium ion battery technology, Formula 1 racing power regeneration as well as the countless electric car manufacturers as our inspiration to develop a mining rig that is powered only by the energy generated by a moving vehicle.

Usually, when an automobile slows down, the vast majority of the vehicle's kinetic energy is converted into heat by the brake pads when you push down on the brakes. The kinetic energy stored in a moving vehicle is related to the mass and speed of the vehicle and can be calculated by the equation $E = \frac{1}{2}mv^2$. This means, all else being equal, if your car is twice as heavy it will have twice the kinetic energy, and if it is moving twice as fast, it will have four times the kinetic energy. In a standard gasoline vehicle, this equates to a massive amount of energy which is currently going to waste.

When a car has the BitPay Klondike installed, it can reclaim up to 17% of this kinetic energy generated by braking and stores it in a compact, custom-engineered lithium ion battery which powers the internal bitcoin mining ASICs. Electric cars such as the Tesla currently use a similar system called Regenerative Braking, to harness this recycled power and further power the vehicle. Instead, the Klondike uses this energy to generate revenue by mining bitcoin.

As a further bonus, the wind chill factor of the car moving helps to cool the Klondike bitcoin miner, meaning that no expensive fans or cooling systems are required to keep the unit at a safe operating temperature.

The Klondike can be installed in most standard gasoline vehicles by any qualified mechanic in around 2 hours, and weighs less than 5 kilograms. With a hash Rate of 400 GH/s and power requirement of 400W, the current prototype is not the most powerful bitcoin miner on the market, but as a working prototype we believe that it is an exciting proof of concept and demonstrates that there are real, alternatives to expensive mains electricity.

Please visit <http://www.projectnewton.info> for more information.

BitPay, Inc.