

UNIVERSE: THE INFINITE POWER BATTERY OF CHOICE

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The most common response to the question, "What does a power plant do?" is "It produces power." This answer, however, is fundamentally incorrect. No power plant—whether it be an electric battery, a boiler, a steam turbine, an airplane engine, or any similar system—produces power. Instead, these systems **convert energy** from one form into another, transforming it into a form suitable for activating processes or accomplishing tasks. In essence, what we have are **energy converters**, not power generators.

This realization leads to an even more profound understanding: all the energy we have ever used, or will ever use, was created at the instance of the **Big Bang**. At that moment, the enigmatic "dark energy" that existed prior to the Universe was converted into matter and radiation. Simultaneously, space itself was created, providing a canvas for this matter and radiation to exist and interact.

From this perspective, the Universe functions as a colossal **energy reservoir**, an infinite **battery** created in a singular moment of transformation. Over billions of years, humanity has managed to tap into minuscule fractions of this reservoir, converting chemical, solar, wind, geothermal, and, more recently, nuclear energy for its survival and progress. Yet, the amount of energy we have extracted is but a drop in an incomprehensibly vast ocean—a number so small it could be expressed as 0.0000... followed by an infinitesimal significant digit.

Despite our technological advancements, humanity remains largely incapable of accessing the full potential of this "infinite" **Universe Battery**. So far, we were able only to tap into it via nuclear energy generation. Although a very impressive achievement, the conversion of nuclear energy into form useful to us is via old technologies involving cumbersome management of heat and its conversion in electricity. Bulky and inefficient technology.

Thus, humanity stands at a crossroads. The energy of the Universe is vast, powerful, and theoretically limitless. However, our ability to harness it remains limited by monumental technological obstacles we must face. We need new physics and we need new technologies.

Summarizing, the Universe is an unlimited source of energy and is a profound testament to the transformative power of the Big Bang. In the context of the grand cosmic narrative, and promises of energy we may be able to extract some day from Universe's infinite battery, only advancements, yet unimaginable, in physics and related fields will make it available. This will remove the issue of energy from our political and social sphere of concern!

PS. Giving lectures at universities, I routinely ask a question: where do you think the energy we enjoy comes from? And it takes multiple iterations until the students realize that the sun is not the Ultimate source, and arrive at the correct answer: Big Bang...