

Workshop of the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Waste 2014

ESM of Hazardous Wastes and Other Wastes from
Industry's Perspective & the Implication in Asia
Day 1: Wednesday, 26th November 2014, Okayama,
Japan

**Presented by:
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OUTLINE

1. Who we are / Our work on E-waste/ Hazardous/ MSW Waste
2. Current / ESM Practices in some Asian countries & major challenges
3. Possible measures/ procedures/ approach for ensuring & promoting ESM in the region & export/ import

IRG Systems South Asia Pvt. Ltd.

- We are consultants, part of M/s IRG/ Engility USA
- Provide technical assistance in environment, energy, natural resources, water resources, and disaster relief & reconstruction in the region
- A Team of Professionals who have both national and international work experience supports IRG-SSA operations. IRG-SSA has executed projects in SAARC countries – Nepal, Bangladesh, Bhutan, Sri Lanka, India, Maldives, Other Countries - Egypt, Uzbekistan, Cambodia, Oman

WORK on E-waste / Hazardous Waste/ MSW

1. E-waste inventory study for Delhi (CPCB/ MoEF/ GTZ/ASEM/ SECO), 2003
2. National level inventory study (CPCB/ MoEF/ GTZ/ASEM),2005-06
3. E-waste inventory study for Pune (MPCB/UNEP), 2006-07
4. E-waste inventory study for Mumbai/MMR (MPCB/UNEP), 2006-07
5. ESM guidelines on E-waste Management for MoEF (MoEF/CPCB), 2007-08
6. Feasibility studies for eight E-waste recycling facilities in India – till date
7. Design and Engineering of E-waste management system for GIFT City (Gujarat), IL& FS, 2007
8. EIA of E-waste treatment and disposal facility in India for a recycler, 2007-08
9. E-waste manuals for E-waste Management (Manual 1 & Manual 2) for UNEP/ IETC (vetted by SBC/ UNEP Chemicals/ Others), 2007 -08
10. E-waste master plan for Phnom Penh city, Cambodia (UNEP), 2008 - 09
11. E-waste Treatment/ Disposal feasibility study and viable business model for Maharashtra (MPCB), 2009-2010

WORK on E-waste / Haz. Waste/ MSW (contd.)

12. Technical assistance as part of transaction advisory for E-waste Treatment/ Disposal facility under PPP for MUMBAI Metropolitan Regional Development Agency (MMRDA) 2011-12
13. UNEP's E-waste Manual 3 on "Take Back Mechanism" 2011 – 12.
14. E-waste Inventorization, E-waste Management and Development of Business Model for Sultanate of Oman, Royal Government of Oman, 2011
15. Country Assessment, E-waste Management for major international recycler, 2011
16. E-waste export agreement and strategic investment for a major Indian E-waste recycler with an international recycler, 2011-12
17. "E-waste and allied product Recycling Industry Analysis" for a major international investor, 2012
18. Indian E-waste Recyclers Assessment for a major international investor, 2012
19. E-waste study in Mumbai Metropolitan Region (MMR) including "Take Back" mechanism, National/ International Recycler (2012-14),
20. E-waste inventorization studies for four cities in the state of Bihar, Bihar State Pollution Control Board, India (2013)

