

SHIP RECYCLING :

A matter of social responsibility.

What solutions are available to ship owners ?

Rakesh Bhargava

PROFESSIONAL.
LIKE YOU.

INDUSTRY OVERVIEW

Shipbreaking methods and options

The world of ship recycling

Shipbreaking yards are mainly concentrated in **Aliaga**

Ship Breaking Method:
OCED approved breaking



Ship breaking yards are mainly concentrated in **Jiang Yin** on the Yangtze river and Pearl river delta

Ship Breaking method:
Pier and Docks breaking




Turkey
Pakistan
India
Bangladesh
China

Shipbreaking yards are mainly concentrated in **Karachi**

Ship Breaking Method:
Mainly Beaching



Shipbreaking yards are mainly concentrated in **Alang**

Ship Breaking Method:
Mainly Beaching



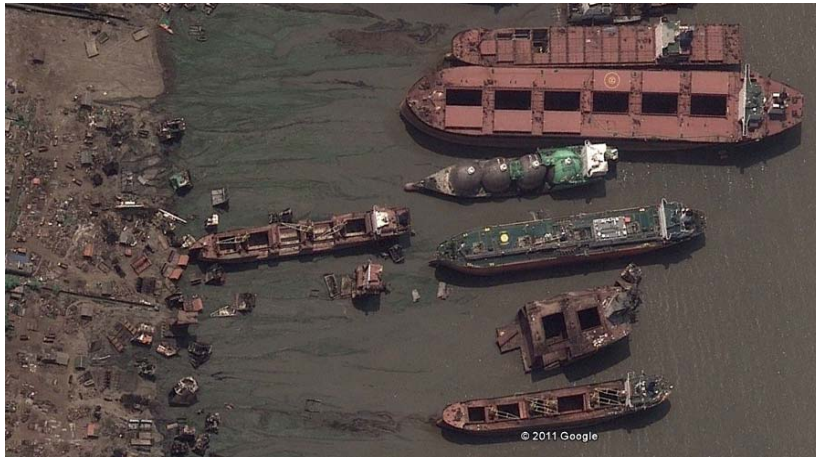
Shipbreaking yards are mainly concentrated in **Chittagong**

Ship Breaking Method:
Mainly Beaching



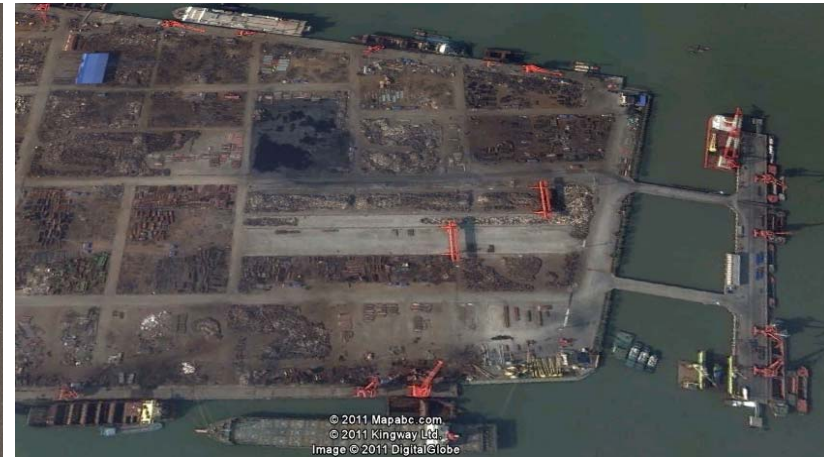
Ship Breaking method

Beaching



VS.

