GENERAL STUDIES II

ELV Circular Economy Report 2026: UPSC Notes

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India's rapidly growing automobile sector faces a major waste-management challenge as the projected stock of end-of-life vehicles approaches 50 million by 2030. NITI Aayog's January 2026 report, prepared with TERI, calls for the expansion of Registered Vehicle Scrapping Facilities, stronger Extended Producer Responsibility, improved fitness-testing infrastructure, incentives linked to Certificates of Deposit and digital records through VAHAN. A scientifically managed vehicle recycling ecosystem can recover steel and other valuable materials, reduce pollution and support green employment. These original Civil Service Gurukul notes analyse the report's findings, India's vehicle scrappage framework, formal-versus-informal recycling challenges, policy solutions, UPSC Prelims facts and a GS-III Mains model answer.

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UPSC PRELIMS & MAINS 2027

GS-III | Circular Economy & Environment

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India's projected 50 million end-of-life vehicles by 2030, recycling infrastructure, vehicle scrappage policy, Extended Producer Responsibility and complete UPSC Prelims–Mains notes.

Updated: 21 October 2026 Report: January 2026 UPSC 2027 Civil Service Gurukul

Why in News? NITI Aayog's January 2026 report, prepared with research support from TERI, warns that the cumulative number of **End-of-Life Vehicles (ELVs)** in India could increase from approximately 23 million in 2025 to nearly 50 million by 2030. The report highlights the need for formal recycling, environmental protection, resource recovery, better infrastructure and effective implementation of vehicle scrapping reforms.

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23 Million
Estimated ELVs in 2025

50 Million
Projected ELVs by 2030

NITI Aayog
Report Publisher

Important distinction: ELVs means End-of-Life Vehicles, not Electric Vehicles (EVs). The report concerns the scrapping and recycling of vehicles that have reached the end of their usable or legally permitted life. The 2030 number is a projection, not a current vehicle count.

UPSC GS Section / Paper

GS Paper III: Environment, pollution, waste management, industrial development, resource efficiency and sustainable growth.

GS Paper II: Government policy, regulation and institutional coordination.

GS Paper I: Urbanisation and its environmental consequences.

Prelims: NITI Aayog, ELVs, EPR, RVSF, ATS, CoD and the VAHAN portal.

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1. What Are End-of-Life Vehicles?

End-of-Life Vehicles are vehicles that are no longer roadworthy, are legally ineligible for use under applicable provisions, or are voluntarily surrendered for environmentally sound scrapping.

The precise legal treatment depends on registration, fitness, vehicle category and applicable rules. A vehicle's age alone should not be treated as universal proof that it must be scrapped.

Materials That Can Be Recovered

Ferrous Metals

Steel and iron from vehicle bodies and components.

Non-Ferrous Metals

Aluminium, copper and other recoverable metals.

Polymers and Glass

Recoverable plastic, rubber and glazing materials.

Hazardous Components

Batteries, fluids and contaminated parts needing special handling.

2. NITI Aayog's January 2026 Report

NITI Aayog released the report as part of a broader effort to strengthen circularity across material-intensive waste streams.

It was launched alongside separate reports concerning waste tyres and electronic waste and lithium-ion batteries.

The study examines environmental, regulatory, financial and infrastructure barriers in the vehicle-scrapping ecosystem.

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Particular	Details
Report title	Enhancing Circular Economy of End-of-Life Vehicles (ELVs) in India
Publisher	NITI Aayog
Knowledge partner	TERI
Publication	January 2026
Launch	22 January 2026, Jaipur
2025 estimated cumulative stock	Nearly 23 million ELVs
2030 projected cumulative stock	Nearly 50 million ELVs

3. What Is a Circular Economy?

A circular economy seeks to keep materials and products in productive use for longer, reduce avoidable waste and recover value when products reach the end of their life.

For vehicles, it includes repair, reuse, responsible dismantling, materials recycling and safe disposal of hazardous residues.

Circular Vehicle Management

The priority is not simply to crush old vehicles. It is to recover useful resources while preventing environmental harm.

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4. Why Are ELVs an Environmental and Economic Concern?

Air Pollution

Older and poorly maintained vehicles can generate substantial air pollution. Replacing high-emitting vehicles may improve air quality where supported by appropriate policies.

Soil and Water Pollution

Unscientific dismantling may release oil, coolants, fuel, battery chemicals and other hazardous substances.

Resource Loss

Failure to recover usable metals increases dependence on virgin raw materials.

Worker Safety

Unregulated dismantling can expose workers to physical injuries, toxic substances and unsafe working conditions.

Resource Security

Recovering steel, aluminium and copper supports domestic material availability and efficient manufacturing.