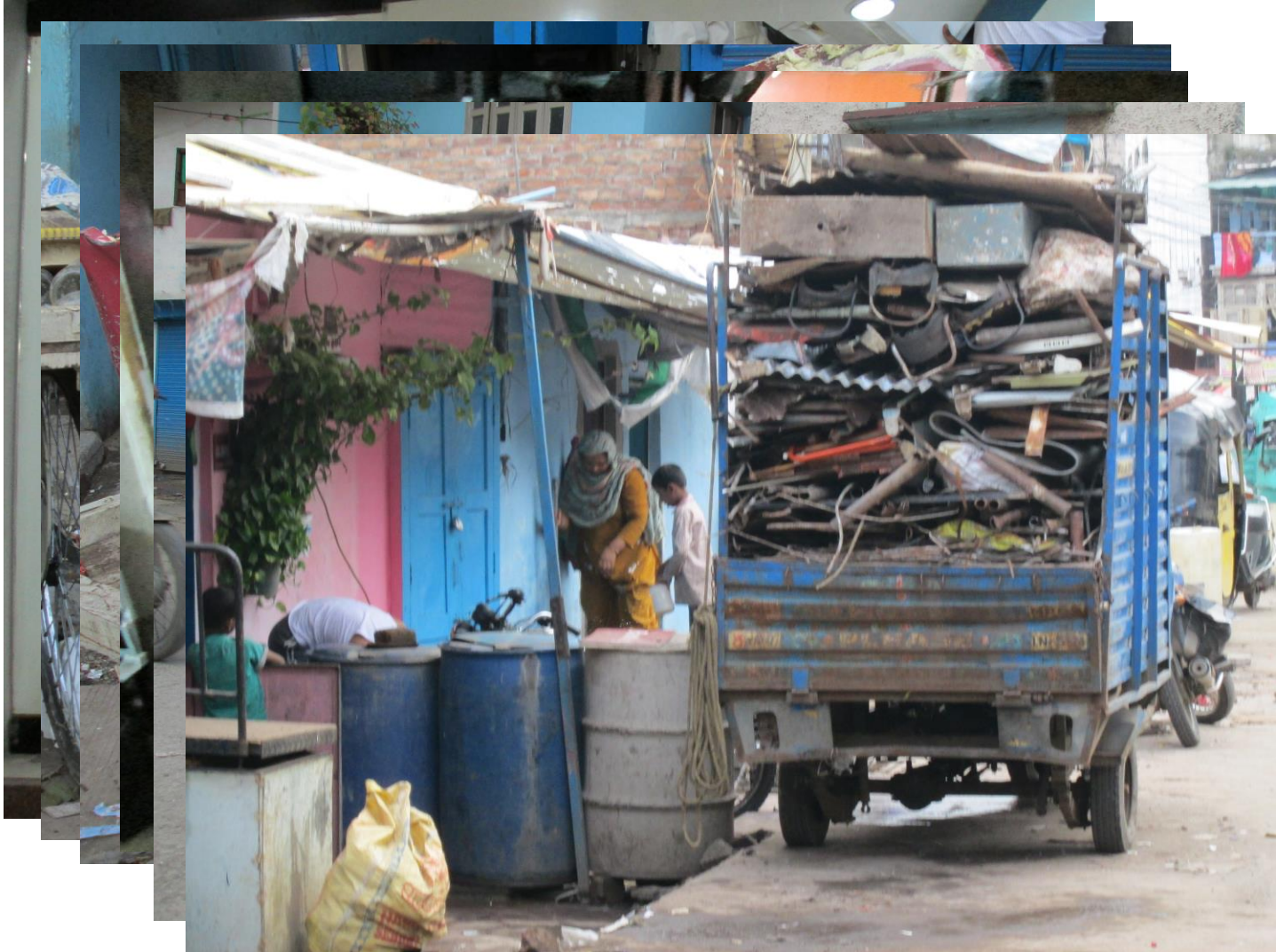
WORK on E-waste / Haz Waste/ MSW (contd.)

21. E-waste inventorization studies for four divisions in the state of Madhya Pradesh, Madhya Pradesh Pollution Control Board, India (2014)
22. E-waste inventorization studies for six divisions in the state of Madhya Pradesh, Madhya Pradesh Pollution Control Board, India (2014)
23. Used CFL/FTL inventorization study and detailed project report for its management in the state of Kerala, Energy Management Centre, Government of Kerala (2014)
24. Detailed Project Reports for MSW management of 36 Major cities/ towns in India
25. Dump sites reclamation/ Remediation projects
26. Twelve publications on E-waste in international journals and books

Current Practices (Metros)