Non-Beaching



> Procedure for ship recycling as per HKC



> Green Ship Recycling process

Preparation of IHM (Inventory of Hazardous Materials)

- **Part 1 – Structure and equipment**
To be prepared during shipbuilding or :
- **Part 2 - Operative waste**
To be prepared prior to recycling
- **Part 3 – Stores**
To be prepared prior to recycling



NIPPON KAJI KYOKAI
Statement of Fact
No. KC1142-6479 Date: 20 April 2011

THIS IS TO CERTIFY that NIPPON KAJI KYOKAI Ltd, at the request of _____, has conducted the report of "INVENTORY OF HAZARDOUS MATERIALS Part 1" of the following vessel:

MV: _____
Flag: _____
Port of Registry: _____
Ship's Name: _____
IMO Number: _____
Type of Vessel: _____
Gross Tonnage: _____
Shipbuilder: _____

Name of Owner: _____
Name of Charterer: _____
Name of Operator: _____
Name of Ship Management: _____

In accordance with paragraph 8.2 of IMO Resolution MSC.175(53) "GUIDELINES FOR THE DEVELOPMENT OF THE INVENTORY OF HAZARDOUS MATERIALS", and found satisfactory.

Nippon Kaji Kyokai
T. Nagatomo,
General Manager of
Marine & Industrial Service Department

Attachment:
Inventory of Hazardous Materials for MV _____



Samples taken onboard for lab testing

Identification of suitable ship recycling facility

To name a few criteria :

- Should have a SRFP in place complying with upcoming HX Convention OR plans thereof.
- Be able to develop an SRP
 - Yard must practice procedures to ensure safe and environmentally sound recycling of ships
 - Proper infrastructures and temporary storage to handle hazardous waste
 - Disposal of hazmat in approved facilities
 - Proper areas for handling and cutting oily equipments



Ship recycling facilities in China equipped with cranes and machineries

> Green Ship Recycling process

Ship recycling Facility Plan (SRFP) – To contain

- **Safe for entry procedure**
- **Safe for hot work procedure**
- **Health and Safety Programme**
- **Monitoring of Environment Programme**
- **Procedures and Plan for the protection of environment**
- **Training Programme**
- **Health and Safety Programme**
- **Emergency Preparedness and Response Plan**

> Green Ship Recycling process

Sales activities and contract negotiation

- Contracting brokers that are capable of fetching the best price for your vessels from ship recycling yards that can perform green ship recycling
- The yard must obtain information on hazardous materials already onboard (IHM), when accepting a vessel
- Approval for import of ship destined for recycling
- Documentation - management of environmental issues



Preparation of ship recycling plan (SRP) - A detailed plan of a safe recycling process A ship-specific SRP must be developed prior to recycling of a ship

A SRP includes the following components:

- Operation Plan, dismantling sequence
- Safety and Health Plan
- Environmental Compliance Plan
- Emergency Plan
- Management of HM as identified in the IHM
- Any processes or procedures that are specific to the ship

SRP is a key document demonstrating that the yard takes verifiable consideration of the environment through the environmental compliance plan

Ship Recycling Plan	
Table of Contents	Page
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Operation Plan	7
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2. Inspection, Sanitary Clean	7
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6. Dismantling Deck & Cabin Equipment	10
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> Green Ship Recycling process

Preparation for ships last voyage

- Arrangement for port clearance
- Removals of stores, spares and bunkers
- Sign off crew after hand over and arrange crew repatriation
- Various documentation
- Prepare the Parts II and III of the IHM



Ship's last voyage

Removal of fuels, oils, oily water, bilge water and ballast water

- Removed to safe tank arrangement
- Proper disposal
- Ballast water should be dealt with according to regulations



Oil is being pumped from the engine room



Cleaning of oily deposits

> Green Ship Recycling process

Ships Pre-cleaning

- Identified hazardous materials should be carefully removed as it becomes accessible
- Containment
- Disposal of hazardous materials in approved facilities
- Good housekeeping



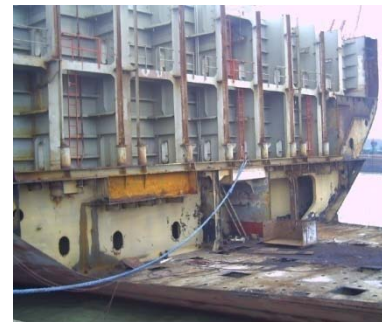
Pre-cleaned accommodation is ready for cutting



Asbestos packed in double bags

Steel cutting and removal in stages in the pre-cleaned areas

- Avoid accidents that could lead to a release of hazardous materials to the environment
- Prescribe the use of personal protection equipment
- Employ equipment leading to less environmental risk



