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# Environmentally friendly and viable recycling infrastructure in India- Opening Remarks

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## Indian Scenario

Awareness of environmental issues recent.

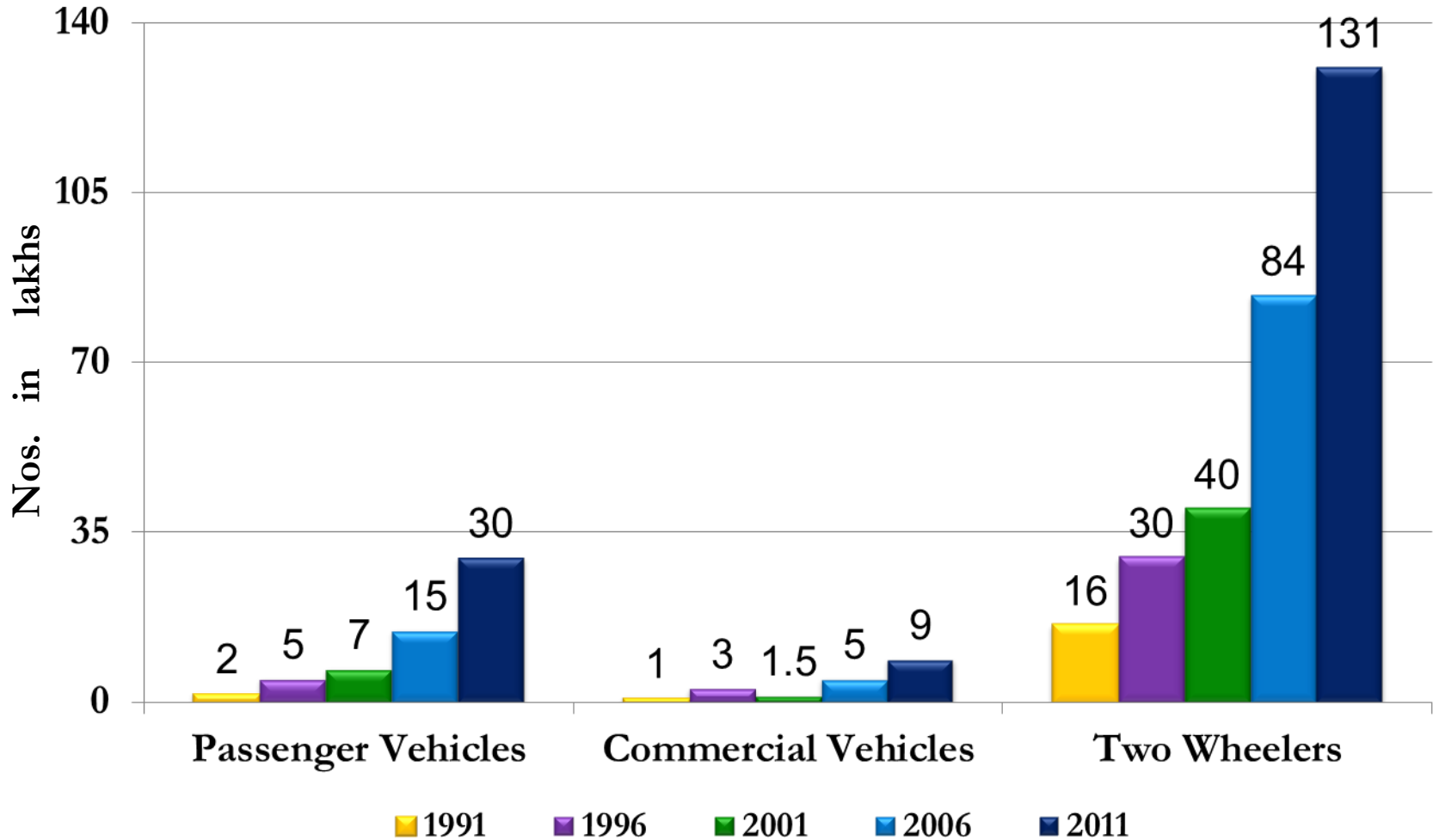
Rapid growth in industrial production- motorcycles, cars, trucks, consumer durables, appliances, electronics etc.

Penetration levels low, incomes rising- result- high growth for foreseeable future.

