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SUSTAINABLE TECHNOLOGY

Powering Progress Without Compromise

NEWSLETTER OVERVIEW:

Sustainable technology is reshaping how we innovate while protecting the planet. This newsletter explores **Sustainable Technology: Powering Progress Without Compromise**, showing how clean solutions drive growth without environmental harm.

In Sustainable Technology in News, we highlight recent breakthroughs, policies, and global initiatives accelerating green adoption across industries. We also examine Green Finance: The Financial Engine Behind Sustainable Technology, explaining how investments, ESG strategies, and funding models fuel innovation. From renewable energy to circular design and smart infrastructure, this edition offers a practical view of how sustainable tech balances progress, responsibility, and long-term impact—helping industries evolve while securing a cleaner, more resilient future.

As the world faces rising environmental challenges, sustainable technology is no longer optional but essential for growth. It helps businesses and individuals reduce their ecological footprint while maintaining efficiency and innovation. By integrating sustainability into everyday systems, we can build a smarter, greener future.



SUSTAINABLE TECHNOLOGY

Sustainable Technology refers to innovative systems, tools, processes, and designs engineered to meet current societal, economic, and environmental needs without compromising the ability of future generations to meet their own citation. This concept extends beyond simply mitigating environmental damage, integrating environmental protection with social equity and economic viability. Sustainable technology adopts a holistic philosophy that includes resource efficiency, circular economy principles, and long-term societal well-being.



In energy production, sustainable approaches include solar panels, offshore wind energy, and advanced CO₂ capture and utilization (CCU) technologies. Hydrogen generated from renewable sources offers a versatile, zero-carbon emission fuel at the point of use. Fuel cell hybrid electric vehicles (FCHEVs) represent a sustainable transportation solution, aiming to reduce the environmental impact of fossil fuels through optimized energy management strategies that consider both fuel economy and durability.

Cellular agriculture is another significant development, enabling production of meat and plant products from tissue or cells in bioreactors, thereby reducing the environmental footprint of traditional farming methods.

Nanotechnology plays a crucial role due to its capacity to manipulate matter at atomic and molecular scales, offering novel solutions for environmental challenges. For instance, nano-enabled membranes can purify water more efficiently, and nanoparticle catalysts can enhance the production of biofuels.

Green nanotechnology specifically focuses on integrating principles of green chemistry and engineering to produce safe and eco-friendly solutions. Researchers are developing sustainable methods for synthesizing eco-friendly materials, such as green nanoparticles, with applications in bioremediation and biotechnology.



The circular economy, a core principle of sustainable technology, represents a transformative economic model that aims to redefine growth by minimizing resource input, waste emissions, and energy leakage which contrast sharply with the traditional linear "take-make-dispose" model. It is the closed-loop flow of materials and energy, achieved through strategies such as reusing, repairing, refurbishing, remanufacturing, and recycling products and materials. This approach extends the lifecycle of products, reduces the consumption of virgin resources, and significantly minimizes waste generation while keeping materials at their highest utility and value at all times.

The development and adoption of sustainable technologies are critical for addressing global challenges such as population growth, industrialization, urbanization, waste generation, greenhouse gas emissions, and resource depletion. Scientific and rational evaluation of sustainable technology is essential for guiding enterprises and countries towards comprehensive economic, social, and ecological benefits.

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GREEN FINANCE: THE FINANCIAL ENGINE BEHIND SUSTAINABLE TECHNOLOGY

Introduction

Today the world is facing serious environmental problems such as climate change, pollution, and the depletion of natural resources. While technology can help solve these problems, it also requires strong financial support to grow and develop. This is where green finance becomes important.

What is Green Finance?

Green finance refers to financial investments that support environmentally friendly and sustainable projects. It helps provide funds for initiatives such as renewable energy, electric vehicles, waste management, and energy-efficient infrastructure. In simple terms, green finance ensures that money is invested in projects that protect the environment and promote sustainable development.

Growing Importance of Green Finance

In recent years, green finance has gained global importance. Many financial institutions and investors now consider Environmental, Social, and Governance (ESG) factors while making investment decisions. Instruments like green bonds and impact investing are used to fund projects that create both financial returns and positive environmental impact.



Green Finance in India

In India, green finance is becoming increasingly important as the country tries to balance economic growth with environmental protection. Government initiatives such as the National Solar Mission and incentives for electric vehicles have encouraged sustainable investments.