Vessel partly demolished



Proper personal protection equipment

> Green Ship Recycling process

Dismantling double bottom in floating dock

- Last remaining parts are put into floating dry-dock for final cutting
- Containment of pollutants



Floating dry-dock for final cutting

Site sorting and final clean up

- Sundries, small pieces of metal are collected
- Fields would be cleaned after working



SOCIAL RESPONSIBILITY

Owners responsibility towards ship demolition

Principles of Social Responsibility

Accountability

Transparency

Ethical Behavior

Respect for stakeholder interests

Respect for the rule of law

Respect for international norms of
behaviour

Respect for human rights



Principles of Social Responsibility - Accountability

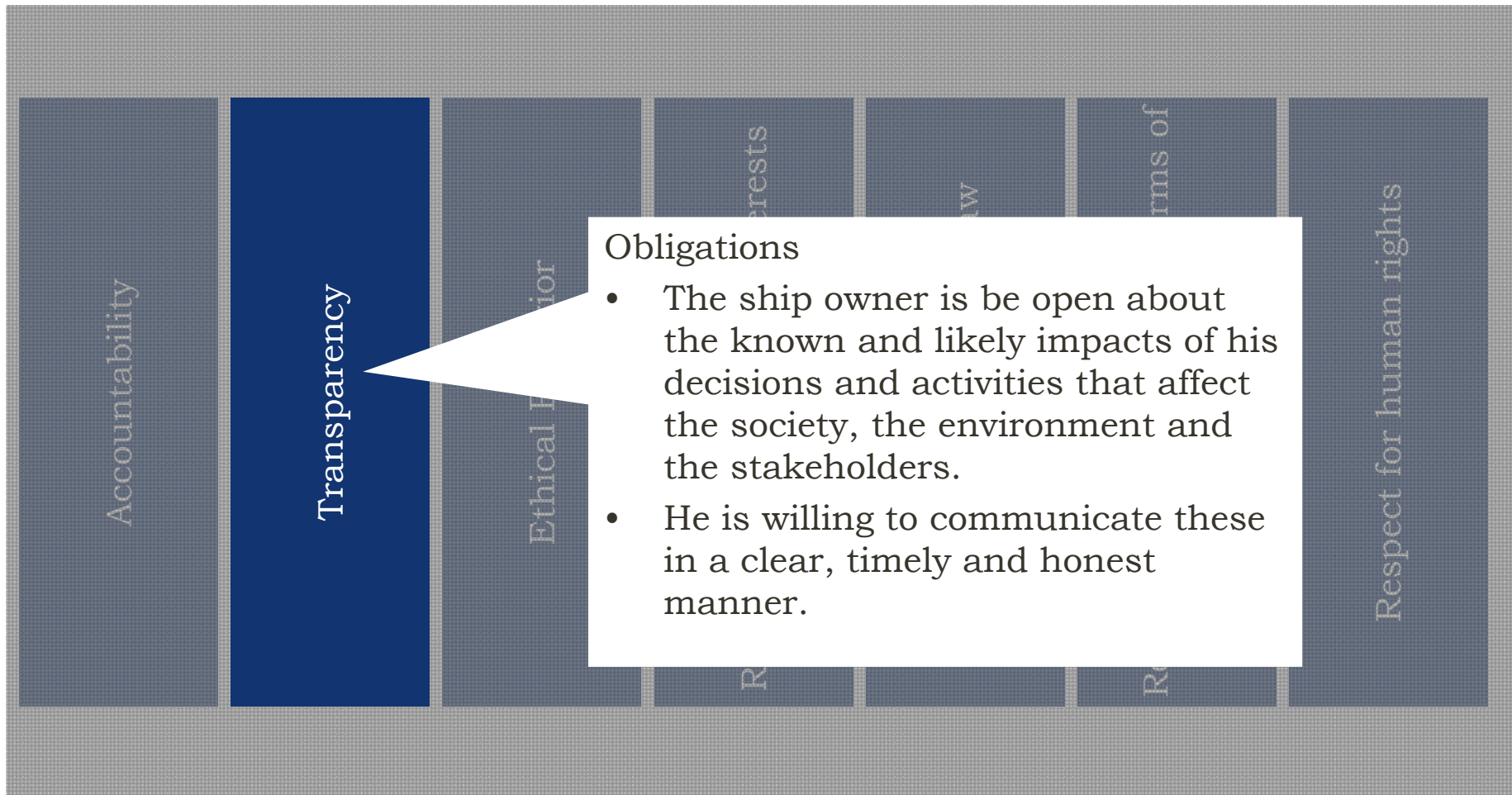
Accountability

Obligations

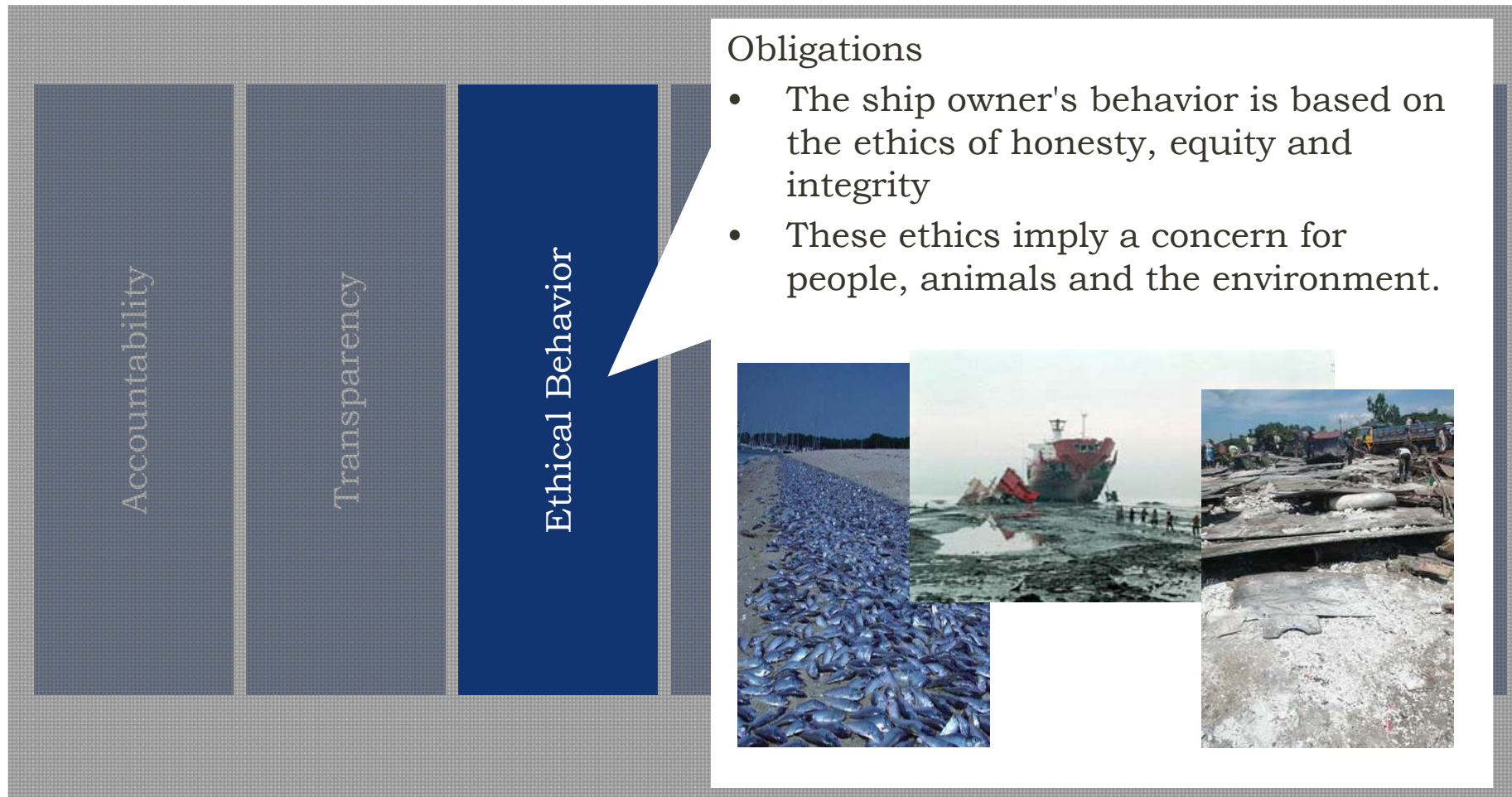
- Ship owner is responsible and answerable for his own decisions and activities
- Ship owner accepts responsibility where wrongdoing has occurred, takes remedial and preventive actions



