

Annex IV

Comparison among target countries

Table 12. Status of ELV recycling in each country

No.	ELV system		Country									
			Cambodia	Lao PDR	Myanmar	Viet Nam	Thailand	Malaysia	Indonesia	Philippines	India	Japan
1	Design for Recycling	Current Status	Currently no automobile manufacturing in Cambodia.	Currently no automobile manufacturing in Lao PDR	Currently no automobile manufacturing in Myanmar	Major manufacturing companies are promoting DfR according to their global standards.	Major manufacturing companies are promoting DfR according to their global standards.	Proton is promoting DfR to adhere to the requirements of the EU ELV directive.	Major manufacturing companies are promoting DfR according to their global standards.	Major manufacturing companies are promoting DfR according to their global standards.	Multinational companies in India are promoting DfR as per their global standards. Two major Indian car companies also made their export vehicles comply with EU standards. The entire production of Maruti Suzuki Limited complies with DfR standards.	<Status before ELV Law> Major manufacturing companies are promoting DfR according to their global standards. <Current Status> Article 3 of the ELV Law requires manufacturing companies to adopt measures to promote DfR.
		Regulation	No regulation	No regulation	No regulation	No regulation	No regulation	No regulation	No regulation	No regulation	No regulation	AIS 129 covers design aspects for M1 and two- and three-wheelers. Will be promulgated shortly and become effective from agreed dates for

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											implementation.	required by the ELV Law to adopt the DfR measures in terms of car design and selection of components and raw materials, and to provide relevant information to related parties.
2	End-of-Life/Service of Vehicle (including inspection system)	Current Status: State of use of old car	Car owners continue to use old cars although there is an inspection system.	Car owners continue to use old cars although there is an inspection system.	Car owners continue to use old cars although there is an inspection system.	Expiration period (End-of-Service of Vehicle) is set by regulation: 25 years for private cars and 22 years for commercial vehicles.	<ul style="list-style-type: none"> Car owners continue to use old cars although there is an inspection system. If used cars become older, they are likely to move from urban to rural areas or be exported to neighbouring countries. 	<ul style="list-style-type: none"> Car owners continue to use old cars because there is no inspection system for private vehicles. If used cars become older, they are likely to move from urban to rural areas or be exported to neighbouring countries. 	<ul style="list-style-type: none"> Car owners continue to use old cars although there is inspection system. If used cars become older, they are likely to move from urban to rural areas or be exported to neighbouring countries. 	Car owners continue to use old cars although there is inspection system.	Inspection and maintenance systems are not effective. Vehicle owners continue to use old vehicles for much longer than they should. Some vehicles also move from urban to rural areas and interiors.	<p><Status before ELV Law></p> <ul style="list-style-type: none"> Car owners cannot continue to use old cars because there is an inspection system. <p><Current Status></p> <ul style="list-style-type: none"> Car owners cannot continue to use old cars because there is an inspection system. The entire life cycle of an ELV is managed by an e-manifest scheme.
		Current Status: Disposal of ELV	No information	No information	<ul style="list-style-type: none"> Total estimated number of ELVs is:138,184 (2014) ELVs generated in Yangon are sent to MEC's dismantling factory. 	<ul style="list-style-type: none"> Total estimated number of ELVs is: about 6,000 Drivers tend to use their vehicles until they are broken. Therefore, the number of ELVs is low. 	<ul style="list-style-type: none"> Total estimated number of ELVs is:164,934 (2014) In case cars cannot be repaired, parts are removed and bodies as scrap are sold to waste traders. 	<ul style="list-style-type: none"> Total estimated number of ELVs is: 61,430 (2013) In case cars cannot be repaired, parts are removed and bodies as scrap are sold to waste traders. The number of 	<ul style="list-style-type: none"> Total estimated number of ELVs is: 124,002 (2013) Accident cars are sold to auction companies. Auction companies sell it by auction. Some imported used cars and accident cars sold by insurance companies are broken up by vehicle dismantlers and 	<ul style="list-style-type: none"> Total estimated number of ELVs is:17,866 (2013) ELVs would first flow to repair shops where usable parts are taken out. Then they, along with accident cars, 	<ul style="list-style-type: none"> Total estimated number of ELVs is: 5,047,205 (2013) Accident cars are sold to auction companies. Auction companies sell the cars through 	<p><Status before ELV Law></p> <ul style="list-style-type: none"> There were many illegal cases of dumping and improper disposal due to the rising costs of shredding and scarcity of disposal sites. Dismantlers sell recyclable parts to parts markets and metal markets.