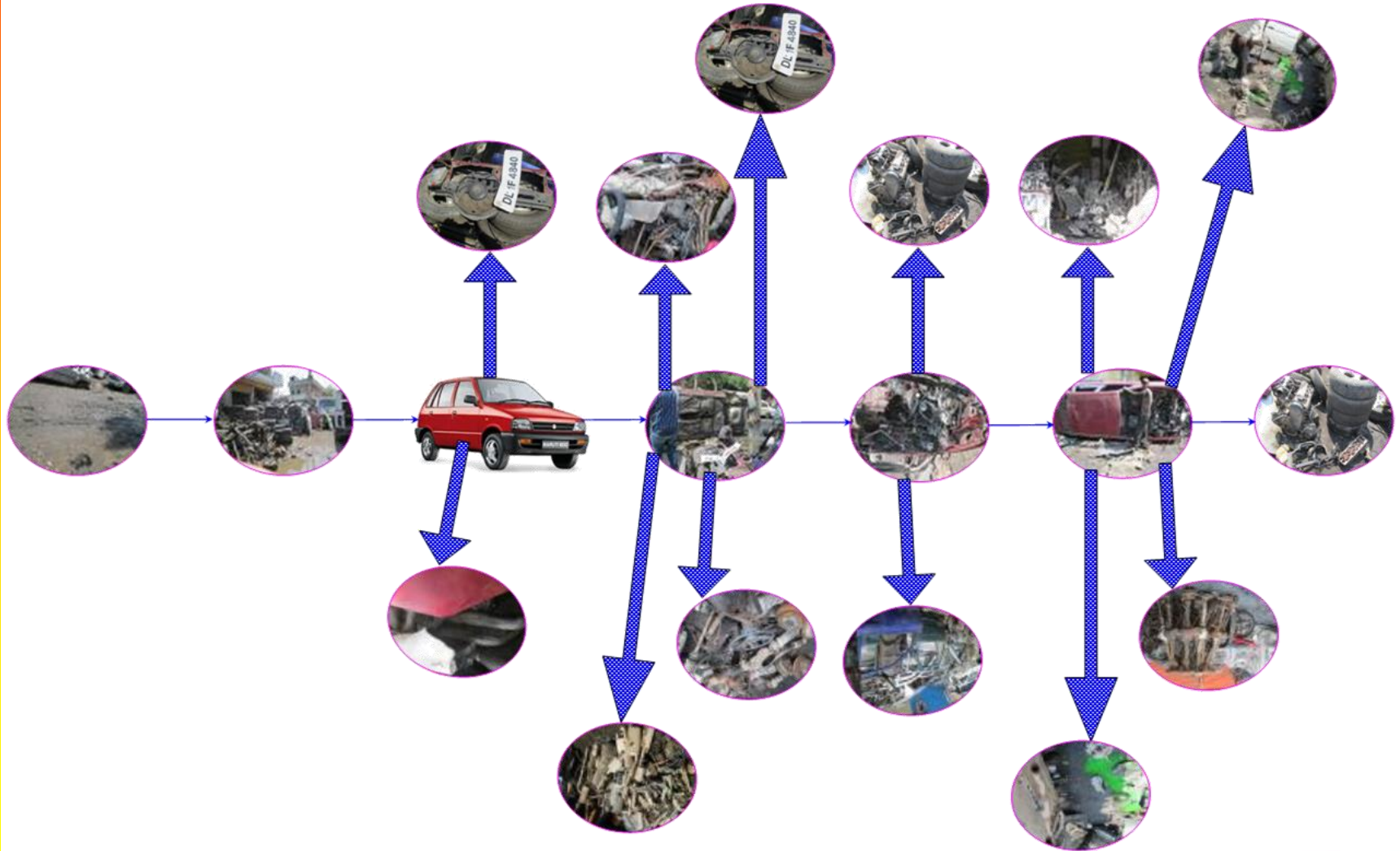
Current Practices Contd. (Tier 1 & 2 Cities)



Current Practices Contd. (Used FTL/ CFL Disposal)

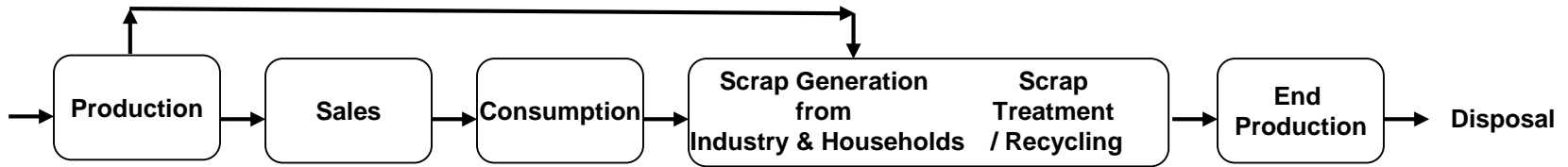


Current Practices Contd. (Automobile Recycling)