5. India's Vehicle Scrappage Policy Framework

India's scrappage ecosystem is governed through motor vehicle and environmental regulations, including requirements for vehicle fitness, scrapping facilities and relevant waste-management responsibilities.

Important Components

Component	Purpose
Motor Vehicles Scrapping Facility Rules, 2021	Regulate recognition and operation of vehicle scrapping facilities.
Automated Testing Station Rules	Provide framework for vehicle fitness testing.
VAHAN	Digital vehicle-registration information system.
V-Scrap	Digital functions relating to authorised vehicle scrapping.
Certificate of Deposit	Documents vehicle handover for authorised scrapping and supports eligible incentives.
Environment Protection Framework	Addresses relevant pollution-control and waste-management obligations.

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UPSC note: The report's proposed reforms must be distinguished from provisions already implemented. For example, recommendations for additional digital controls or nationwide uniform incentives are not necessarily existing universal legal requirements.

6. RVSFs and ATS: Important Differences

Aspect	ATS	RVSF
Full Form	Automated Testing Station	Registered Vehicle Scrapping Facility
Main Role	Assesses vehicle fitness.	Receives and processes ELVs for scrapping.
Core Activity	Vehicle testing and inspection.	Depollution, dismantling and materials recovery.
Important Output	Fitness-related test result or certificate.	Relevant authorised scrapping documents.

What Is a Certificate of Deposit?

The Certificate of Deposit is issued by an RVSF to recognise the transfer of the vehicle from the registered owner to the authorised scrapper.

It is important for eligible benefits associated with purchasing a new vehicle, subject to applicable rules.

7. Extended Producer Responsibility in ELV Management

Extended Producer Responsibility, or EPR, assigns specified end-of-life waste-management responsibilities to producers under the applicable regulatory framework.

In the vehicle sector, EPR can encourage formal recovery of materials and improve the accountability of producers and recyclers.

Report's Recommendations

The report suggests reviewing EPR targets in view of increasing formal scrapping capacity and projected ELV supply.

It also recommends reconsidering the treatment of automobile production scrap for EPR compliance.

These recommendations should be understood as proposed improvements to the framework, not automatically as changes already notified.

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8. Why Has Formal Vehicle Scrapping Been Difficult?

Informal Competition

Informal dealers may offer higher prices because they avoid some formal compliance and infrastructure costs.

Limited Infrastructure

Some regions lack sufficient testing and registered scrapping facilities.

Complex Procedures

Vehicle owners can face difficulties with documents, ownership records and deregistration.

Inconsistent Incentives

Scrappage-related financial benefits and their implementation can vary across jurisdictions.

Why Do Informal Operators Attract Owners?

The report describes differences in prices, convenience and processing time between formal and informal channels.

Formalisation will require addressing these commercial realities, not merely imposing additional obligations.

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9. Major Recommendations of the NITI Aayog Report

Reform Area	Suggested Action
Scrapping Infrastructure	Expand RVSF coverage, including public or PPP-supported models where private investment is insufficient.
Fitness Testing	Improve ATS availability based on district vehicle density and demand.
Informal Sector	Support phased transition toward registered and environmentally compliant operations.
Financial Incentives	Promote more consistent Certificate of Deposit concessions.
Digital Reform	Improve VAHAN, V-Scrap, ownership-transfer and scrap-price discovery systems.
Deregistration	Link deregistration more closely to valid formal scrapping documentation, with specified exceptions.

Reform Area	Suggested Action
Extended Producer Responsibility	Revisit targets and improve formal recovery incentives.
Tax and Finance	Examine sector-specific GST issues and financing mechanisms.
Carbon Markets	Develop an appropriate methodology for eligible recycling-related carbon credits.
Awareness	Explain legal, financial and environmental benefits of authorised scrapping.

> **Policy accuracy:** The report discusses potential revenue from carbon credits, but this does not establish an automatic carbon-credit payment for every vehicle. A valid methodology, eligibility requirements and actual market arrangements would be necessary.

10. How Could a Stronger ELV Circular Economy Help India?

Material Recovery

Recycled metals can reduce part of the demand for primary raw materials.

Green Employment

Formal dismantling, repair, sorting and recycling can create skilled economic opportunities.

Pollution Prevention

Controlled depollution reduces the risk of hazardous materials entering soil and water.

Industrial Competitiveness

Reliable secondary materials can support manufacturing and resource efficiency.

Viksit Bharat 2047

Circularity aligns with India's ambition for a more sustainable, resource-efficient and competitive economy.