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					<ul style="list-style-type: none"> In case cars cannot be repaired, parts are removed and bodies as scrap are sold to recycling villages such as Te Lo. 	<ul style="list-style-type: none"> In case accident cars cannot be repaired, the ownership of the car is transferred to the insurance company; car owners receive the insurance payment; the insurance company sells accident cars to repair shops or car dealers through auctions. 	<ul style="list-style-type: none"> ELVs is very small because old cars are still utilised in rural areas. In case accident cars cannot be repaired, the ownership of the car is transferred to the insurance company; car owners receive the insurance payment; the insurance company sells accident cars to the junkshops through auctions. 	<ul style="list-style-type: none"> 'bengkels', which are small-scale car repair shops in Indonesia. In case cars cannot be repaired, parts are removed and bodies as scrap are sold to waste traders. 	<ul style="list-style-type: none"> would be sent to junkshops. In case cars cannot be repaired, parts are removed and bodies as scrap are sold to junkshops. 	<ul style="list-style-type: none"> Currently, small informal sector businesses are taking in ELVs. In case cars cannot be repaired, parts are removed and bodies as scrap are sold to waste traders. 	<ul style="list-style-type: none"> <Current Status> Total estimated number of ELVs is: 3,430,000 (2013) Dismantlers sell recyclable parts to parts markets and metal markets. Manufacturing companies are required by the ELV Law to properly process the three Parts DfR - (fluorocarbons, airbags, and ASRs).
	Regulation: Registration	<ul style="list-style-type: none"> All vehicles must be registered. The Department of Transport, Ministry of Public Works and Transport is responsible for issuing vehicle licences and registration certificates. Compulsory insurance is also required 	<ul style="list-style-type: none"> All vehicles must be registered and have licence plates in accordance with the regulations of the Ministry of Communication, Transport, Post and Construction. 	<ul style="list-style-type: none"> All vehicles must be registered under the Motor Vehicle Law. Compulsory insurance is also required. 	<ul style="list-style-type: none"> All vehicles must be registered. Compulsory insurance is also required. 	<ul style="list-style-type: none"> All vehicles must be registered. DLT inspects vehicles; and Private inspection stations authorised by DLT carry out inspection of motorcycles and taxis, i.e. vehicles registered under MVA. Car owners have to pay the Road Tax. 	<ul style="list-style-type: none"> All vehicles must be registered. Car owners have to pay the Road Tax. Compulsory insurance is also required. 	<ul style="list-style-type: none"> All vehicles must be registered. The Indonesian National Police is the agency responsible for motor vehicle and driver registration/identification. Annual renewal of registration is requested and car owners have to pay Road Tax. Compulsory insurance is also required. 	<ul style="list-style-type: none"> All vehicles must be registered under the standards and procedures for motor vehicle inspection. Drivers are required to pass the LTO registration process Car owner have to pay MVUC Compulsory insurance is also required. 	<ul style="list-style-type: none"> All vehicles must be registered. Owners of motor vehicles must register with a registering authority who has jurisdiction over his residence or place of business. Third party insurance is compulsory 	<ul style="list-style-type: none"> <Status before ELV Law> RTVA stipulates the vehicle registration in following cases: <ul style="list-style-type: none"> purchase of new car reuse of used car without number plates change of the car owner's name, address, and the like. <Current Status> See above