Principles of Social Responsibility - Transparency



Principles of Social Responsibility – Ethical Behavior






Accountability

Transparency

Ethical Behavior

Obligations

- The ship owner's behavior is based on the ethics of honesty, equity and integrity
- These ethics imply a concern for people, animals and the environment.



Principles of Social Responsibility – Respect for stakeholder Interest

Obligations

- The ship owner is to respect, consider and respond to the interests of its stakeholders.
- Other groups/ individuals may also have rights, claims or specific interest eg NGOs, Unions, that must be taken into account.
- Ship owner must consider the views of stakeholders that may be affected by a decision.

Respect for stakeholder interests

Respect for the rule of law

Respect for international norms of
behaviour

Respect for human rights

Principles of Social Responsibility – Respect for the rule of law

Obligations

- The ship owner must comply with all applicable laws and regulations. Including being aware of forthcoming laws and regulations
- The socially responsible ship owner will respect the forthcoming laws and regulations and will implement them as much as possible, before they come in force.

Respect for stakeholder interests

Respect for the rule of law

Respect for international norms of behaviour

Respect for human rights



Principles of Social Responsibility – Respect for international norms

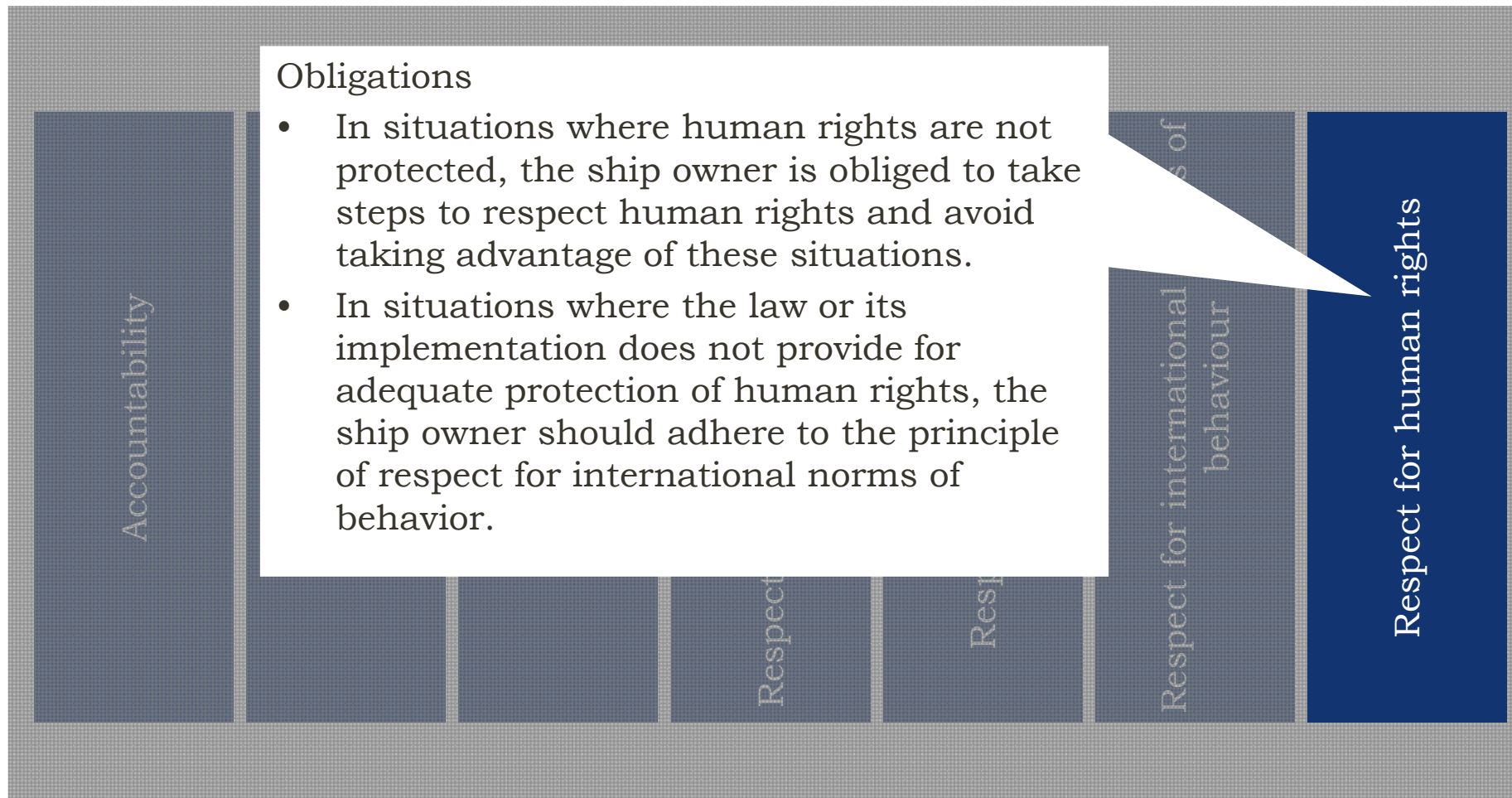
Obligations

- Customary international law
- The ship owner must respect international norms of behavior, while adhering to the principle of respect for the rule of law.
- Ship owners should strive to respect the international norm when :
 - Countries law does not provide minimum social-environmental safeguards
 - Countries law in conflict with international norms
- A ship owner must avoid being complicit in the activities of another party that are not consistent with international norms of behavior.

Respect for international norms of
behaviour

Respect for human rights

Principles of Social Responsibility – Respect for human rights



>: Red flags to watch out for

Legal issues	<ul style="list-style-type: none"> • Legal pitfalls • Lawsuits and health claims • Is beaching lawful ? • Ironclad contracts • Regulations <ul style="list-style-type: none"> • Basel Convention • HK Convention; EU Regs 	
CSR	<ul style="list-style-type: none"> • Compliance to CSR • Risks to health for involved • Environmental pollution • Risk to injury and death for involved • Shareholders concerns • Abilities of ship breaking facilities in handling hazardous materials 	
Monetary	<ul style="list-style-type: none"> • Maximizing vessel scrap value • Cash buyer credibility • Controllability after the sale of vessel • Demolition process delayed 	

