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Ron Chen, CEO  
Innovative Patents Ltd.

Re: Bumper-On for generating electricity by converting kinetic energy from a vehicle as it passes over a road bump

Our Reference: 768

An invention titled "Bumper-On" is described in Canadian Patent No. CA 2654192C priority date September 20, 2006, as well as in US Patent Publication No. US20090315334A1, South African Patent Publication No. ZA0901563A, WIPO Patent Publication No. WO2008035348A3, Israeli Patent Application No. IL0197537A0, and European Patent Publication No. EP2074326A2 (hereinafter the Chen invention).

During the course of the company's business of Mr. Chen, Mr. Chen became aware of several companies who seem to pursue various technologies which may resemble the technology described in *Chen's patent*.

This is our preliminary evaluation, in response to Mr. Chen's request, of the position of the *Chen invention* in view of the information provided to us by Mr. Chen. For the purpose of this evaluation, we have also conducted a focused search, limited in time and scope, to try and uncover patent documents assigned to any one of the list of companies provided to us by Mr. Chen.

Our findings are described in the order set below:

First, we will describe the *Chen invention* as reflected in the aforementioned patent and patent publications;

Then, we will review the patent applications assigned to the companies from the list that was provided by Mr. Chen, and identify relevant art;

We will then review the position of *Chen's patent* in view of the relevant patent applications; and

Finally, we will provide our preliminary assessment on the likelihood of a contravention of Chen's invention in view of the relevant patents that we previously reviewed.



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### Chen's claimed invention

*The Chen* invention is described in its broadest claim 1, essentially, as:

"a system for converting vehicular movement into electricity while serving as a road hump at the same time. The linear motion of the vehicles is transformed by the device into rotational motion and finally converted into electric power. The system comprises a semi-flexible cover strip lying across the path of vehicular traffic, covering the rest of the system, which is encapsulated within a housing embedded in the ground. The cover is connected to a generator via a wing or wings and a mechanism or mechanisms comprising a fly wheel, a rotor, a stator and a clutch. Passing vehicles push the cover strip down, causing the wings to depress, and engaging a clutch that transfers a rotational motion to the rotor, eventually, the rotor drives an electro-magnetic generator. The electro-magnetic generator converts the rotational motion of the rotor into electrical power."

### Relevant Art

We have reviewed the websites and searched for patent applications according to a list of companies that was provided to us by Mr. Chen, and which include:

SunMan Engineering Inc., USA; New Energy Technologies, Inc., USA; AEST Incorporated, USA; KinergyPowerUSA; and Innowattech Ltd, Israel.

While some of the companies listed above describe in their website a similar idea of harnessing the energy created by the motion of vehicles by using road bumps, the idea is usually described in very general terms, without specifying the exact *modus operandi* of the technology.

Some of these companies, however, have filed patent applications which were published. Only patent applications with a priority date earlier to *Chen's invention* are considered publications that are relevant to *the Chen invention* patentability. These applications include:

#### **US US20070085342A1: TRAFFIC-ACTUATED ELECTRICAL GENERATOR APPARATUS.**

A US patent application filed by KinergyPowerUSA. The priority date of the application is October 19, 2005.

Other patent applications that were filed after *Chen's invention* include:

- WO2009098676A1: ENERGY HARVESTING (Innowattech Ltd, Israel). Priority date: February 6, 2008.



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- WO2010063013A1: ADAPTIVE, LOW-IMPACT VEHICLE ENERGY HARVESTER (New Energy Technologies, Inc., USA). Priority date: November 11, 2008.
- WO2008085636 METHOD AND APPARATUS FOR ENERGY HARVESTING USING ENERGY STORAGE AND RELEASE. Priority date: December 10, 2007<sup>1</sup>.

These applications, having been filed after the priority date of *Chen's patent* are irrelevant to the patentability of *Chen's invention*.

### The Chen Inventions in view of earlier publications

*Chen's invention* differs from US20070085342A1.

US20070085342A1 also deals with generating power on the surface and not on the car, but defines a very specific system, which is different than the one used in *Chen's patent*.

US20070085342A1 uses fluids, a low pressure fluid supply reservoir, and a high pressure fluid accumulator. The energy collection is conducted by positioning an energy collection device in the path of oncoming traffic to be actuated thereby and pump fluid from the reservoir to the accumulator upon actuation.

In distinct contrast, the *Chen* invention does not use fluids at all. The *Chen* invention uses a fly wheel, a rotor, a stator and a clutch.

### The European search report

A European search report pertaining to the European Application has been most recently received. In the search report a newly cited art, a German patent application No. DE4034219 is provided. According to the European examiner, the German patent application anticipates the *Chen* invention. Since the reference is in German only, and since the analysis is beyond the scope of this letter, the aforementioned view of the examiner has not been addresses. It should be noted however, that the drawings of the German application reveal a different structure than the one of the *claimed Chen* invention.

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<sup>1</sup> (Hendrickson, Brian, S., an individual connected to New Energy technologies as demonstrated in the following link:

<http://www.newenergytechnologiesinc.com/CustomContentRetrieve.aspx?!D=1098>)



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### Conclusion

The *Chen* invention seems to differ, substantially, from the earlier publications referred to in this document, and hence, these publications do not seem to rule out the inventiveness of the *Chen* invention.

At the same time, we recommend looking into the technologies described and applied by some of the companies mentioned in this document and examine whether such technologies infringe on the claimed *Chen* invention. Such an analysis is outside the scope of this review.