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		for commercial vehicles.									for all vehicles.	
	Regulation: Deregistration	No information	No information	<ul style="list-style-type: none"> If a car owner sends an ELV to MEC's factory, the owner can receive a licence to import a new used car. This system works like deregistration. There is a system that if the renewal of registration is not done for 5 years, the car will be automatically deregistered. 	Deregistration is necessary when: car has been involved in an accident; car's engine or chassis has been removed; car exceeds the expiration period, owner lost the car, among others. <ul style="list-style-type: none"> Take back scheme of ELVs are considered under the Prime Minister's notification. 	<ul style="list-style-type: none"> Deregistration is obliged within 15 days after owner has stopped to use the vehicle. If a car owner does not pay the registration fee for more than 3 years, the car will be automatically deregistered. 	<ul style="list-style-type: none"> Car owners can deregister a vehicle at any time. If car owner does not deregister a vehicle for more than 2 years, the car will be automatically deregistered. 	<ul style="list-style-type: none"> Car owners need to deregister their cars at police stations. In practice, car owners often sell ELVs to repair shops. 	Although there is the system of deregistration, the system is mostly not used.	Currently, there is no formal deregistration system in operation. AIS 129 proposes a formal deregistration system to be implemented along with a destruction certificate for ELVs.	<Status before ELV Law> <ul style="list-style-type: none"> Before the revision of RTVA coincided with the ELV, exported vehicles and vehicles dismantled cannot be tracked due to the lack of the system of permanent deregistration and temporary deregistration. <Current Status> <ul style="list-style-type: none"> Car owners are required under RTVA to deregister their vehicles in case of end-of-use or dismantling of cars. Due to the integration of the e-manifest system and the Vehicle Registration System, permanent and temporary deregistration, and information about ELVs are managed just as the vehicle in use. 	
	Regulation: Inspection	<ul style="list-style-type: none"> All vehicles are required to undergo General Inspection by the 	<ul style="list-style-type: none"> All transport vehicles are required to take technical inspections within the 	<ul style="list-style-type: none"> Automobile inspection is mandatory and owners need to take initial 	<ul style="list-style-type: none"> Commercial and personal vehicles are required to be inspected. The duration 	<ul style="list-style-type: none"> Personal vehicles must be inspected every year after 7 years from new 	<ul style="list-style-type: none"> Commercial vehicles have to be inspected annually. Random 	<ul style="list-style-type: none"> Commercial vehicles, personal vehicles, and public vehicles are required must be inspected every six months. 	<ul style="list-style-type: none"> All vehicles are required to take mandatory inspections prior to their 	<ul style="list-style-type: none"> The inspection system is in the process of elaboration. The 	<Status before ELV Law> <ul style="list-style-type: none"> All vehicles must be subjected to mandatory inspection under the RTVA. 	

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			Department of Public Work and Transport once every 2 years.	specified period and at technical inspection stations.	inspection, renewal inspection, and transfer inspection. • Owners need to take renewal inspections every year. • Vehicle inspections are conducted in 53 inspection places supervised by the road transportation bureau.	of first time and renewal inspections depends on the car types. Insurance certification is required for inspection.	registration. • Commercial vehicles have to be inspected every year after registration.	inspection is conducted on the road. • There is no inspection system for private vehicles but plans for introducing an inspection system for private cars are often proposed in connection with deregistration policy.	• Introduction of the inspection system for all vehicles is currently under discussion.	registration. • New cars must be inspected every year after 3 years.	Government of India will set up 10 Motor Vehicle Inspection centres across the country as part of a pilot program.	<Current Status> See above
3	ELV Dismantling Facility	Current Status: Dismantling	<ul style="list-style-type: none"> • Dismantlers process cars for repair rather than for dismantling. • Steel and wires are removed from the ELVs. • Dismantling is conducted mainly by hand and threatens labour safety. <p><Treatment of steel, non-ferrous metals,</p>	<ul style="list-style-type: none"> • Old cars are dismantled in rural areas. • Dismantling is conducted mainly by hand and threatens labour safety. <p><Treatment of steel, non-ferrous metals, plastics: No information></p>	<ul style="list-style-type: none"> • MEC operates two dismantling facilities. One is in Thilawa and the other is in Myingyen. • Used parts are taken off and bodies are dismantled manually by gas burner, then pressed by guillotine shear, and shredded. • Steel is sent to the steel plant of MEC. • Dismantling is also 	<ul style="list-style-type: none"> • ELVs generated near Hanoi are dismantled by the informal sector in recycling villages. • There is no permitted ELV dismantling facility. • Dismantling is conducted mainly by hand and threatens labour safety. • Steel scraps are sent to steel recycling plants in recycling 	<ul style="list-style-type: none"> • ELVs generated domestically and imported are dismantled in dismantling companies. • Dismantling is conducted mainly by hand and threatens labour safety. • Steel scraps are sent to recyclers and mufflers, including rare metals, are sold to recyclers. <p><Treatment of</p>	<ul style="list-style-type: none"> • There are ATFs for ELVs and dismantling is done in compliance with the requirements of ELV regulations. • Used parts are taken off and bodies are dismantled manually by gas burners. • Steel scraps are sent to recyclers and mufflers, including rare metals, are sold to recyclers. 	<ul style="list-style-type: none"> • Generally, the informal sector plays a central role in the operation of waste collection/recycling. • Used parts are taken off and bodies are dismantled manually by gas burners. • Non-ferrous metals are sent to aluminium product manufacturers. <p><Treatment of plastics: No information> • 'Lapaks', the intermediaries between collectors and informal dealers, perform the function of collection, selection,</p>	<ul style="list-style-type: none"> • Vehicle dismantling is mainly conducted by repair shops and junkshops. • Dismantling is conducted mainly by hand and threatens labour safety. • Steel scraps, aluminium, mufflers, including rare metals and plastics, are each sent to specialised collectors. 	<ul style="list-style-type: none"> • Vehicle dismantling is mainly conducted by small low-technology units with low yield and capacity. • The working condition is very bad for the estimated 100,000 recycling workers who face severe health threats. • There is not enough space for the facility and the facility is located in residential 	<p><Status before ELV Law></p> <ul style="list-style-type: none"> • There were cases of improper treatment of CFCs and airbags. • Dismantlers hand over the used parts to parts markets and retrieved steel to metal markets. <p><Current Status></p> <ul style="list-style-type: none"> • Approximately 6,600 dismantling places exist. • Dismantlers have mainly three functions: <ul style="list-style-type: none"> -hand over the used parts to parts markets and the retrieved steel to metal markets;