Prevention better than Cure

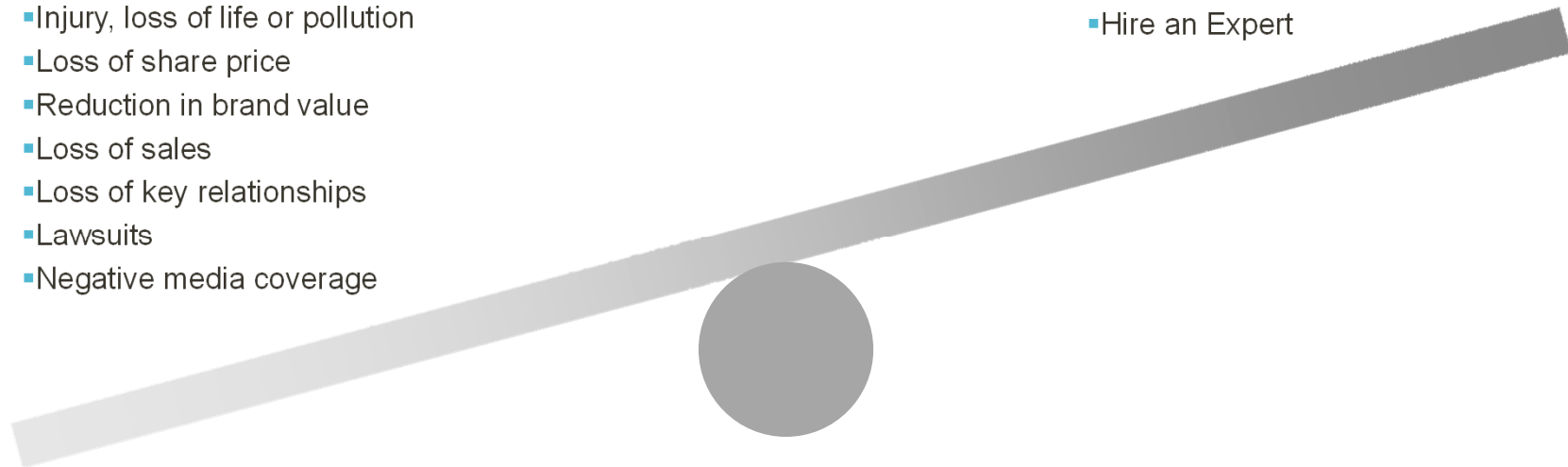
Cost of non conformance vs. Cost of prevention

Cost of non conformance

- Company reputation and CSR
- Injury, loss of life or pollution
- Loss of share price
- Reduction in brand value
- Loss of sales
- Loss of key relationships
- Lawsuits
- Negative media coverage

Cost of Prevention

- Yard Selection
- Opportunity cost of US\$40/LTD
- IHM
- Ship Recycling Plan
- Hire an Expert



Cost of prevention is more affordable !

NGOs can enforce !!