Conclusion

Overall, green finance plays a key role in supporting sustainable technology and creating a greener future. By directing funds toward environmentally responsible projects, it helps ensure that economic growth does not harm the planet.

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SUSTAINABLE TECHNOLOGY: POWERING PROGRESS WITHOUT COMPROMISE

The development of sustainable technology enables people to make advancements without having to make sacrifices. The evolution of technology has transformed our methods of existence, employment, and competition. The current situation requires new methods of innovation because we face increasing climate change, resource limitations, and energy requirements. The future of technological progress extends beyond its two main aspects of speed and scale because it needs to achieve sustainable development.

Sustainable development and corporate growth through three separate yet interconnected drivers: economic development and environmentally sustainable development and social responsibility. The new framework of sustainable technology extends beyond environmentally friendly products because it introduces a different approach to environmental problems. The system needs to create complete designs which will decrease all forms of waste and environmental damage from the beginning of material extraction until the final product is discarded.

Sustainable technology has become essential and is now a standard practice that everyone needs to adopt for modern living.

1. Economic Performance

Organizations that adopt sustainable technology can cut costs significantly. They achieve this by conserving energy, managing waste, and using resources effectively. Sustainable technology improves productivity and lowers costs over time.



2. Competitive Advantage

Customers are increasingly attracted to businesses that act responsibly toward the environment. Sustainable technology improves reputation, builds customer loyalty, and helps recruit responsible employees and investors.

3. Regulatory Readiness

Countries are putting stricter environmental laws in place. The European Green Deal is one example of governments pushing for greener practices. Businesses that adopt sustainable technology stay ahead of the competition regarding compliance with regulations.

4. Environmental Impact

Renewable energy sources, eco-friendly manufacturing, and efficient resource use help lower carbon emissions. Sustainable technology is vital in the battle against climate change and in conserving natural resources.

Sustainable development requires advanced technology, with companies using AI and analytics to track emissions and support sustainability goals.

THE DICHOTOMY OF SUSTAINABILITY THROUGH TECHNOLOGY

We love the romanticised idea of technology as a solution to the climate crisis. Every revolution we witness, whether in the field of energy production (renewable sources of energy), recyclability, industrialisation, space-exploration, etc. fills our heads with the promise of a better tomorrow. Technology is presented as a messiah that can solve every crisis but more often than not, ends up being destructive to the environment it promises to save, the accumulation of pesticides, heavy metals, and microplastics in the food chain being one of several consequences. The nature of technology itself, relies on profit driven environmentalism and virtue signalling as a means to guilt people into mindless consumerism rather than bringing meaningful change.

To elaborate, people have an innate fear of systemic change. Innovations are offered as a means for the privileged to throw money at a problem and wish for it to disappear. Presenting technology as a solution to the climate crisis hypertargets this section of society that can easily be capitalised upon. From an industrial perspective, the innovations are required to be sellable or profitable products. Setting up scalable hosting for services, and setup and maintenance of infrastructure, rarely break even with the environmental cost of their existence. However, there exists an approach for sustainability through measures of systemic change, namely, subsidisation of innovations. As exemplified by the adoption of renewable sources of energy by Scandinavian countries, the reduction of pollution by the radical shift to electric vehicles in China, and similar cases across the globe, systemic change can be effective in the fight against climate crisis.

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Unfortunately, it is also plagued by nuanced flaws.



[World Bank] GDS of India 1996-2024

The situation with electric vehicles in India is one such example, where, despite subsidization, the price of electric vehicles remains at least 30-40% higher than equivalent gas vehicles. Combined with the ever decreasing Gross Domestic Household Savings since 2010, this limits the adoption rates but for a negligible section of the population. The issue of systemic inequality plagues almost every developing and third world country. As Philip Vergragt highlights in his essay on “How Technology Could Contribute To A Sustainable World”, third world nations can be “leap-frogged” into the 21st century with a bombardment of new technologies like solar panels, internet, but the accessibility will remain limited to the wealthy few until we develop a deeper understanding of the relationship between a sustainable and an equal society.