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		plastics: No information>		conducted informally and manually in the areas close to MEC's facilities. <Treatment of non-ferrous metals, plastics: No information>	villages. • Non-ferrous metals and plastics are sent to plants in recycling villages.	plastics: No information>	<Treatment of plastics: No information>	separation, cleansing, and pre-treatment.		areas/city centres. • An estimated 410,700 tons of scraps (metals, aluminium and plastics) are sent to scrap dealers. • 7,800 tons of rubbers and plastics that cannot be recycled are dumped in open garbage areas.	-request the airbag collection to JARP; -transfer the ELV carcass to shredding operators. • Recycling fee is supported by car users.
	Current Status: Shredding	<Existence of shredder> • No information <Shredding of automobile > • No official vehicle shredder location.	<Existence of shredder> • No information <Shredding of automobile > • No official vehicle shredder location.	• MEC introduced the shredding facility	<Existence of shredder> • No shredding <Shredding of automobile > • No official vehicle shredder location.	• Local company has shredding facility to shred automobile scraps.	• Shredding and sorting plant is added to the ATFs. ASRs will be sent to ASR incinerators. • Amsteel Mills installed shredding facilities to treat soft press imported from other countries. However, it became difficult to import and now it works much less than capacity.	<Existence of shredder> • No information <Shredding of automobile > • No official vehicle shredder location.	<Existence of shredder> • No information <Shredding of automobile > • No official vehicle shredder location.	Currently, there is no shredder in operation in India for ELVs. The small volumes do not make a shredder economically viable to operate. The Ministry of Steel is proposing to install shredders where ELV volumes are guaranteed.	<Status before ELV Law> Due to rising cost of treatment, lack of collection system and shortage of landfill sites for ASRs, there were illegal dumping and low rate of ASRs. <Current Status> • There are 1,083 shredding operations (2013) and 1,364 shredding sites (2013). • Shredding operators cover the following functions in the framework set up by the ELV Law: -crushing of frame and exterior; -recovery of useful metals; and -handover of shredder dusts to the

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											manufacturers. • Recycling fee is supported by car users.
	Current Status: Pollution control	• Little treatment is done for hazardous materials, resulting in air, water, and soil pollution.	• Little treatment is done for hazardous materials, resulting in air, water, and soil pollution.	Pollution does not seem to be properly controlled because of lack of capacity building.	• Most of the factories do not introduce appropriate pollution control measures. • Materials that cannot be sold are illegally dumped in roadsides or rivers and generate environmental pollution.	Recycling companies that have Department of Industrial Works licence code-105 and 106 have to introduce appropriate pollution prevention measures.	• ATFs must have a waste management licence from the appropriate environmental agency and must meet standards to ensure that they: -store and treat ELVs in a way that does not harm the environment; -remove all hazardous components and liquids (known as 'depollution'); and -recycle, store and dispose the parts appropriately.	Pollution does not seem to be properly controlled because of lack of capacity building.	• Little treatment is done for hazardous materials, resulting in air, water, and soil pollution.	• Little treatment is done for hazardous materials, resulting in air, water, and soil pollution.	<Status before ELV Law> Dismantlers are required to conduct pollution control measures in compliance with relevant environmental regulations. <Current Status> Dismantlers have to conduct the dismantling in compliance with the recycling requirements under the ELV Law.
	Regulation: Licence	No information	No information	Only MEC operates ELV dismantling facilities.	Batteries and waste liquids from ELVs are in the hazardous waste list. The recycling and treatment facilities must possess hazardous waste	Recycling companies have to acquire licence (105 and 106) according to the Notification of MOI No. 15 B.E. 2544 (2001).	• ATFs are sites that have been licensed to accept ELV motor vehicles.	Only certified dismantling facilities, certified and authorised recycling workshops, or collection points that have been nominated by the manufacturer are permitted to issue these certificates.	No information	AIS129 stipulates that collection centres and dismantling centres shall obtain an authorisation from the concerned Government Certifying Agency.	<Status before ELV Law> There is no common licence scheme (some dismantlers had the licence under the Waste Management and Public Cleansing Act). <Current Status> Dismantlers have to obtain licence from