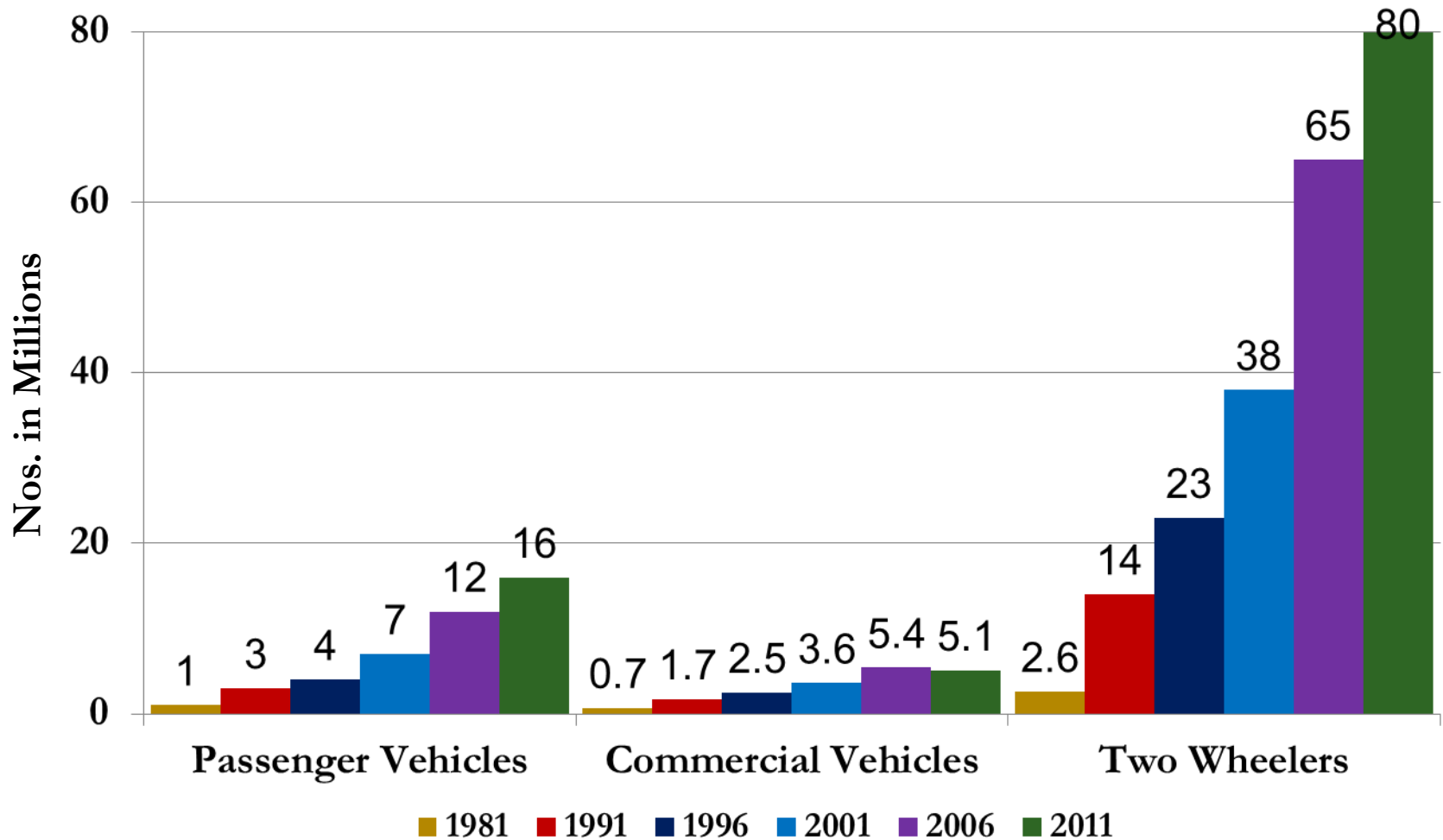
No organized end of life disposal Systems/Infrastructure.

Problem especially severe in automobiles

# Automobile Production Trend



# Registered motor vehicles in India



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## The implications

- Production increase tenfold- population fivefold over twenty years.
- Second in two wheelers and sixth in cars in world production.
- Smaller numbers made earlier recycled by unorganized sector. Spurt in vehicles for scrapping soon, to grow 10-11% per annum for many years, before stabilizing.
- Without capacity and capability increase, major problem of disposal of old automobiles.

