E-CYCLE

What you will get to know!!!

- Electric Bike Specifications: Details about the BLDC motor and lithium battery used in the electric bicycle.
- Benefits of Electric Bikes: Advantages such as no fuel requirements, extended range, GPS tracking, and ease of use on uneven terrain.
- Environmental Impact: The eco-friendly nature of the electric bicycle, emphasizing sustainability and reduced reliance on non-renewable resources.
- Practical Applications: Information on the practical use of electric bikes, including quick charging and the ability to ride manually if the battery is depleted.

About this Project

The project E-Cycle focuses on creating a cost-effective, lightweight, and user-friendly electric bicycle powered by a BLDC motor and lithium battery. Key features include quick charging, GPS tracking, and the ability to pedal manually if the battery runs out. The electric bike provides an extended range, ease of use on uneven terrain, and requires no license or taxes. This eco-friendly transportation solution supports sustainable practices and offers a practical, modern alternative for daily commuting.

OBJECTIVE

The goal is to develop a cost-effective electric bicycle that operates on battery power, is lightweight, and is user-friendly for the general public.

MATERIALS USED

- BLDC Motor Or, BLDC (Brushless Direct Current): The Motor is a state-of-the-art technology motor, offering a power range from 250W to 800W and voltage options from 24V to 36V. A 250W/24V motor should be sufficient for optimal performance for an electric cycle.

- Lithium Battery: This lightweight battery has many uses in cycles, bikes, scooters, drones, cameras, buses, cars, and more. Due to their lightweight nature, these batteries can be quickly recharged within 2–3 hours. The voltage of the motor and battery must be compatible; for example, if the motor is 24V, the battery should also be 24V. Lithium batteries are currently offered in the market with capacities ranging from 6Ah to 100Ah and voltages of 12V, 24V, or 36V.

- MPPT Charger Controller: The Maximum Power Point Tracking Charge Controller plays a crucial role in overseeing various systems, including charging, discharging, and controller devices

- Lithium Battery Charger: Electric vehicles are powered by batteries rather than diesel or petrol, with the battery being recharged from the grid. Different types of lithium battery chargers are available, such as a quick charger that can recharge the battery in 2-3 hours and a normal charger that takes 7-8 hours. These chargers are designed based on battery capacity and voltage range, requiring a minimum of a 2Amp/24V, 230V AC charger for lithium battery recharging. A solar panel can also be used for recharging, as long as its voltage is 24 volts.

- Installation Accessories: Our inventory includes wiring accessories, nuts, bolts, and base plates suitable for the installation of motor, battery, controller, accelerator, horn, lights, LED screen, shock absorber, tires, throttle, dynamo, and other similar items.

BENEFITS

- No tension of visiting Petrol Pump – Avoid the hassle of going to a petrol pump and waiting in line to refuel. Charge your vehicle overnight while you rest, and wake up to a fully charged bike ready for your journey.
- GPS tracking
- Earning 1,000 Per Day - With no fuel expenses, there is a profit to be made each day. Nowadays, numerous residential areas, gas stations, shopping centers, and other establishments have recharge points where you can easily recharge your bikes at affordable rates.
- If the cycle's battery runs out while on the road, it can still be ridden just like a normal cycle. Simply continue pedalling, as it will not stop functioning like a car that has run out of petrol.
- If you have experience riding a traditional bicycle, you are aware that covering a distance of 20-30 miles can be considered quite a lengthy journey. However, with an electric bike, you can travel the same distance with significantly less effort. Typically, an electric bike can cover a range of 40-75 miles on a single battery charge, subject to factors such as battery capacity, terrain, and riding style.
- One of the main benefits of an electric cycle is that it is much easier to ride on uneven terrain
- Riding an electric cycle does not call for a license, and there are no taxes to be levied.
- Riding an electric bicycle is currently considered fashionable. With the increasing popularity of the eco-movement, electric bicycles are being viewed as a practical and eco-friendly option that is gaining momentum every day.

CONCLUSION

In conclusion, e-cycling is crucial for advancing SDG 7 in our country and for individuals, as it promotes energy efficiency, reduces environmental impact, and conserves valuable resources. Embracing e-cycling not only supports national sustainability efforts but also empowers individuals to contribute to a cleaner and greener future. By actively participating in e-cycling initiatives, we can collectively work towards achieving SDG 7, ensuring affordable and clean energy for all. Let’s embrace the e-cycling as a sustainable solution, making a positive impact on our environment and society as a whole.