

Achieving Sustainable Ship Recycling

Through the Establishment of Financial Systems

Safe Recyclers

1 Introduction of the issue

- Definition of ship recycling
- Advantage and Disadvantage of ship recycling
- Regulation/Guidelines on ship recycling
- Reality(unfairness of the issue)
- Solution

2 Proposal for the issue

- RSC(Responsibility of Ship owners Collected)
- Financial mechanism of RSC
- Options of collecting fund
- Usage of the fund
- Deposit refund system

3 Conclusion

- Benefits
- Challenges
- Feasibility



PART 1

Getting into the issue &
Solution overview



What is **Ship Recycling?**



Process of dismantling
End **O**f **L**ife **s**hips

Mooring

Dismantling

**Recovery
of Materials**

**Reprocessing
the ship**

Advantages of Ship Recycling

Expanding the use of
Circular Resources



EOL ships



Re-Resourcing



Construction Industry

=



**Sustainable
Development**

¹⁸ Air and water **pollution & GHG emissions**
minimized

18. Pattarawan Watcharaanantapong(2016). Factors influencing Greenhouse Gas Emissions From Land Use, Land Use Change, And Forest Activities, University of Tennessee, Knoxville pg 8-11

Disadvantages of Ship Recycling



Issues with **the Ship's Dismantling Phase**

Threatens the lives of workers

¹⁰ A welder with a minimum heat of 1000 degrees

The cutting operation inside the hull

Causes serious environmental pollution

¹⁹ Sulfuric acid, Lead, Mercury, PCBs, PVCs, PAHs, TBT, isocyanates

Regulations/ Guidelines on ship recycling



IMO

**HONG KONG INTERNATIONAL CONVENTION FOR THE SAFE AND
ENVIRONMENTALLY SOUND RECYCLING OF SHIPS, 2009**

→ **Meaningful in that the government
has taken steps to make sure that
ships are recycled under sufficient precautions**

Reality: HKC not Entering into Force

Financial difficulties

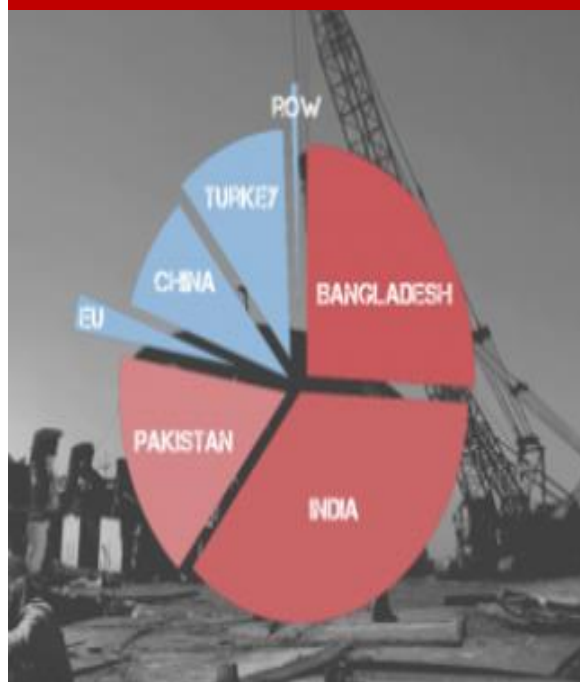


Workers without personal protective equipment



Lack of safe working platforms

Bangladesh, India, Pakistan accounts for 85%



Ship owners wanting to sell **EOL ships** at the highest price

Becoming an **Inexorable process**

High Demand for **substandard ship recycling yards**

¹³Negative impacts **getting worse**

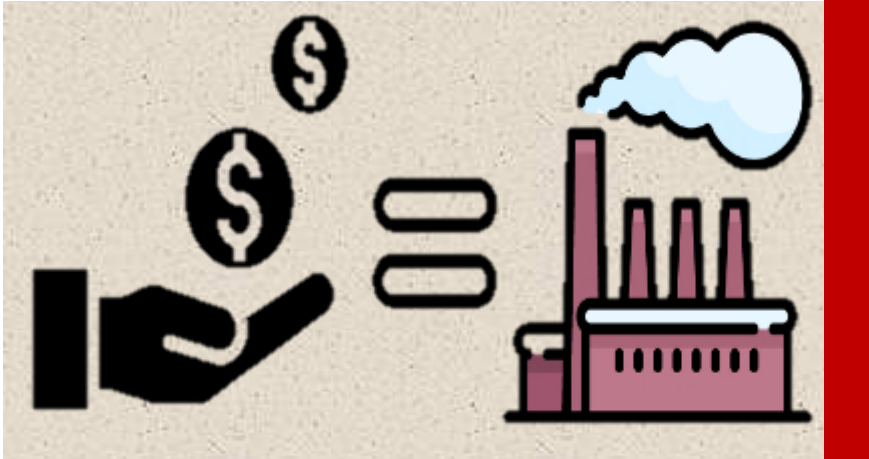
The number of dismantled ships will increase due to **COVID 19 & IMO 2020**

13. 강미주, "IMO 규제 임박, 선박 해체 서두르는 선주들"