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# Infrastructure Gap

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## The Unorganized Sector

- Dismantling units small, ill equipped, unhygienic processes, indulge in questionable practices, poison air, pollute ground water and labor work under unhealthy conditions.
- (Pictures- courtesy ICRA report to SIAM, Article “Scrap metal recycling” by Thomas Schneider in “Auto Bild” issue No 10 dated 11 March 2011 and Snaps taken by author all over India).

# ELV/Damaged Vehicle collection

Modern system                      Informal Sector





# ELVs Storage

## Modern System

## Informal Sector



# Dismantling Modern System

# Informal Sector



# Copper recovery from Cables

## Modern System

## Informal Sector



# Bangalore Recycling scenes (1)



# Bangalore Recycling scenes (2)



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# Working Conditions -Abuses

# Unsafe Working Conditions



# Child Labor





# Child Labor



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# Problems, Positives and Issues

## Problems of informal sector

- Units render a service. Within limits, workmen with decent skills. Best they upgrade. Those unable to be shut down.
- The units operate in the heart of the cities. Mayapuri in Delhi is a residential area. Chennai's hub Pudupet on the banks of Cooum right behind Anna Salai- Bangalore Shivaji Nagar etc.
- Mayapuri employs about 20000. Estimate 100000 all over India- work under bad conditions. Pollute the air, contaminate water, release heavy metals in the soil.
- People working there will need to be retrained/resettled.
- Ecological disaster- Either they upgrade- adopt better practices, or they have to close.

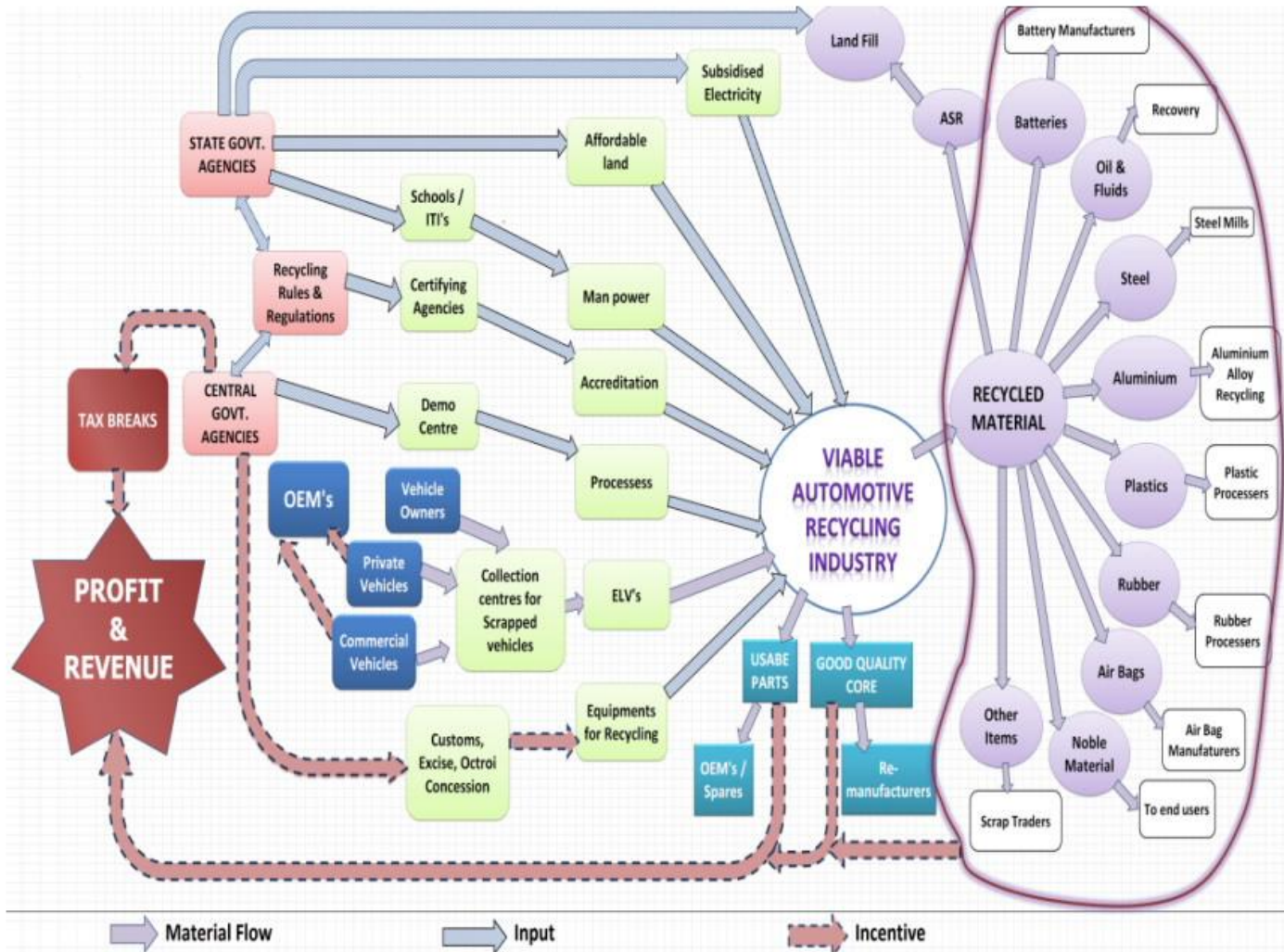
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## Diverse stakeholders