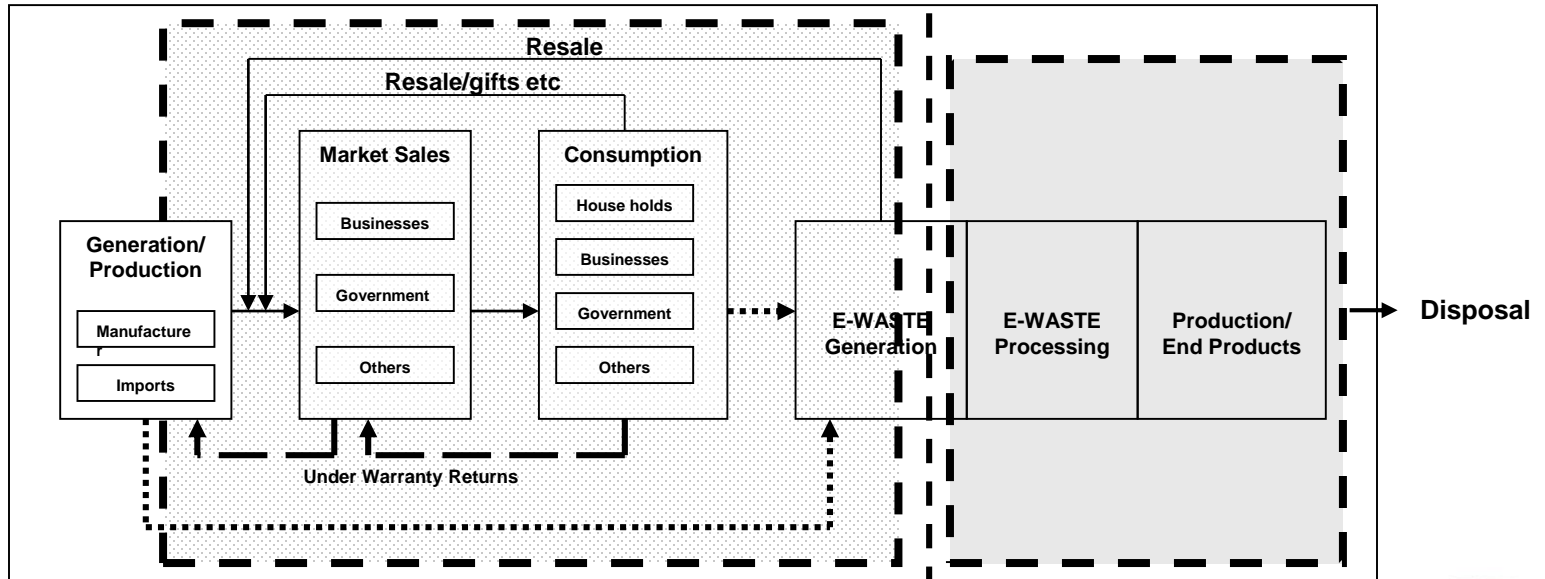


Current Practices Contd. (Recycling Industry Mapping)

