

Startup projects of "TIAME" NRU for green energy

HETA- mini electro track



The HETA mini electro track developed by TIAME in Uzbekistan aims to contribute to the reduction of carbon emissions. As an electric vehicle, it operates using an electric powertrain, which significantly reduces or eliminates the direct emissions of greenhouse gases such as carbon dioxide (CO₂) and pollutants compared to conventional vehicles with internal combustion engines.

By utilizing electricity as its source of energy, the HETA mini electro track helps to shift away from fossil fuel dependency and decrease reliance on non-renewable resources. The electricity used to power the vehicle can be sourced from renewable energy generation methods, such as solar or wind power, further enhancing its positive environmental impact.

Reducing carbon emissions is crucial in mitigating climate change and addressing global environmental challenges. Electric vehicles, including the HETA mini electro track, play a vital role in achieving this goal by promoting sustainable transportation options and minimizing the carbon footprint associated with traditional vehicle technologies.

It's important to note that the overall impact on carbon emissions also depends on the energy sources used for electricity generation. Transitioning to renewable energy sources for electricity production helps maximize the environmental benefits of electric vehicles and further reduces carbon emissions throughout the entire lifecycle of the vehicle.

Detail information: https://www.youtube.com/watch?v=Wn7sfTxu_fY

Defuse-IT intellectual water purification device with solar panel



Defuse-IT is an intellectual water purification device developed by TIAME (Tashkent Institute of Irrigation and Agricultural Mechanization Engineers), a National Research University in Uzbekistan. This device incorporates a solar panel to enhance its functionality and sustainability.

The Defuse-IT device utilizes innovative technologies to purify water, ensuring it meets the required quality standards for various applications. By integrating a solar panel, the device harnesses solar energy as a clean and renewable power source to drive its purification processes.

Key features and components of the Defuse-IT intellectual water purification device may include:

1. **Water Purification System:** The device employs advanced purification techniques to remove contaminants, impurities, and pathogens from water, making it safe for consumption or specific applications.
2. **Solar Panel:** The incorporated solar panel captures sunlight and converts it into electricity. This renewable energy source powers the purification processes, reducing or eliminating the need for grid electricity or other non-renewable energy sources.
3. **Energy Storage:** The device may include an energy storage system, such as a battery or supercapacitor, to store excess solar energy generated during periods of high sunlight. This stored energy can be utilized when sunlight is limited or during nighttime operation.
4. **Intelligent Control System:** The Defuse-IT device may feature an intelligent control system that optimizes the purification process based on the water quality, flow rate, and other parameters. This ensures efficient and effective water treatment.
5. **Monitoring and Maintenance:** The device might incorporate sensors and monitoring systems to track water quality, system performance, and maintenance requirements. This helps in ensuring reliable and continuous operation.

By combining water purification technology with solar power, the Defuse-IT device offers a sustainable solution for clean water provision. It reduces reliance on conventional energy sources and contributes to the mitigation of carbon emissions and environmental impact associated with water treatment processes.

For detailed information about the Defuse-IT intellectual water purification device, its specifications, and performance metrics, it is recommended to refer to official documentation or contact the relevant department at TIIAME.

Detail information: <https://tijame.uz/oz/content/universitetimiz-startap-loyihasi-defuse-itinvestorlarni-qiziqirmoqda>

Mini vertical wind generator



Vertical-axis wind turbines, as the name suggests, have the main rotor shaft positioned vertically. Unlike traditional horizontal-axis wind turbines (HAWTs) that have a horizontal rotor shaft, VAWTs have blades that rotate around a central vertical axis. This design allows them to capture wind from any direction and eliminates the need for a yaw mechanism to align with the wind.

Some potential advantages of vertical-axis wind turbines include:

Omnidirectional Wind Capture: VAWTs can utilize wind from various directions, making them suitable for areas with turbulent or changing wind patterns.

Lower Noise Levels: The vertical orientation of the rotor can reduce noise compared to horizontal-axis wind turbines, making VAWTs more suitable for residential or urban environments.

Ease of Maintenance: VAWTs typically have a simpler design with components located closer to the ground, making maintenance and repairs more accessible.

Scalability: Vertical-axis wind turbines can be designed in different sizes, including smaller-scale models suitable for decentralized or off-grid applications.