Green For Technology

Group 5

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Green Technology For Sustainable Development

Introduction to Green Technology

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- Green Technology – eco-friendly innovations
- Reduces environmental impact
- Promotes renewable energy use
- Sustainable Development – future-focused growth
- Meets present needs responsibly
- Balances economy and environment
- Green technology supports sustainability

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- ❖Conservation of Natural Resources
- ❖Environmental Protection
- ❖Economic Stability
- ❖Social Equality
- ❖Reduction of Climate Change Effects
- ❖Protection of Biodiversity
- ❖Long-Term Development

Need for sustainable development

WITH GREAT POWER COMES
GREAT RESPONSIBILITY
- SOURAV

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Smart Cities

- Economic Sustainability
- Environmental Sustainability
- Social Sustainability

Green Buildings

- Economic Pillar
- Environmental Pillar
- Social Pillar

Green Buildings and Smart Cities

Artificial photosynthesis in Green Technology

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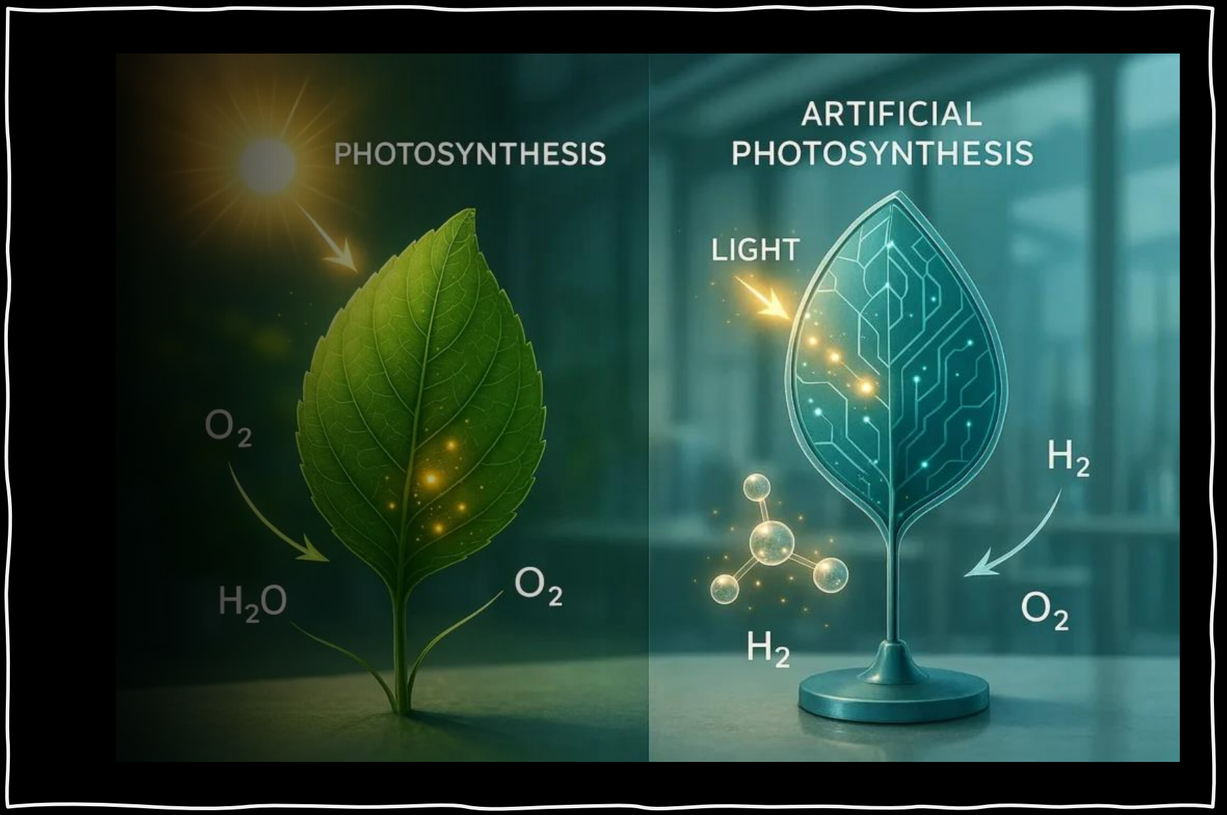
- ❖Copying Nature
- ❖Storing Sunlight
- ❖Cleaning the Air
- ❖Better than Plants
- ❖Green Fuel for Big Machines



Artificial photosynthesis in Green Technology

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Applications

- ❖Green Hydrogen Production
- ❖Synthetic Hydrocarbons
- ❖Carbon-Neutral Plastics
- ❖ Green Ammonia
- ❖Sustainable Fragrances & Fine Chemicals:

Major Uses

- ❖Decentralized Fuel Refineries
- ❖Industrial Carbon Recycling

Artificial photosynthesis in Green Technology

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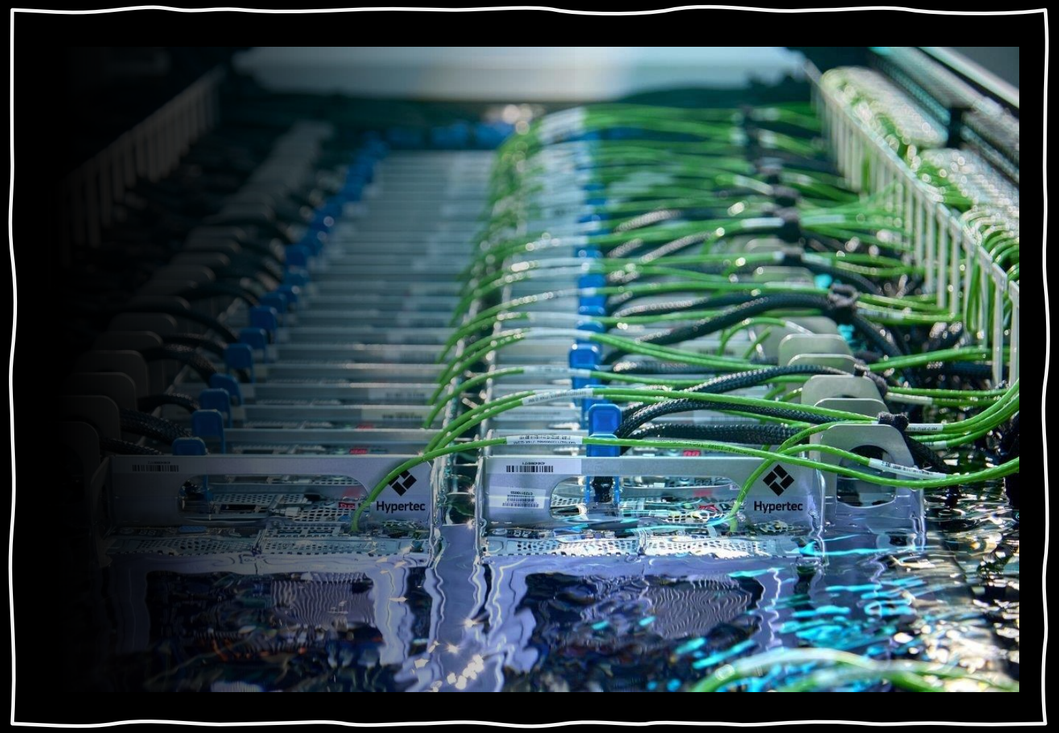
Advantages

- ❖Energy Storage
- ❖Carbon Negative
- ❖High Energy Density
- ❖Superior Efficiency
- ❖Land Use

Disadvantages

- ❖High Initial Cost
- ❖Low Market Maturity

Green data centers using AI



- Introduction
- Energy-Efficient Cooling
- Smart Power Management
- Renewable Energy Integration
- Predictive Maintenance
- Environmental Benefits
- Real-World Examples

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Green technology in agriculture and Food Security

- Precision Farming
- Indoor Growing
- Stronger Crops
- Saving Resources
- Reducing Waste

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Social & Economic Perspectives

- Introduction
- A Historical Perspective
- Job Creation
- Impact on Poor Communities
- Health & Social Benefits
- Government & Policy Support
- Conclusion

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Climate Adaptation Technologies

Climate change causes:

- ❖Heavy rainfall and floods
- ❖Extreme heat
- ❖Drought and water shortage
- ❖Strong storms

Adaptation technologies :

- ❖Flood barriers to protect cities
- ❖Cool roofs to reduce heat
- ❖Drip irrigation to save water
- ❖Rainwater harvesting systems

Why It Is Important?

- Reduces damage from floods and storms
- Helps farmers grow crops during drought
- Protects people from extreme heat
- Saves and manages water properly
- Protects houses, roads, and buildings
- Reduces risk to human life

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Climate Adaptation Technologies

Green Transport and mobility innovations

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❖Concept

❖Environment-friendly transportation system
❖Reduces air pollution and carbon emissions
❖Uses clean energy sources
❖Promotes sustainable mobility

❖Key Innovations:

❖ Electric Vehicles (EVs)
❖ Hydrogen fuel vehicles
❖ Biofuel-based transport
❖ Smart public transport systems like Metro

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Green Transport and mobility innovations

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❖Impact & Benefits:

❖Improves air quality
❖Saves energy
❖Reduces fuel dependency
❖Lowers traffic congestion
❖Supports sustainable development

❖Future of Green Mobility:

❖ Autonomous electric vehicles
❖ Electric air taxis
❖ Advanced battery technology
❖ Smart transport networks

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Challenges & Future directions

❖Challenges

❖High initial cost
❖Lack of awareness
❖Technological Limitations
❖Infrastructure Problems

❖Future Directions

❖ Improvement in renewable Energy
❖ Green Hydrogen Energy
❖ Electric Vehicle Growth
❖ Waste to Energy Technology

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- Sustainable development protects resources for future generations.
- Green technology reduces pollution and carbon emissions.
- Green buildings, smart cities, and transport improve energy efficiency.
- Artificial photosynthesis and AI data centers support clean energy.
- Sustainable agriculture ensures food security and resource conservation.
- Climate adaptation technologies address climate change impacts.
- Innovation and strong policies can build a greener future.

Conclusion.

WITH GREAT POWER COMES GREAT RESPONSIBILITY

- SOURAV