



Solid Waste Management

Vehicle Waste to New Electric Vehicles (Centre of Excellence in E-Mobility):

Arya Institute of Engineering and Technology – AIET has established state of the Art Lab to Create an Ecosystem for the Research, Innovation, Skill development, and Entrepreneurship for Green Mobility. As the world continues to grapple with environmental challenges and the need for sustainable solutions, the electrification of transportation has emerged as a key strategy to reduce carbon emissions and combat climate change. Establishing an Electric Vehicle (E-Vehicle) Centre of Excellence is a visionary step toward promoting the adoption and advancement of electric vehicles.

The establishment of an E-Vehicle Centre of Excellence is a proactive step toward driving the future of sustainable transportation. By focusing on research, innovation, collaboration, and knowledge dissemination, these centres have the potential to accelerate the adoption of electric vehicles and catalyse the transformation of the transportation sector. Through technological advancements and market growth, an E-Vehicle CoE can contribute significantly to a greener and more sustainable future, ensuring a cleaner and healthier planet for generations to come.

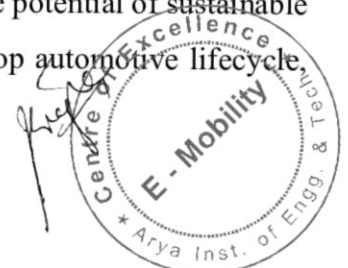
A significant environmental challenge is about the waste management of the vehicle waste. The lifespan of a vehicle, from assembly line to junkyard, produces a myriad of materials that, if not managed efficiently, can contribute to environmental degradation. However, with innovative strategies, the journey from vehicle waste to crafting new vehicles is becoming a reality.

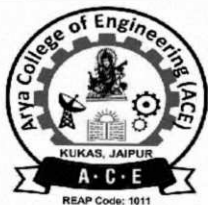
The primary materials in vehicles metals, plastics, glass, and rubber—are inherently recyclable. Initiatives have been introduced to streamline the recycling process, ensuring that the end-of-life vehicles (ELVs) don't end up as mere landfill waste. Advanced shredding techniques break down vehicles into their elemental components, segregating them for reuse.

Instead of the traditional 'take-make-dispose' linear approach, this model emphasizes reducing, reusing, and recycling. Components such as engines, transmissions, and batteries, which once would have been discarded, now undergo refurbishment or remanufacturing. These refurbished parts not only conserve resources but also come at a fraction of the environmental and economic cost of producing new ones.

Furthermore, the emerging trend of electric vehicles (EVs) presents a unique challenge and opportunity. EV batteries, although designed for longevity, eventually degrade. Rather than disposing of these batteries, they can be repurposed for energy storage systems, giving them a second life before being recycled.

In conclusion, the transformation of vehicle waste into new vehicles epitomizes the potential of sustainable waste management. As industries continue to innovate, the dream of a closed-loop automotive lifecycle where waste becomes a valuable resource, draws closer to reality.





ARYA College of Engineering (ACE)

Previously Known as Arya Institute of Engineering & Technology (AIET)

(Affiliated to RTU
Approved by AICTE, New Delhi)

Office of the Center of Excellence (COE) in E-Mobility Research & Skill Development

(Recognized by RTU, Kota)

List of products made using Vehicle Waste

S. No.	Product Name
1	E-Golf Cart
2	E-Loading Rikshaw-I
3	E-Loading Rikshaw-II

