IMPROVED ENERGY HARVESTING FOR CURRENT-CARRYING CONDUCTORS

Tech ID: 25935 / UC Case 2016-189-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,651,686	05/12/2020	2016-189

BRIEF DESCRIPTION

There are an estimated 130 million wooden poles that support overhead power lines in the US. Extreme weather, aging, storms or sabotage can all lead to potential damage of these poles and power lines, which can leave large areas without basic necessities. Due to this risk, it's anticipated that power utility companies will deploy sensors and corresponding energy harvesters to better respond to potential damage of this critical electricity grid infrastructure.

To address this anticipated mass deployment of sensors and harvesters, researchers at UC Berkeley have developed technology improvements to harvesting of electrical energy from energized conductors carrying alternating currents, such as those on overhead and underground power lines (as well as power-supplying conductors in offices and dwellings). These enhanced harvesters would improve the economics of deploying sensors across a national power grid. The Berkeley harvesters can readily provide enough power to supply wireless communication devices, energy storage batteries and capacitors, as well as sensors such as accelerometers, particulate matter measuring devices, and atmospheric sensors.

SUGGESTED USES

Improved powering of wirelessly enabled sensors to detect electrical or mechanical fault and conditions on overhead and underground power transmission.

ADVANTAGES

- Low cost to manufacture
- Compact and easy to install
- Capable of functioning unattended for 5-10 years

RELATED MATERIALS

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Improved, Wireless-Enabled Portable Particulate Matter Monitor

CONTACT

Michael Cohen
mcohen@berkeley.edu
tel: 510-643-4218.

INTRODUCING
UC TechAlerts
New technology matches delivered to your email at your preferred schedule
SEARCH SAVE SEARCH
Learn More

INVENTORS

- White, Richard M.

OTHER INFORMATION

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Devices
- **Energy**
  - Storage/Battery
  - Transmission
- **Environment**
  - Sensing
- **Engineering**
  - Engineering

RELATED CASES

2016-189-0

© 2016 - 2020, The Regents of the University of California

Terms of use | Privacy Notice