C1 - Artificial Intelligence

AI Needs a Tremendous Amount of Power. Breakthrough needed.

Bajraktari 24, report the growing **AI**,challenge is **energy**. Progress in AI will **soon face the limits** of the **power** available on the grid., maximizing AI's **potential** will require an energy **breakthrough**. While the nation needs diverse approaches, the best solution is the promise of fusion., **AI** models are run from **data centers**. These models require power **to build**, Both are energy-**intensive**. Combined, the vast **expansion** of AI means that the electricity **consumption** of building and running AI models may **soon match** the power generation of small **countries** — and then **grow beyond** that.

AI will collapse if energy demand is not met

Hetzner 24, writes **We won't be able to continue the advancements of AI without addressing power**.

Only Nuclear energy solves.Wong 24 states The world is already struggling to generate enough electricity to meet the internet's growing power demand, which AI is rapidly accelerating. Large grids and electric utilities across the U.S. are warning that AI is straining their capacity, and some of the world's biggest data-center hubs—are struggling to find power.

To fill the gap, many tech companies are turning to burning fossil fuels. **Nuclear energy is the only option able to meet demand for AI**.

In fact, nuclear energy is the only form of energy that can power society.

Walters 22, starts .batteries would have to power a grid at full load for days at a time. Nothing short of that is acceptable.building truly expensive battery storage,would run into the multi-trillions . Battery power can provide for some hours of power when there is enough storage (taken from). Beyond that there is simply no financial scenario that would make this at all cheap, in fact it would make just a simply "**24 hour**" battery **prohibitive** in almost **all locations** in the **world**. Batteries can work to *mitigate* the rapid load swings from a large RE penetration of the grid, the little ups and downs of demand and generation. Nuclear can provide 100% of energy needs and do so **cheaper** than all other forms of energy generation.

Ai has 2 Impacts

1: Economy.

Jim **Probasco 24**. Reports The use of **Gen AI** in finance is expected to increase global gross domestic product (**GDP**) by 7% or nearly **$7 trillion**. It should boost **productivity growth** by 1.5%, according to **Goldman Sachs Research**.

2: AI improves energy and makes it cleaner. Solves sustainability and is an infinitely positive cycle, but AFF is key to getting there.

Adallat 22 writes AI and other automation systems have the potential to make **huge impacts** on economic growth across the globe, going so far as to support solving humanity's **most critical roadblocks**, from **streamlining energy production** to **improving grid systems** and achieving **more sustainable operations** for nearly **every** major industry on Earth. Flexibility around the ever-progressing capabilities of AI will be vital. The minute that humans and machines find the groove in the role they play with one another, that marriage of unlimited creativity and seamless functionality should bring about an era that propels us **beyond all limits** to solve some of our world's most important challenges, including the **climate crises**.

C3 - Climate Change

W1: Nuclear energy doesn't emit greenhouse gases ("carbon-free power")

Energy.gov '21, wries **Nuclear is a zero-emission clean energy source** It is the **process of splitting uranium atoms** to produce energy. T**United States avoided more than 471 million metric tons of carbon dioxide emissions in 2020.**

W2: Global nuclear capacity must double by 2050 to meet net-zero carbon goals

IAEA '21" states **a lack of willingness to embrace nuclear could lead to almost no change in capacity by 2050, leading to a climate catastrophe**. Many **innovative nuclear technologies,** s, **are providing plenty of options**. **Governments** s **have important roles to play in supporting innovation and the early deployment of all clean energy technologies.** T

Impact 1 **Nuclear energy prevents deaths**

Kharecha '13 writes **global nuclear power has prevented** o**f 1.84 million air pollution-related deaths could additionally prevent an average of7.04 million deaths** a **midcentury,**

Impact 2 Economy boost

"Infrastructure." ***Nuclear Energy Institute*, 2017** starts . **With nuclear energy, states can meet emissions reduction goals The nuclear energy sector supports about 475,000 jobs and produces over $12 billion annually in federal and state tax revenues**.