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	Regulation: Pollution control	No information	No information	The Environmental Conservation Law and related regulations have been introduced to prevent environmental pollution.	management permits. Even though Viet Nam's environmental protection law has been introduced, environmental pollution from recycling villages is not properly controlled.	•Various notifications of MOI control environmental pollution from dismantling facilities such as the Notification of MOI B.E. 2548 (2005) which controls pollution from industries. •Municipalities monitor the implementation.	•The Environmental Quality Order 1989: -prescribes the types of waste treatment and disposal facilities and licence. -prescribes the procedure when owners of facilities change, and the obligation of informing the amount of waste accepted, treated, stored, and disposed.	•Law No. 32/2009 covers environmental management. •Law No. 18/2008 covers municipal waste. •Government regulation No.101/2014 covers hazardous wastes. •Basel Convention (hazardous wastes), Convention on Climate Change-international treaties, provincial environmental legislations, local environmental legislations are also applicable.	No information	AIS129 requires collection centres and dismantling centres to conduct the depollution treatment for the dismantling of ELVs.	local governments under the ELV. <Status before ELV Law> Not all dismantlers were requested to introduce pollution control measures. <Current Status> Dismantlers are required to comply with environmental conditions in obtaining the licence under the ELV law.	
4	Reuse of Parts	Current Status: Generation of used parts	Small used parts dealers deal with imported parts from mainly Malaysia, Japan, and Thailand	No information	•Imported used parts come from mainly Thailand, Malaysia, Japan, and UAE. •In some cases, domestic used parts compete with imitation parts from China.	•There is a used parts market called 'Gioi' but the volume of domestic parts is low. •New imitation parts from China meet the demand for automobile parts.	•Demand for used parts imported from Japan becomes less and less because they are not fit to the current model in Thailand. •Some dealers send their staff to Japan and import used parts from Japanese dismantling	•The importation of used parts to Malaysia is very huge. Malaysia worked as a hub of trade of used parts. •In some cases, domestic used parts compete with imitation parts from China.	•Imported used parts come from Japan and Singapore although there is prohibition on importation of used parts. •In some cases, domestic used parts are taken from the accident cars and used cars.	Used parts are mainly imported from Japan and Thailand. These parts compete with new imitation parts from China.	Used parts are mainly generated domestically due to prohibition in the importation of used motor vehicle parts.	<Status before ELV Law> •Used parts are generated by the dismantlers and they flow to the parts markets and metal markets. •Used parts are exported to Malaysia, UAE, Russia, and Thailand and others, as well as are circulated domestically <Current Status> See above

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						<p>sites where their workers work.</p> <ul style="list-style-type: none"> • Imported used parts could be re-exported to neighbouring countries as well as circulated domestically. 					
	Current Status: Remanufacturing	No information	No information	No remanufacturing	Some companies are remanufacturing alternators, drive shafts, starters, among others.	Some companies are remanufacturing.	Some companies are remanufacturing transmissions, among others.	Some companies are remanufacturing alternators, starters, among others.	Some companies are remanufacturing chassis, bodies, engines, among others.	Rewinding of motors, starters, alternators, among others, takes place in a crude manner in the informal sector. There is no organised industry for remanufacturing used car parts.	<p><Status before ELV Law> There is market for remanufactured parts such as alternators and starters.</p> <p><Current Status> See above</p>
	Current Status: Sales of used parts	The majority of parts dealers deal with small parts and some dealers sell used engines and half-cut bodies.	No information	<ul style="list-style-type: none"> • There are many used parts dealers in Myanmar dealing mainly with Japanese car parts • These dealers specialise in specific parts. 	<ul style="list-style-type: none"> • There is a used parts market called 'Gioi' with many used parts dealers. • The demand for car parts is met by the imitation parts from China and the market size for domestically generated 	<ul style="list-style-type: none"> • There are many used parts dealers in Thailand. • These dealers specialise in specific parts. 	<ul style="list-style-type: none"> • There are many used parts dealers in Malaysia. 	<ul style="list-style-type: none"> • There are many used parts dealers in Indonesia. Used parts are sold in the agglomerated market of 'bengkel', car repair shops, and parts dealers. 	<ul style="list-style-type: none"> • Used parts are sold at auctions in the form of parts package in containers. 	Used parts are recovered, refurbished and sold by dismantlers to second-hand spare outlets located in the same scrap yards.	<p><Status before ELV Law> Used parts and rebuilt parts are sold in the domestic market. At the same time, those products are exported to foreign countries such as mainly, Malaysia, UAE, Russia, and others.</p> <p><Current Status> See above</p>