Scrap Recycling



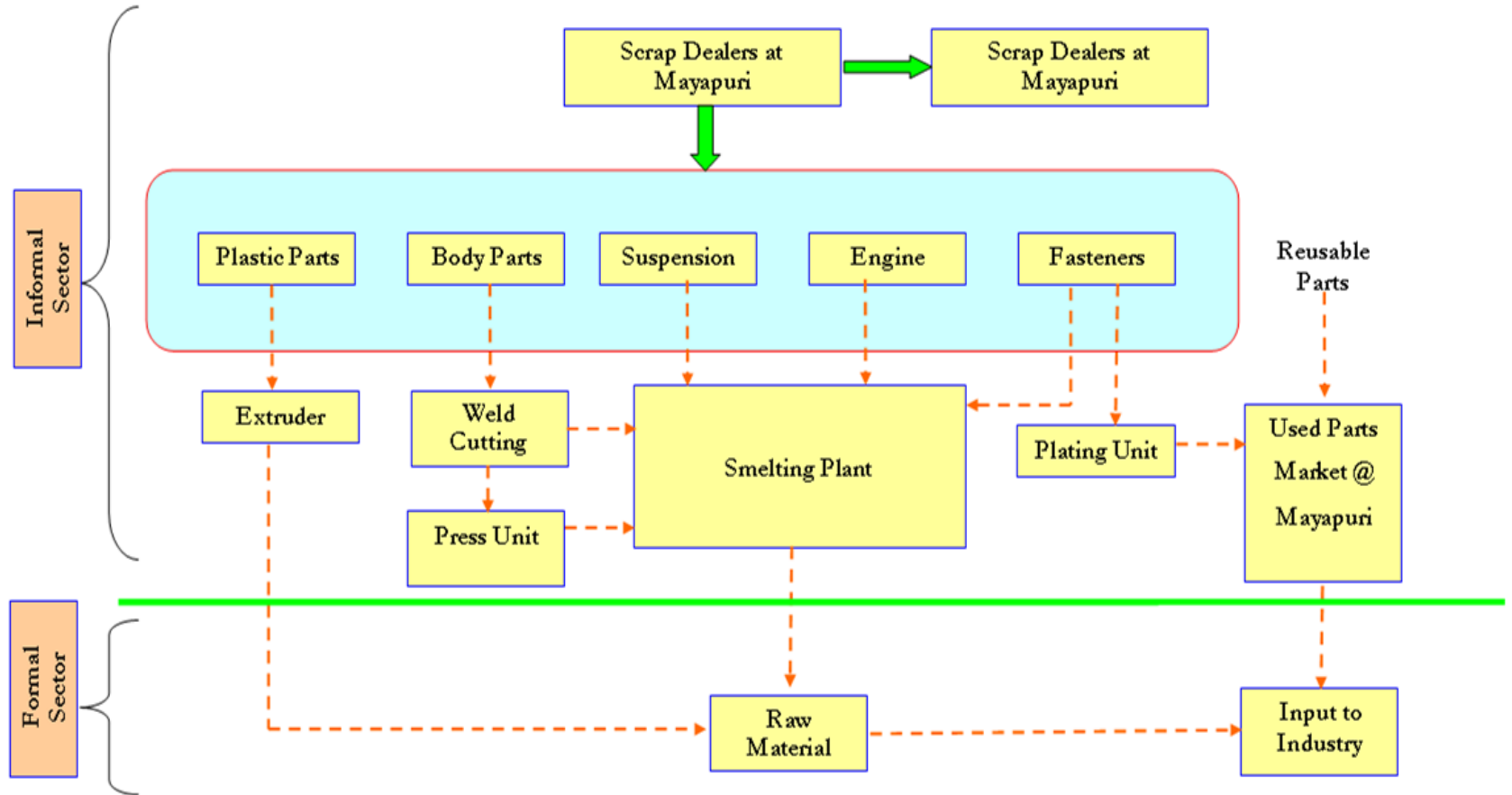
E-Waste Recycling



Informal Sector

Formal Sector

Current Practices Contd. (Recycling Industry Mapping - Automobile)

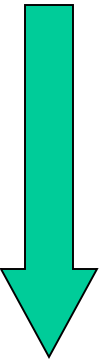


Regulations Vs. Waste Streams

1. Unregulated / New Waste Streams

2. Regulated Waste Streams

- Umbrella Regulation
- Hazardous Waste Regulation
- Specific Waste Stream Regulation e.g. E-waste Rules (EPR based)
- Manuals/ Guidelines



(Generally Haz. Waste Regulation regulates transboundary Movement)

Major Challenges for ESM (Recycling Industry Mapping)

Issues:

1. Current & future volumes of Hazardous waste streams
2. Recycling industry material flow analysis indicates that recycling infrastructure consists of collectors, transporters, dismantlers and recyclers who are linked to each other as part of trade chain.
3. Volume & extent of regulated scrap recycling in formal sector
4. Local Vs. International market

Major Challenges for ESM Contd. (Recycling Industry Mapping)

Issues:

Each country has:

- Different capacities & capabilities related to ESM majorly driven by regulations,
- Different Level of Technology (e.g. shredding, pyrometallurgical/ hydrometallurgical processing and disposal in general/ hazardous landfills and incinerators).
- Local market
- International market

Major Challenges for ESM (Regulations Vs. Waste Stream)

