Agroforestry

An integrated land use system where trees or shrubs are grown around or among crops or pastureland to enhance biodiversity and productivity.

Relevance: Agroforestry improves soil fertility, sequesters carbon, and supports income diversification. It is a key strategy in regenerative agriculture and climate-smart land management investments.

Albedo Effect

The proportion of solar radiation reflected by a surface. Light-colored surfaces have a high albedo and reflect more heat, while dark surfaces absorb it.

Relevance: The albedo effect influences climate modeling and urban design. It is key to developing cool roofs, reflective infrastructure, and geoengineering solutions for heat mitigation.

Anaerobic Digestion

A biological process where microorganisms break down organic matter in the absence of oxygen, producing biogas and a nutrient-rich soil amendment.

Relevance: Anaerobic digestion is a circular economy solution that turns waste into energy, reducing methane emissions from landfills and providing renewable power for local grids.

Biochar

A carbon-rich substance created through pyrolysis of organic biomass in a low-oxygen environment. When applied to soil, biochar improves water retention, enhances nutrient availability, and stores atmospheric carbon for hundreds to thousands of years. It is used to enhance soil fertility and sequester atmospheric carbon.

Relevance: Biochar improves agricultural resilience and captures carbon, aligning with regenerative agriculture, carbon credit generation, and climate finance strategies.

Biophilic Design

An architectural and urban planning approach that incorporates natural elements to improve health, productivity, and ecological integration.

Relevance: Biophilic design is tied to green infrastructure and ESG real estate, enhancing building performance, tenant well-being, and biodiversity in urban areas.

Blue Carbon

Carbon captured and stored by coastal ecosystems such as mangroves, seagrasses, and salt marshes.

Relevance: Blue carbon ecosystems are powerful carbon sinks and provide co-benefits for biodiversity and disaster resilience. They are becoming a focal point in carbon credit markets and coastal finance initiatives.

Carbon Farming

An agricultural method that increases the amount of carbon stored in soil and vegetation through techniques like no-till farming, cover cropping, and agroforestry.

Relevance: Carbon farming qualifies for emerging carbon markets and supports soil restoration efforts, making it attractive for impact investors and ESG-aligned landowners.

Coral Bleaching

A stress response in coral reefs where symbiotic algae are expelled due to heat or pollution, causing the coral to turn white and often die.

Relevance: Coral bleaching is a visible signal of climate stress on marine ecosystems. Its impact on biodiversity, fisheries, and coastal protection makes it a critical risk factor in ocean finance and resilience planning.

Direct Air Capture (DAC)

A technological process that removes carbon dioxide directly from the atmosphere and stores it underground or uses it in products.

Relevance: DAC is part of the negative emissions toolkit. It is gaining traction in carbon removal markets and climate venture capital as a high-potential but capital-intensive solution.

Environmental DNA (eDNA)

Genetic material collected from environmental samples like water, soil, or air rather than directly from an organism.

Relevance: eDNA is revolutionizing biodiversity monitoring and impact assessments, enabling cost-effective environmental due diligence for conservation finance and regulatory compliance.

Fish Passage Restoration

The removal or modification of barriers like dams to allow fish and aquatic species to access critical habitats.

Relevance: Restoring fish passages boosts biodiversity and fisheries sustainability. It supports conservation finance, water restoration credits, and public-private watershed partnerships.

Floating Solar

Photovoltaic panels installed on water bodies such as reservoirs or lakes, offering dual-use of space and reduced evaporation.

Relevance: Floating solar expands clean energy capacity without occupying arable land. It is increasingly incorporated into municipal and water utility infrastructure projects.

Geothermal Energy

Heat derived from the Earth's interior that can be used for electricity generation or direct heating.

Relevance: Geothermal is a baseload renewable energy source with minimal land use. It offers stable returns for infrastructure investors and supports decentralized energy systems.

Green Hydrogen

Hydrogen produced through the electrolysis of water using electricity from renewable sources such as wind or solar.