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					used parts is relatively small. • Even though importation of used parts is prohibited, used parts are imported from the neighbouring countries.						
	Current Status: Use of used parts	No information	No information	Recycled parts generated domestically are generally not used because most of them are old and of low quality.	Most used parts are used domestically.	• Most used parts are used domestically and some are exported. • The car insurance system provides incentives for car owners and workshops to use used parts.	• Only 30 percent of imported used parts are used domestically. • Others are exported to mainly the Middle East and Africa. • The car insurance system provides incentives for car owners and workshops to use used parts.	• Used parts such as shock absorbers, diesel engines, lamps, and bumpers are reused. • The car insurance system provides incentives for car owners and workshops to use used parts.	Used parts such as wheels, engines, and others are reused.	Used parts such as bumpers, head lamps, bonnets, steering wheels, batteries, and others are used	<p><Status before ELV Law> Used parts such as exterior parts (doors, bumpers, lamps, and others), interior parts (compressors, engines, alternators, starters, and others) are used.</p> <p><Current Status> • Due to the rising need and social requirement to reuse used parts, the secondary market of used parts has been expanding. • The rising rate of automobile insurance in the event of car accident leads to the expansion of the used parts market because the car users have the incentive to self-repair and lower the repairing cost.</p>
	Regulation: Regulation on import/export	No information	The importation of used cars or	Importation of half-cuts are prohibited.	Importation of used parts is prohibited.	Thailand has basically prohibited the	Used tires, brake pads, batteries are	Importation of used parts is prohibited.	Importation of used parts is partially	Importation of used cars and	<p><Status before ELV Law> There is no specific</p>

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			used parts for remanufacturing is effectively prohibited.	Parts are allowed to be imported.		importation of used vehicles and parts to protect and promote its own motor industries.	prohibited to be imported.		prohibited. For example, car bodies and chassis are prohibited to be imported.	parts are not allowed.	regulation on used car parts imports. On the other hand, the export of used car parts must comply with the Basel Convention and the Waste Management and Public Cleansing Act. Used parts must be exported as valuable for reuse.
	Regulation: Licence	No information	No information	No information	No specific licence is required for trading used parts.	Used parts dealers are required to obtain the licence as second-hand articles dealers.	No information	No information	No information	No information	<p><Status before ELV Law></p> <ul style="list-style-type: none"> Used parts dealers are required to obtain a licence under the Second-hand Articles Dealer Act. Dealers must submit the document to local police and obtain police approval. <p><Current Status> See above</p>
	Regulation: Quality management	No regulation	No regulation	No regulation	Some companies use assurance for a few years	No regulation	• If used parts are sold domestically,	Remanufacturers are required to register the year of production. The aim is to ensure	No regulation?	AIS 129 controls the quality listing the	<p><Status before ELV Law></p> <p>No specific regulation on quality assurance</p>