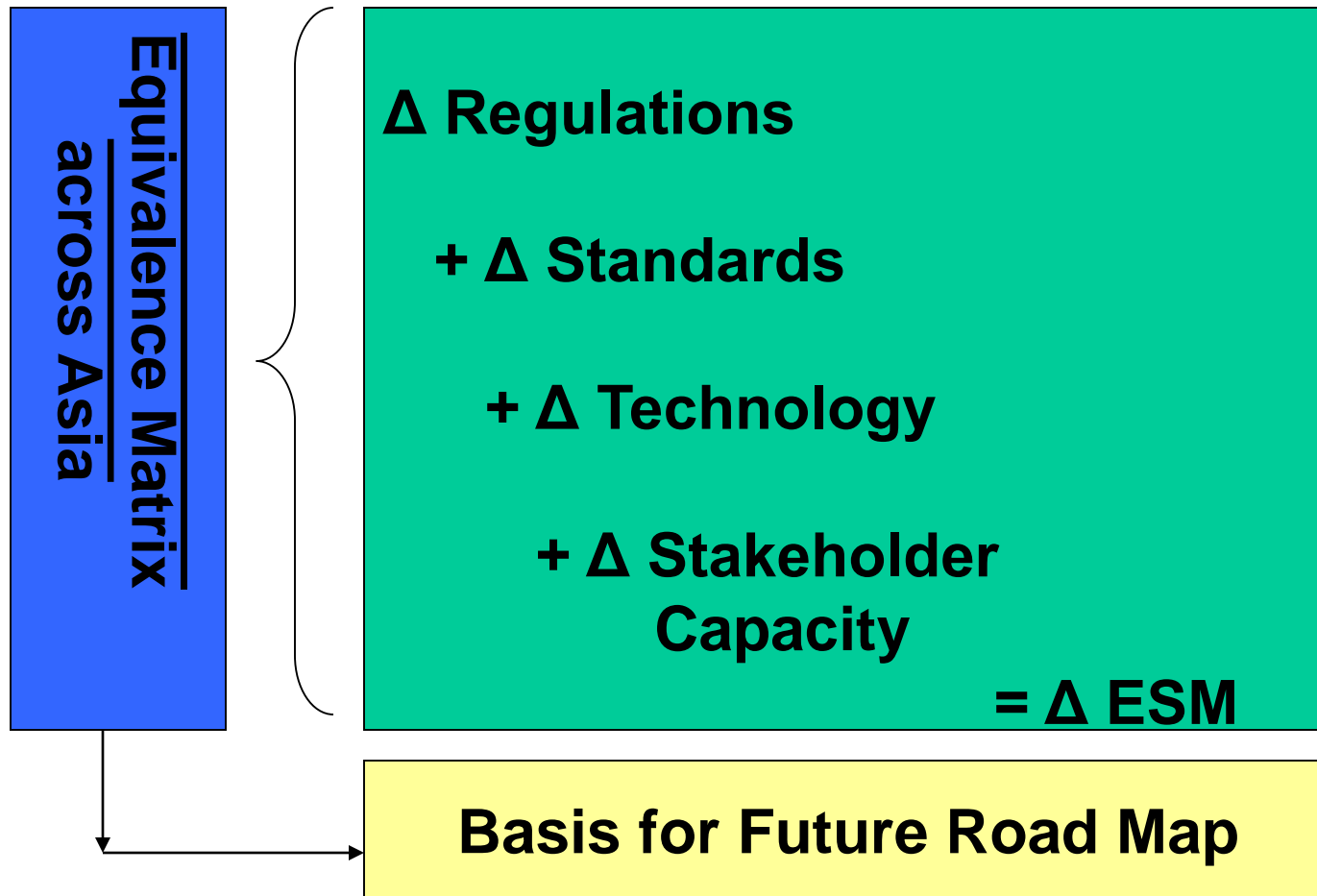
Issues:

1. Basis of regulations – local/ international
2. Items to be covered (Process/ Products/ Other items)
3. Technology Neutral/ Prescriptive
4. Standards (Process/ Products/ Management etc.)
5. Transboundary movement (business partner, items, codes, where/ which country, time taken, routes, transit countries, shipping lines, their capacities)

Major Challenges for ESM Contd. (Regulations Vs. Waste Stream)

6. High Cost of Ex / Im transactions (Ownership Issues, Liability Issues, Insurance Issues, Transporter's Issues - ownership during transit & who pays for "take back" transportation if at all)
7. At Ports / Customs: (Interpretation of "Waste" Vs. "Scrap" differ from country to country & therefore application of codes may differ, If "Confiscated / Abandoned", How, Where and Who should be assigned responsibility for disposal).
8. Lack of "information sharing" of one successful Ex / Im case with others