- Diverse stake holders- primary producers, auto component makers, vehicle producers, vehicle owners, local authorities, governmental agencies (Central, State and Local), dismantlers, shredders, scrap traders and industries which use the scrap as feedstock.
- Complex interaction between different stakeholders
- No player coming forward to break the impasse.

# Recycling - Complex web of relationships

RELATIONSHIP DIAGRAM – AUTOMOTIVE RECYCLING INDUSTRY PARTNERS



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## Positives

- Increasing awareness of importance and potential of automotive recycling .
- Industry proactive- SIAM set up a group to deal with recycling issues.
- ELV recycling identified as a step in “Prime Minister’s Action Plan on Global Warming.”
- Government agencies getting sensitized to the issue

## Positives (continued...)

### Major public private partnership initiative

- “Recycling Demonstration Unit” set up at GARC Chennai, by the Ministry of Heavy Industry with help from Automobile Industry through SIAM, working from August 2011. Industry donated cars and two wheelers to start operations.
- Aim- Develop environment friendly systems and processes for Indian conditions, Use maximum manual labor, Develop systems for two wheelers and Upgrade units in unorganized sector.
- There is a presentation of GARC later today.

# Demo Center Inauguration





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## Positives (continued...)

- India exports vehicles meeting ELV regulations.
- Many auto component manufacturers comply with EC rules for recyclability.
- Largest car company complies with EEC regulations .
- Clean slate- can learn from the experiences of others!.

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## Problems (1)

- No system for collection, dismantling or shredding of vehicles. Small volumes handled by ill equipped ad-hoc units. Can not cope up with anticipated surge in ELVs.
- No administrative framework or rules for dealing with end of life vehicles.
- Efficient and hygienic infrastructure non-existent!
- Surge in vehicles for scrapping expected due to rapid increase in vehicle sales in early nineties.

## Problems (contd.)

- Surge in ELVs expected- rapid increase in sales in early nineties. Will continue for foreseeable future.
- Two (and three wheelers)- 75% by number and 30% by total weight- No regulations anywhere. Need to develop rules and systems ab-initio.
- Europe and Japan stress labor saving. India- use maximum manual labor to create jobs.
- Biggest issue- No system of deregistration or destruction certificate
- Lifetime road tax for cars makes tracking difficult.

## Issues

Governments' roles- Central, State and local.

Tax breaks/incentives for Green industry.

Incentives for upgrading.

Accreditation standards.

Penalties for improper recycling?

Enforcement.

Landfills – land availability.

More demo units all over India? Leveraging lessons.

Encouraging scrapping of old vehicles

Deregistration and destruction certificate

## Issues (continued...)

- Templates for dismantling manuals
- Toxic materials and explosives
- Electronic scrap
- Resettlement of displaced labor
- Training labor/technicians.
- Leveraging Information Technology
- Maximize use of labor

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## Conclusions

India urgently needs a viable/environmentally friendly Automobile Recycling industry.

This will create a huge opportunity to provide jobs, protect environment, reduce global warming, conserve natural resources and save energy, A win-win for India!

Act before problem becomes intractable.

Request experts here today- for ideas and suggestions

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# Thank you

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