

# **The Global Market for Green Nanotechnology: Batteries, Filtration, Fuel Cells, Lighting, Green Packaging, Solar, Supercapacitors, Wind Energy, Thermoelectrics, Catalysts and Sustainable Materials**

<https://marketpublishers.com/r/G492AF97C2FEN.html>

Date: September 2017

Pages: 244

Price: US\$ 1,185.00 (Single User License)

ID: G492AF97C2FEN

## **Abstracts**

Nanotechnology and nanomaterials have an important role in all aspects of the energy and environment sectors, enabling sustainable solutions for renewable energy and environmental challenges. A number of products have been commercially developed and more are coming onto the market in:

### **Energy conversion**

New generation of highly efficient solar cells.

Fuel cells.

Thermoelectric devices.

Nanocomposites for stronger and lighter wind energy blades.

Wearable energy harvesting.

### **Energy storage**

Rechargeable batteries.

Lithium-ion batteries for electric vehicles.

Supercapacitors.

Catalysts for optimizing fuel production.

#### Energy saving

Aerogel insulation.

Energy saving smart glass for buildings.

LED and OLED lighting.

Nanotechnology will also impact the environmental filtration and remediation industries via:

Safe water purification, filtration and desalination through cheap and portable nanotechnology filters.

Air filtration for removal of domestic and outdoor air pollutants.

Adsorbents and catalysts to remove contaminants.

Nanotechnology will also contribute to other areas of sustainability such as biodegradable and environmentally friendly biopackaging, biocomposites, and bio-based coatings and paints with the properties of non-bio based products.

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