Possible Measures/ Procedures/ Approach for ensuring & promoting ESM in the region & Export/ Import

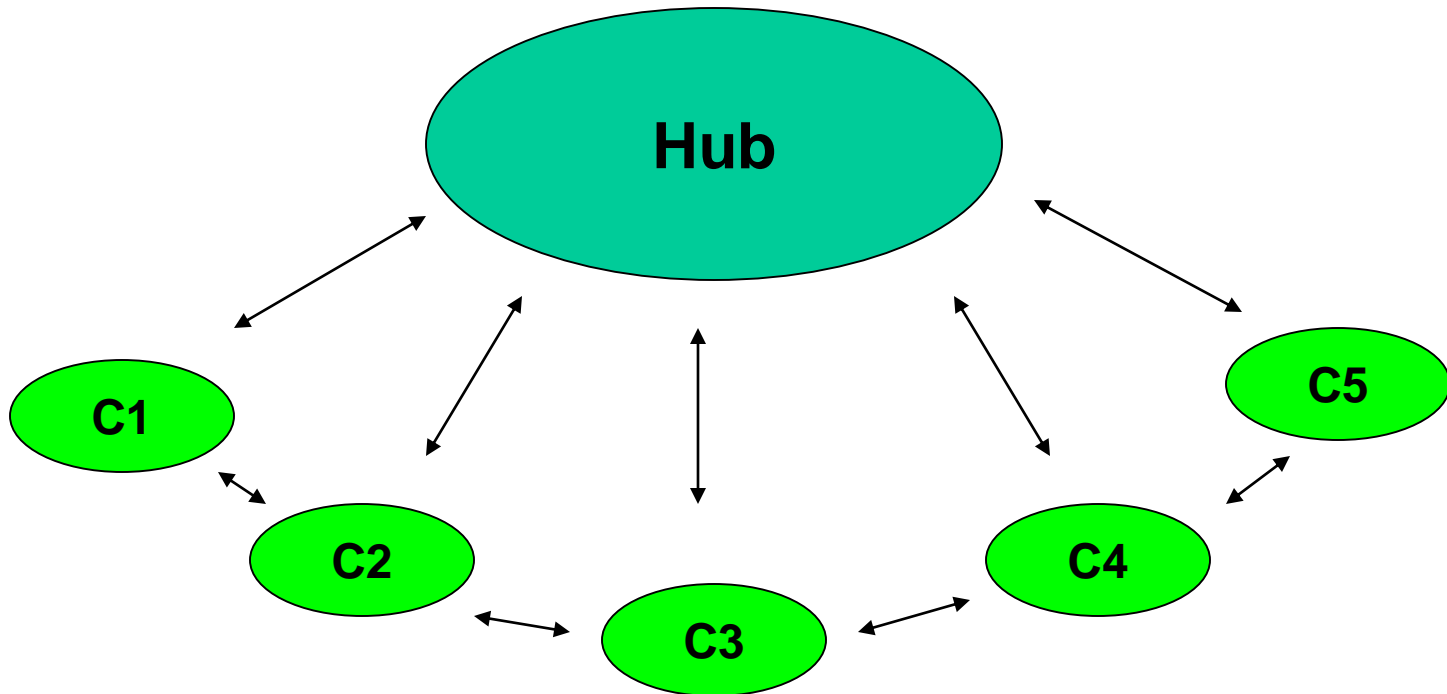


Possible Measures/ Procedures/ Approach for ensuring & promoting ESM in the region & Export/ Import Contd.

1. Harmonization of regulations to remove “non complementarities”
2. Harmonized codes/ formats/ indicators at international level for new waste streams and their mainstreaming into domestic regulations
3. Harmonized ESM standards for “ Conversion Process” across Asia e.g. product, process, others
4. Greater outreach and information sharing both at domestic and international level
5. Awareness raising
6. Capacity building of stakeholders

Possible Measures/ Procedures/ Approach for ensuring & promoting ESM in the region & Export/ Import Contd.

“ Distributed Environmentally Sound Conversion Process” in Asia
depending on country’s capacity & capability – Hub & Spoke Model
(Regional/ Local)



THANK YOU

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