- NGOs Watchdogs

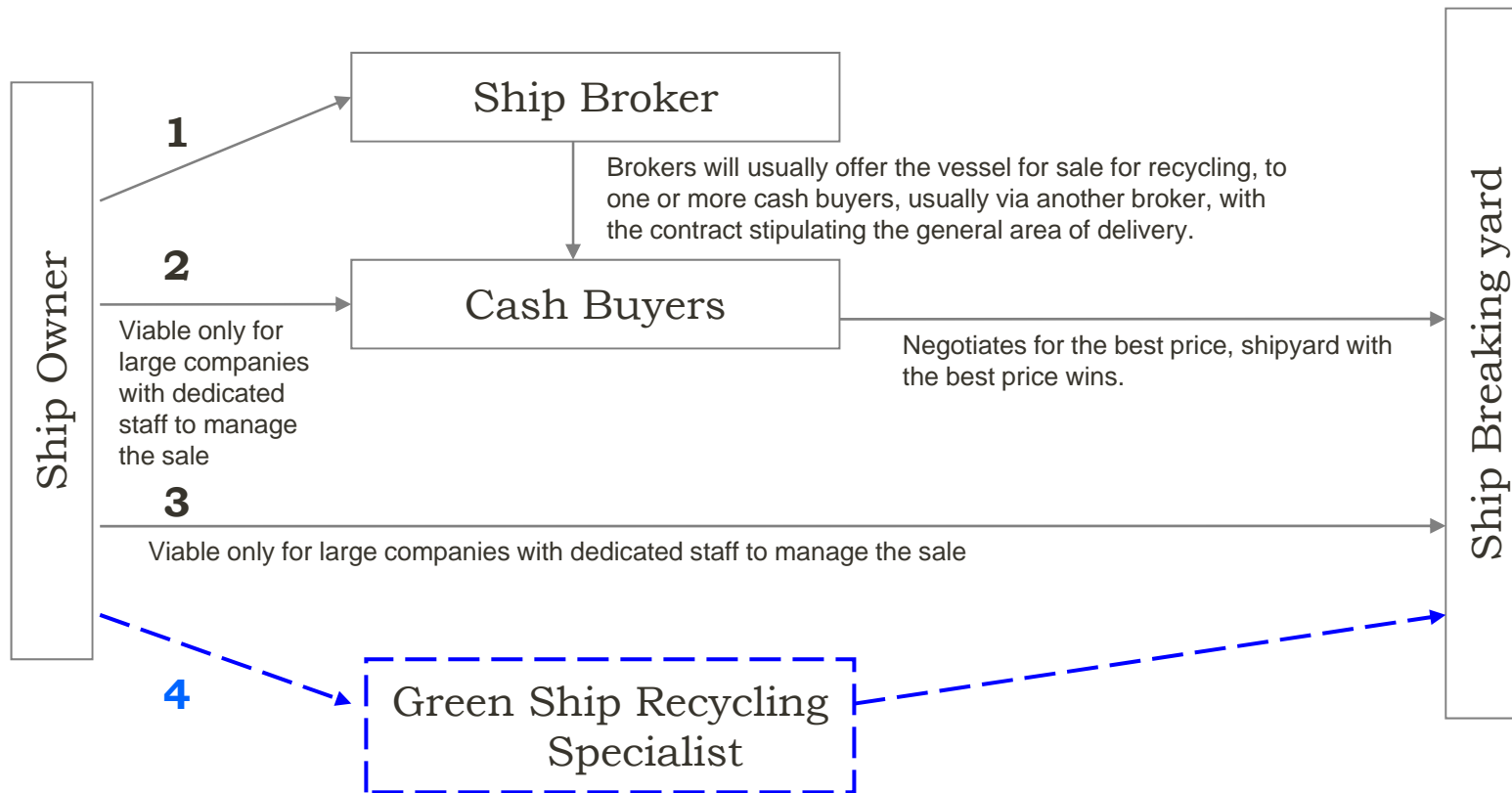


- Media
 - Bad press = bad publicity
 - Loss of share value

SOLUTIONS AVAILABLE

Prevention better than cure : Green Ship Recycling

Ship Recycling Ecosystem



Ensuring your ships are recycled in truly green procedures



Stringent monitoring according to SRP

- WSM practices stringent monitoring of the recycling process at the yard according to the SRP

Key Performance Indicators

- Only audited ship recycling facilities that have agreed to be monitored against a set of key performance indicators (KPIs) will be used for recycling.

Bonus pay-back scheme

- WSM practices bonus pay-back scheme as an incentive for ship recycling facilities to perform green recycling.
- Under this scheme, bonus is withheld and will only be released if the key performance indicators have been met.

Independent, without conflict of interests

Our procedures audited by Class

Scope of work

Our scope includes :

- Brokerage services to qualified ship recycling facilities in China
- Preparation of Inventory of hazardous materials and ship recycling plan
- Weekly reporting on each stages of green ship recycling
- Audit trails on disposed hazardous materials



> Final Documentation to Owner

- Memorandum of Sale Agreement
- Service Agreement between Wilhelmsen and Ship Owner