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						but generally no assurance of quality for used parts.		one to three month warranty is provided and the quality of product is assured to some extent.	the quality at a certain level.		component parts deemed to be non-reusable.	of used parts. Many dealers provided certain quality guarantee in certain period to the buyers.
5	Downstream Recycling and Treatment Facility	Current Status: Resource utilisation	<ul style="list-style-type: none"> •Steel scraps, non-ferrous scraps, plastics seem to be exported. •Wire harnesses are retrieved from half-cut bodies and reused. 	<p>Wastes such as paper, plastics, aluminium and copper are recycled domestically, and flow of recyclable wastes from Lao PDR to neighbouring countries has been observed: paper to Thailand; plastics to China or Viet Nam; and aluminium and copper to Viet Nam.</p>	<ul style="list-style-type: none"> •Steel scraps are recycled domestically. Non-ferrous scraps and plastics seem to be exported. •Scraps dismantled by MEC are also utilised by steel manufacturing facilities of MEC. •There are no government related facilities for copper and aluminium recycling. 	<ul style="list-style-type: none"> •Steel scraps, non-ferrous scraps, and plastics seem to be recycled domestically. •Steel is brought to areas where relatively modern large-scale steel plants are integrated. •Recycling of non-ferrous metals is carried out in 'Craft Villages' that are specified for metal or resources. 	<ul style="list-style-type: none"> •Steel scraps are recycled in steel manufacturing companies. Steel scraps are sent to scrap trading companies, and then sold to steel manufacturing companies. •Non-ferrous metals are recycled in manufacturing companies. Non-ferrous metals are also sent to scrap trading companies and sold to manufacturing companies. •Recyclers collect wastes from either car 	<ul style="list-style-type: none"> •Steel scraps are recycled in steel manufacturing companies. Steel scraps are sent to scrap trading companies, and then sold to steel manufacturing companies. •Non-ferrous metals are also sent to scrap trading companies and sold to manufacturing companies. Some amounts are exported to China, and others. 	<ul style="list-style-type: none"> •The remaining car body is manually cut into steel scraps. Iron recyclers buy and process these scraps. •Recyclable materials such as glass, tires, large plastic parts, among others, are processed using separate recycling techniques. 	<ul style="list-style-type: none"> •Valuable metals are separated/recovered from scrapped cars manually and open incineration. •Retrieved metals are sold to metal factories. •Other wastes such as wire harnesses, plastics, and rubbers are recycled. 	<ul style="list-style-type: none"> •Generally, scrapped metal items such as sheet metals, aluminium and plastics are retrieved and reused. •Unusable items such as rubber parts, excluding tires, insulation materials, glasses, among others, are discarded to municipal garbage. 	<p><Status before ELV Law></p> <ul style="list-style-type: none"> •The Law for Promotion of Effective Utilization of Resources specifies the responsibilities of business entities to adopt the 3R measures. •Steel scraps and non-ferrous metals, catalysts and tires are reused or recycled. <p><Current Status> See above</p>

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						owners nearby or brokers. Then, after separating recyclable wastes and processing them, recyclers sell processed wastes to steel plants and plastic recyclers.					
	Current Status: Waste treatment	<ul style="list-style-type: none"> •Lead battery is not properly treated, and this causes emission of hazardous wastes. 	<ul style="list-style-type: none"> •Lead battery is not properly treated, and this causes emission of hazardous wastes. 	<ul style="list-style-type: none"> •Lead battery is not properly treated, and this causes emission of hazardous wastes. •Some of the hazardous wastes are not properly treated. 	<ul style="list-style-type: none"> •For lead batteries, there are seven permitted battery recycling facilities with capacity of around 100 tons per day. Not all batteries are recycled. •Not all waste oils are collected. Some waste oils are disposed in the sewage, and the like, but some from the informal sector use waste oil inappropriately, harming the environment. 	<ul style="list-style-type: none"> •Not all batteries are recycled. •Waste oils and CFCs are not recycled. Waste oils and CFCs are not properly treated and may cause soil and air pollution. 	<ul style="list-style-type: none"> •Not all batteries are recycled. •All fluids are drained and stored for respective recyclers. Mercury and other pollutant agents are removed to storage at this stage. 	<ul style="list-style-type: none"> •Batteries are partly recycled. •Oils are accumulated and resold to recycling shops, while CFC is generally not recovered and released in the air without processing even though recovery instruments are distributed to some factories. 	<ul style="list-style-type: none"> •Batteries are sold to specialised battery stores or junkshops, among others. •Waste oils are not retrieved or resold and are mostly dumped. •CFCs are not retrieved during processing and are released in the air as there is no CFC collecting facility. 	<ul style="list-style-type: none"> •Batteries are sold to spare shops, among others, although there are formal regulations concerning disposal of used batteries. Regulations exist for return and recycling of batteries but these are not strictly enforced. •Little treatment is done for hazardous materials, resulting in air, water, and soil pollution in recycling facilities. 	<p><Status before ELV Law></p> <ul style="list-style-type: none"> •The Law for Promotion of Effective Utilization of Resources specifies the responsibilities of business entities to adopt the 3R measures. •Lead-acid battery is properly treated. •The Waste Management and Public Cleansing Act specifies the responsibilities of business entities to adopt the 3R measures and to conduct proper treatment of ASRs, discarded tires and half-cuts containing airbags, among others, as waste products. <p><Current Status> Regarding</p>