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TECH NEWS

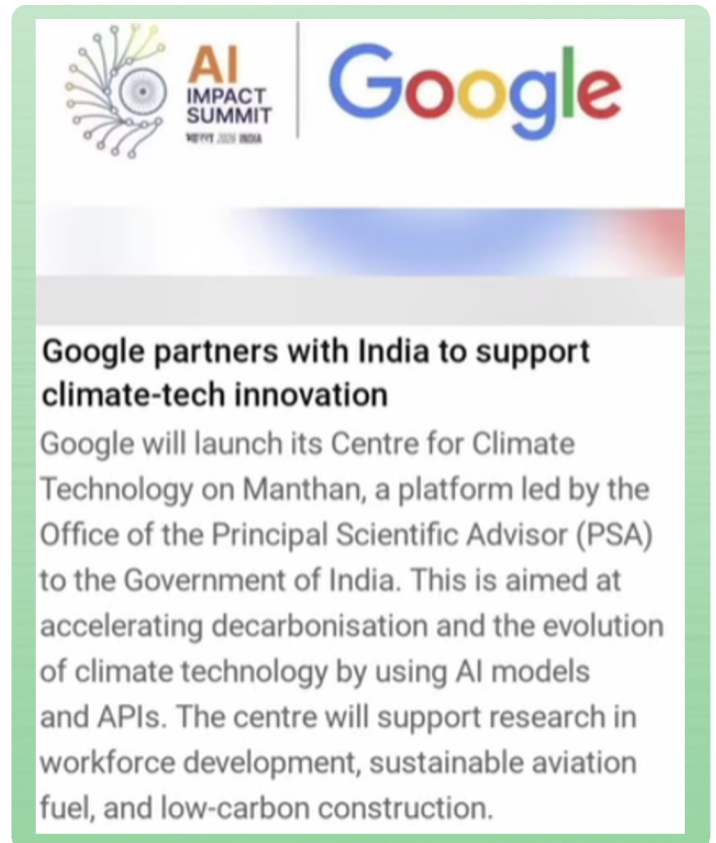


FIGURE 3: GOOGLE PUBLISHES UPCOMING CLIMATE TECH COLLABORATION IN INDIA
SOURCE : GOOGLE VIA BLOG.GOOGLE COMPANY NEWS

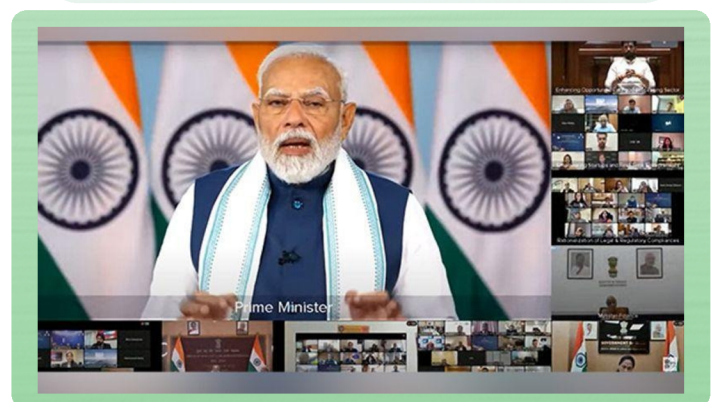


FIGURE 2: PM MODI CALLS FOR MANUFACTURING PUSH, SUSTAINABILITY FOCUS
SOURCE : TIMES OF INDIA

Reflections from the 2026 Asia-Pacific Forum on Sustainable Development - Why regional SDG spaces matter

The [13th Asia-Pacific Forum on Sustainable Development \(APFSD\)](#) took place in Bangkok from 24 to 27 February 2026 under the theme *"Transformative, equitable, innovative, and coordinated actions for the 2030 Agenda and its SDGs for a sustainable future for all."* Convened by [the United Nations Economic and Social Commission for Asia and the Pacific \(ESCAP\)](#), the Forum brought together governments, United Nations (UN) entities, intergovernmental organizations, civil society, and other stakeholders from across the region. This year's discussions were closely aligned with the [2026 High-level Political Forum \(HLPF\)](#), with focused review of **SDGs 6, 7, 9, 11, and 17**, as well as sessions on Voluntary National Reviews (VNRs), subregional implementation, financing, and system-wide UN support.

FIGURE 5: 2026 ASIA-PACIFIC FORUM ON SUSTAINABLE DEVELOPMENT
SOURCE : NGOC ANH FOR ASIA FOR ANIMALS COALITION

Devdiscourse

Revolutionizing Gaushalas: Uttar Pradesh's Tech-Driven Initiative

Uttar Pradesh is set to modernize its gaushalas by integrating German technology, aiming to make them self-reliant. The government has signed an MoU with...

FIGURE 6: U.P. GOVERNMENT SIGNS MOU WITH GERMANY'S GIZ GMBH
SOURCE : DEVDISCOURSE

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