- IHM / Green Passport , IMO Toxic List and onboard Inspection
- Ship Planning checklists and Certificates
 - Preplanning
 - Last Commercial Port
 - Final Voyage
 - Arrival at recycling yard
 - Certificate of Delivery to yard and crew sign off
- Wilhelmsen Site Supervision Records, weekly follow-up
 - Traceability document of disposed hazardous materials
- Demolition Report
- Final Demolition Certificate (from yard)

> Documentation Samples

Procedures and Schedule



GIMS Procedures



Work schedule

In Process monitoring and reporting



Weekly report



Monitoring and
follow up



Non
Conformance



Monthly Report

Final



Final Report



Pre-cleaning
certificate



Demo
ompletion Certifica



> Conclusion

- ✓ Both the Hong Kong Convention and the EU regulation require SRFs to develop **SRFP and SRP**.
 - ✓ Furthermore, the EU regulation requires that **EU-flagged ships** shall only be recycled in SRFs which have been found acceptable and included in **the European List**. Japan may follow suit.
 - ✓ IHM has a commercial value and implication !
 - ✓ Know what is inside your vessel, then you can truly plan what to Do
- ENSURE YOU ARE TRULY GREEN**
- Show **Care** for people and environment- And your **Social Responsibility !!**



www.wilhelmsen.com/shipmanagement