



# Your Idea Report

By IdeaSleuth

## YOUR IDEA

Solar powered laptop

## RELATED INTELLECTUAL PROPERTY

- US9593053B1: <https://patentimages.storage.googleapis.com/ff/9d/ba/5f2bb614f4ea09/US9593053.pdf>
- WO2013079906A1: <https://patentimages.storage.googleapis.com/94/88/f3/4fc686cc687c81/WO2013079906A1.pdf>
- WO2019058142A1:  
<https://patentimages.storage.googleapis.com/39/ef/6d/28e97e53898ca8/WO2019058142A1.pdf>
- WO2015155605A3:  
<https://patentimages.storage.googleapis.com/48/f0/50/4ba3acc53b5a8d/WO2015155605A3.pdf>
- WO2022060475A1:  
<https://patentimages.storage.googleapis.com/71/9b/75/27d6eccd624af4/WO2022060475A1.pdf>

## DETAILED ANALYSIS

The idea of a solar-powered laptop revolves around integrating solar cells into the laptop's design, allowing it to harness solar energy for power. This concept aims to provide a sustainable and eco-friendly solution for portable computing, reducing the reliance on conventional power sources and increasing the device's usability in remote or off-grid locations.

The IP landscape surrounding this idea includes patents related to solar energy conversion, photovoltaic devices, and their integration into electronic devices. One relevant patent is US9593053B1, which focuses on photoelectrochemically active heterostructures. This patent is in the field of micro-scale photovoltaic devices, specifically photoelectrochemical/photoelectrosynthetic devices, processes, and systems for utilizing solar energy to drive chemical reactions. Although this patent is not directly related to solar-powered laptops, it provides valuable insights into the technology of solar energy conversion and its potential applications in electronic devices.

Another related patent is US4263110, which discloses the use of semiconductor "platelets" suspended in a reactor vessel containing aqueous hydrobromic acid to produce hydrogen gas and bromine as products. This patent demonstrates the potential of using semiconductor materials to capture solar energy and convert it into usable forms. Similarly, US4094751 discloses Schottky-type and p-n junction type photochemical diodes, which are capable of absorbing light energy and creating electrons and holes. These electrons and holes can then be used to drive reduction and oxidation reactions, respectively.

The idea of a solar-powered laptop differs from these existing patents in that it specifically focuses on integrating solar cells into the design of a laptop to provide power for its operation. While the patents mentioned above provide valuable insights into solar energy conversion and photovoltaic devices, they do not directly address the integration of these technologies into a laptop or other portable electronic devices. The solar-powered laptop concept would

require the development of efficient, lightweight, and durable solar cells that can be seamlessly integrated into the laptop's design, as well as power management systems to ensure optimal performance and battery life.

In conclusion, the IP landscape surrounding the idea of a solar-powered laptop includes patents related to solar energy conversion and photovoltaic devices. However, these patents do not directly address the integration of solar cells into a laptop's design. The development of a solar-powered laptop would require advancements in solar cell technology, integration techniques, and power management systems to ensure a practical and efficient solution for portable computing.

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## **SUGGESTIONS TO IMPROVE SCORE**

### **1. Integration of Solar Cells into Laptop Design**

To make the solar-powered laptop more patentable, one suggestion is to integrate solar cells directly into the laptop's design. This could involve embedding thin-film solar cells into the laptop's outer casing, such as the lid or the bottom surface. This would allow the laptop to harness solar energy while in use or when closed and placed under sunlight. The integration of solar cells into the laptop's design would not only make it more aesthetically pleasing but also more practical for users, as they would not need to carry additional solar panels or charging devices.

### **2. Energy Storage and Management System**

Another suggestion to improve the solar-powered laptop idea is to develop an advanced energy storage and management system. This system would efficiently store the solar energy harnessed by the integrated solar cells and manage the power distribution within the laptop. The energy management system could intelligently prioritize power usage based on the user's needs and the available solar energy. For example, it could prioritize charging the laptop's battery when solar energy is abundant and switch to power-saving mode when solar energy is limited. This would ensure optimal performance and battery life for the laptop while maximizing the use of solar energy.

### **3. Adaptive Solar Energy Conversion Efficiency**

A third suggestion to enhance the solar-powered laptop idea is to incorporate adaptive solar energy conversion efficiency technology. This technology would allow the laptop's solar cells to adjust their conversion efficiency based on the intensity and angle of the sunlight. For example, the solar cells could increase their efficiency when the sunlight is strong and direct, and decrease their efficiency when the sunlight is weak or indirect. This adaptive technology would enable the laptop to harness solar energy more effectively, making it a more viable and attractive option for users who want a sustainable and eco-friendly computing solution.

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