Relevance: Green hydrogen is essential for decarbonizing sectors that cannot easily be electrified. It is central to global clean energy strategies and a growing focus for infrastructure investment.

Hydroponics

A soil-free method of growing plants using nutrient-rich water, often in controlled environments.

Relevance: Hydroponics reduces land use and water demand, making it ideal for food security investments and sustainable agriculture in urban and arid regions.

Marine Protected Areas (MPAs)

Designated ocean zones where human activity is limited to preserve biodiversity, habitat integrity, and ecological services.

Relevance: MPAs are tied to blue finance, biodiversity credits, and climate adaptation. They are critical to protecting carbon sinks, sustainable fisheries, and coastal economies.

Microgrids

Localized energy systems that can operate independently from the main grid, often powered by renewable sources.

Relevance: Microgrids support energy access in underserved areas and enhance grid resilience. They are investable through climate adaptation, infrastructure, and resilience funds.

Mycoremediation

A form of bioremediation that uses fungi to break down or absorb environmental contaminants such as oil, pesticides, or heavy metals.

Relevance: Mycoremediation offers a low-cost, decentralized way to clean polluted soils and waterways. It is an emerging solution in ecological restoration and environmental health sectors.

Offshore Wind Farms

Large-scale wind turbines installed in ocean waters to harness consistent, high-speed wind for renewable energy production.

Relevance: Offshore wind is a fast-growing sector in the energy transition. It attracts long-horizon capital due to strong policy support, stable returns, and contribution to national decarbonization targets.

Perovskite Solar Cells

Next-generation photovoltaic cells using perovskite-structured compounds that offer high efficiency and lower production costs than conventional silicon panels.

Relevance: Perovskite cells represent a major innovation in solar energy, opening up new frontiers in distributed power generation and sustainable energy equity.

Plastic-Eating Enzymes

Engineered enzymes capable of breaking down polyethylene terephthalate (PET) plastics into their original monomers.

Relevance: These enzymes present a breakthrough in circular economy strategies, offering scalable solutions to plastic pollution and unlocking new markets for waste valorization.

Regenerative Grazing

A livestock management practice that mimics natural herd movement to improve soil health, increase carbon sequestration, and restore grasslands.

Relevance: Regenerative grazing is gaining attention in climate-smart agriculture portfolios. It provides environmental returns alongside improved farm profitability.

Rewilding

The practice of restoring ecosystems to their natural, uncultivated state, often by reintroducing native species or removing human infrastructure.

Relevance: Rewilding is used in biodiversity banking, carbon offsetting, and nature-based solutions. It contributes to ecosystem stability and supports ecotourism and conservation impact funds.

Soil Bioremediation

A process that uses microorganisms, plants, or fungi to naturally break down pollutants in soil, restoring its health and making it safe for agriculture or ecological use.

Relevance: Soil bioremediation provides a low-cost, sustainable way to clean contaminated land, making it valuable in urban redevelopment, agriculture, and ESG-focused real estate investing.

Solar Thermal Energy

Technology that captures sunlight to generate heat, which can be used for electricity production, industrial processes, or space heating.

Relevance: Solar thermal is a proven, scalable solution for decarbonizing high-temperature industrial systems and reducing dependency on fossil fuels in building infrastructure.

Thermal Inversion

A meteorological condition where a layer of warm air traps cooler air beneath it, preventing pollutant dispersion and causing poor air quality.

Relevance: Thermal inversions increase respiratory risks and influence urban air pollution exposure. Understanding this phenomenon informs ESG risk metrics in real estate, health, and insurance.

Tidal Energy

Renewable energy generated from the movement of ocean tides using underwater turbines or barrages.

Relevance: Tidal power is predictable and has minimal visual impact, making it an appealing option in energy diversification strategies for coastal nations.

Vertical Farming

The practice of growing crops in vertically stacked layers using controlled environments, often in urban settings.

Relevance: Vertical farming reduces land use, water demand, and transportation emissions. It aligns with sustainable urban planning and food system resilience investments.