11. UPSC Prelims 2027: Quick Revision Table

Term	Important Fact
ELV	End-of-Life Vehicle
Report Publisher	NITI Aayog
Knowledge Partner	TERI

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Term	Important Fact
Publication	January 2026
Report Launch	22 January 2026, Jaipur
2025 Estimated ELVs	Nearly 23 million
2030 Projected ELVs	Nearly 50 million
RVSF	Registered Vehicle Scrapping Facility
ATS	Automated Testing Station
EPR	Extended Producer Responsibility
CoD	Certificate of Deposit
MoRTH	Ministry of Road Transport and Highways
VAHAN	Vehicle-registration digital system
V-Scrap	Digital vehicle scrapping functions
Primary GS Paper	GS-3

12. UPSC Prelims Practice MCQs

Question 1

The report "Enhancing Circular Economy of End-of-Life Vehicles in India" was published by:

(a) Reserve Bank of India
(b) NITI Aayog
(c) Election Commission
(d) Finance Commission

View answer

Answer: (b) NITI Aayog.

Question 2

Which of the following are correctly matched?

1. ATS — Automated Testing Station
2. RVSF — Registered Vehicle Scrapping Facility
3. EPR — Extended Producer Responsibility

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(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

View answer

Answer: (d). All three are correctly matched.

Question 3

The principal function of an Automated Testing Station is:

(a) Issuing passports
(b) Assessing vehicle fitness
(c) Regulating the stock market
(d) Manufacturing new vehicles

View answer

Answer: (b).

Question 4

Which statement best explains a circular economy?

(a) Immediate disposal after product use
(b) Keeping materials in productive use and recovering value
(c) Complete elimination of manufacturing
(d) Exclusive reliance on virgin raw materials

View answer

Answer: (b).

Question 5

Consider the following statements:

1. The report projects nearly 50 million cumulative ELVs by 2030.
2. RVSFs are associated with formal vehicle scrapping.
3. Every vehicle older than 15 years must be scrapped regardless of fitness and category.

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only

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(d) All three

View answer

Answer: (b). Statement 3 makes an incorrect universal claim. Applicable rules depend on vehicle category, registration, fitness and other conditions.

13. UPSC Mains GS-III: Model Answer

Practice Question — 15 Marks

"Scientific management of end-of-life vehicles can transform an environmental liability into an economic resource." Discuss with reference to NITI Aayog's 2026 circular economy report.

Word limit: 250 words

Model Answer

Introduction: India's expanding vehicle fleet has increased the importance of managing end-of-life vehicles. NITI Aayog's 2026 report projects nearly 50 million cumulative ELVs by 2030, requiring an organised recycling ecosystem.

Opportunities: Scientific dismantling enables recovery of steel, aluminium, copper and other materials, reducing waste and dependence on virgin resources. Formal facilities can prevent hazardous releases and create green employment.

Challenges: Limited testing and scrapping infrastructure, informal sector competition, complex deregistration procedures and inconsistent financial incentives constrain formal participation.

Policy measures: The report recommends expanding Registered Vehicle Scrapping Facilities and Automated Testing Stations, improving Extended Producer Responsibility, strengthening VAHAN and V-Scrap platforms, simplifying documentation and providing more consistent Certificate of Deposit benefits.

Way forward: India should combine regulatory enforcement with incentives, finance, public awareness and inclusive formalisation of informal recyclers. Technology-enabled tracking and reliable material recovery standards can improve accountability.

Conclusion: A circular ELV ecosystem can advance resource efficiency, environmental protection and industrial competitiveness, supporting sustainable development and Viksit Bharat 2047.

14. Frequently Asked Questions

Q1. What does ELV stand for?

End-of-Life Vehicle.

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Q2. Who published the ELV circular economy report?

NITI Aayog in January 2026.

Q3. What is the 2030 ELV projection?

Nearly 50 million cumulative end-of-life vehicles.

Q4. What is RVSF?

Registered Vehicle Scrapping Facility.

Q5. What is a Certificate of Deposit?

A document recognising transfer of a vehicle to an authorised scrapping facility and supporting eligible scrappage-linked benefits.

Q6. Which GS paper covers the topic?

Primarily GS-III, covering environment, economy, pollution and sustainable development.

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15. Conclusion: Building a Circular Automotive Economy

India's projected growth in end-of-life vehicles makes vehicle recycling an increasingly important national policy issue.

Formal scrapping offers potential benefits through materials recovery, pollution prevention, industrial competitiveness and greener employment.

However, success depends on ensuring that authorised scrapping is convenient, financially attractive and available across regions.

For UPSC aspirants, the essential link is between circular economy principles, vehicle scrappage regulation, Extended Producer Responsibility and sustainable industrial development.

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Educational Disclaimer: These original notes are intended for UPSC and State PCS preparation. The figures are estimates and projections from the January 2026 NITI Aayog report. Recommendations should not be treated as already-implemented legal requirements.

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