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					• CFCs are not recycled.					• Testing of formal mechanised recycling process has been started at the Recycling Demo Unit of Global Automotive Research Centre, which can properly treat batteries, oils, airbags and other materials.	downstream retrieval of ELVs, the proper treatment of the three items, designated as the three negative cost components, are required: - CFCs approximately 20,000 recovery places and 8 collection/neutralisation plants; - Airbags: 26 airbag collection centres and 5 recycling plants; and - ASRs: 54 recycling facilities and 33 incinerators and landfills. • JARP is in charge of the management of the destruction of CFCs and airbags.
	Regulation: Licence	No adequate legal system for the treatment of hazardous wastes.	No information	No regulation	Some companies have recycling a licence from MONRE but most of the companies operate without any licence.	Recycling companies have to acquire a licence according to Notification of MOI No. 15 B.E. 2544 (2001).	• The Environmental Quality Order 1989: - Prescribes the types of waste treatment and disposal facilities and licence. - Prescribes the procedures when owners of facilities change and the obligation of informing the amount of	Only certified dismantling facilities, certified and authorised recycling workshops, or collection points which have been nominated by the manufacturers are permitted.	No information	AIS 129 incorporates provision for accreditation of dismantling standards after they meet specified standards.	<Status before ELV law> Industrial waste disposal operators are required to obtain the license in the Waste Management and Public Cleansing Act <Current Status> Fluorocarbon collector and shredding operator are required to obtain the license in the ELV law.

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		Cambodia	Lao PDR	Myanmar	Viet Nam	Thailand	Malaysia	Indonesia	Philippines	India	Japan
							waste accepted, treated, stored, and disposed.				
	Regulation: Waste treatment	See above	<ul style="list-style-type: none"> The Environmental Protection Law stipulates that <ul style="list-style-type: none"> - waste disposal sites must be allocated; and - wastes should be separated before disposal. The governments supports the implementation of technologies for waste treatments, reuse, and recycling. 	The Environmental Conservation Law and related regulations have been introduced to prevent environmental pollution.	<ul style="list-style-type: none"> Decision 50/2013 of the Prime Minister on retrieval and treatment of end-of-life products: <ul style="list-style-type: none"> waste oil: 2016; batteries: 2016; tires: 2016; vehicle: 2018. Take back schemes for batteries and waste oils are considered under the decision. The Environmental Protection Law has been introduced to prevent environmental pollution. Waste treatment companies are also controlled under this Act. 	<ul style="list-style-type: none"> Notification of MOI B.E. 2548 (2005) controls pollution from industries. The notification indicates the responsibilities of dismantlers and polluters, and lists the hazardous wastes such as waste oils and liquids, CFCs, lead batteries, and catalysts. 	See above	<ul style="list-style-type: none"> Law No. 32/2009 covers environmental management. Law No. 18/2008 covers waste management. Government Regulation of No.101/2014 covers hazardous wastes. Basel Convention - hazardous wastes, Convention on Climate Change-international treaties, PEL and LEL are also applicable. 	<ul style="list-style-type: none"> DAO2004-36 prescribes the responsibilities of polluters for hazardous wastes as follows: <ul style="list-style-type: none"> -Sulfuric acid -Waste oils -Ozone-depleting substance (CFCs and halon) 	AIS 129 requires collection centres and dismantling centres to possess equipment and facilities for hazardous wastes.	<p><Status before ELV Law> Polluters is responsible for the treatment of industrial waste generated from its business in the Waste Management and Public Cleansing Act.</p> <p><Current Status> ELV Law prescribes ASR recycling target: 30 percent in 2005; 50 percent in 2010; and 70 percent in 2015, and Airbags recycling target: 85 percent.</p>

AIS = Automotive Industry Standard, ASR = Automobile Shredder Residue, ATF = Authorised Treatment Facilities, CFC = Chlorofluorocarbons, DfR = Design for Recycling; DLT = Department of Land Transport, ELV = End-of-Life Vehicles; EU = European Union, JARP = Japan Auto Recycling Partnership, Limited, LEL = Local Environmental Legislation, LTO = Land Transportation Office, MEC = Myanmar Economic Corporation, MOI = Ministry of Industry, MONRE = Ministry