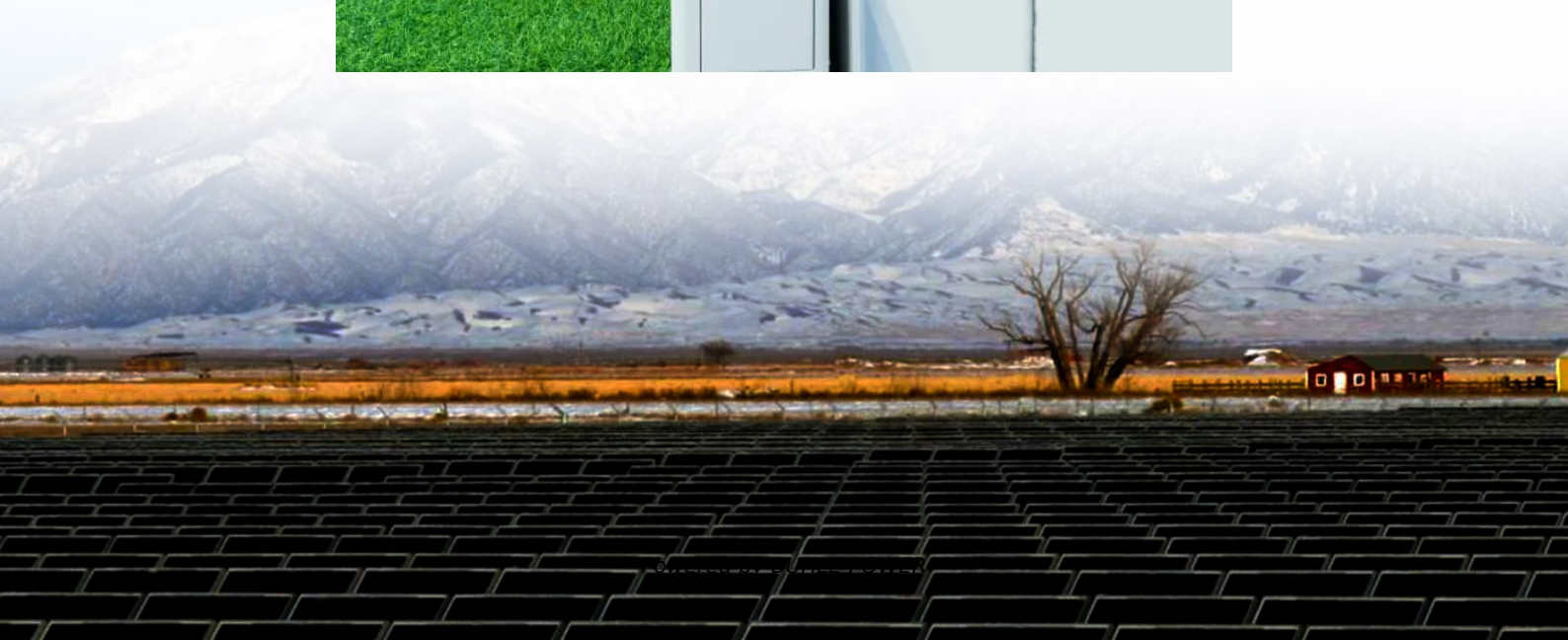


# **Coil spring energy storage power generation**





## Overview

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How much energy is stored in a coil spring system?

The energy stored in this spring system was 6.06 J, as calculated using Hooke's law. The volume of this system was 91.36 cm<sup>3</sup>. Therefore, the space utilization rate when using only the coil springs was 62.22 %, and the energy density was 0.066 J/cm<sup>3</sup>.

Does a coileaf spring system improve space utilization and energy storage?

The CoiLeaf spring system significantly improved space utilization and energy storage compared to commonly used coil spring systems and additional springs with mechanical components, as shown in Fig. 11. Fig. 11. Comparison between CoiLeaf spring system and a common spring system in the CVGC.

What is the energy storage capacity of coileaf spring?

Finally, we fabricated the proposed CoiLeaf spring. The energy storage capacity of the CoiLeaf spring system was experimentally measured as 11.38 J. Compared to the general systems utilized in the  $\Gamma$ -space, the maximum energy-storage capacity of the proposed CoiLeaf spring system was 5.47 times higher. © 2017 Elsevier Inc.

What is the energy storage capacity of a parallel spring?

In case of the parallel spring configuration, the energy storage capacities of the optimized coil spring and the optimal commercially available coil spring were 4.20 J and 4.12 J, respectively, and the difference between their capacities was 1.9%.



## Coil spring energy storage power generation

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