Unfairness of the issue



Solution overview

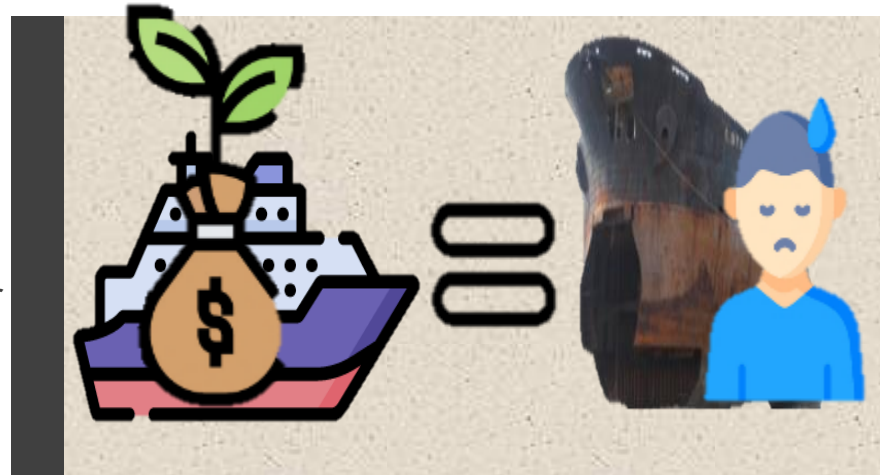


20 Polluter Pays Principle

Those who **produce pollution** should **bear the costs of managing** it to prevent damage to human health or the environment

Responsibility of Ship owners Collected (RSC)

- A fund that imposes responsibility on the shipowner
- Provide a financial foundation for the safe and sound ship recycling
- Helps HKC to be ratified





PART 2

How can
the RSC collect funds?



Collecting funds: Financial Mechanism of the RSC



Responsibility of Shipowners Collected

How could the **RSC** raise funds?

Revolving Fund System

- ✓ Regularly collect money from all countries, for the purpose of safe and sound ship recycling

What are **the roles of each country**?

- ✓ Transfer money to the RSC
- ✓ Deposit money raised by its shipowners

Collecting Funds : Option 1

11 Japanese Model

Paying at the Purchasing Stage

shipowners pay a certain percentage of the ships' price as a recycling fee **when they buy a ship.**

The Japanese Automatic Recycling Law

Car owners are required to pay a recycling fee when they purchase a car, which is deposited in the Japan Automotive Recycling Promotion Center (JARC)

Ø JARC is used to effectively monitor the automatic recycling system

Ø With this system, Japan has been able to raise its car recycling rate to more than **95 percent..**



Collecting Funds : Option 2

Korean Model

Paying at the Disposal Stage

shipowners pay a certain percentage of the ships' price as a recycling fee when they recycle the ship.

Large-Scale Waste Charging Fees

People who want to discharge large-scale waste must pay a fee to the district office

14 Used to...

- ❌ **Prevent** indiscriminate discharge of recyclable resources
- ❌ **Solve** environmental problems such as the shortage of manpower in the waste disposal industry.



Collecting Funds : Option 3

Periodic Model

Paying an Annual Recycling Fee

shipowners pay a certain percentage of the ships' price **every year** the ship is operational.

**Not many instances
to be found...**

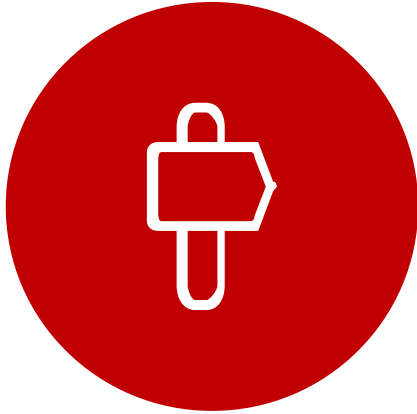
Harder to
collect a fee
every year than
to collect it all at
once

However...

- Ø Can be applied to both new and old ships at the same time
- Ø A lot of money would be raised in a short time

**Making it an attractive
option**





PART 3

How can
the money
be used for safe
recycling?



Usage of the Fund

R&D

Research More Effective Methods of Recycling

Beaching is the most popular method of ship recycling, but is inherently very dangerous

Research and development will minimize the hazardous waste of recycled ships as well as ensure the safety of the workers



Usage of the Fund

Categorization

Make a List of Approved Recycling Yards

Approve the recycling yards according to their sustainability and efficiency

RSC would then advise nations to use only these approved recycling yards.



Usage of the Fund

Financial Aid

Aid Provided According to category

1Type 1: Inefficient but Sustainable

Aid regarding employee productivity

1Type 2: Unsustainable but Efficient

Aid regarding worker wellbeing and environmental hazards

Will be able to overcome lackluster parts of the Hong Kong Treaty



Regulation 17 :

<Ship Recycling Facilities authorized by a Party shall establish management systems, procedures and techniques which do not pose health risks to the workers concerned or to the population in the vicinity of the Ship Recycling Facility and which will prevent, reduce, minimize and to the extent practicable eliminate adverse effects on the environment caused by Ship Recycling, taking into account guidelines developed by the Organization Regulation>

¹⁷An indirect approach because...

- The Convention itself does not introduce compulsory environmentally sound methods of ship recycling.
- It does not specifically define the method of ship recycling.



The Flaws of Regulation 17

Flaws of the convention

the convention leaves party states to decide which method of ship recycling is safe and environmentally sound, open to interpretation.

Through the RSC..

- Provide financial aid
- Find alternate methods of recycling

Benefits of the RSC



If so, then..

What will the IMO do?

For a financial organization to become widely used,

trust in the organization is key.

The IMO will have to acquire and maintain this trust through..



TC | Found the fund, Monitor how and where the money is used

LEG | Reexamine ambiguous treaties

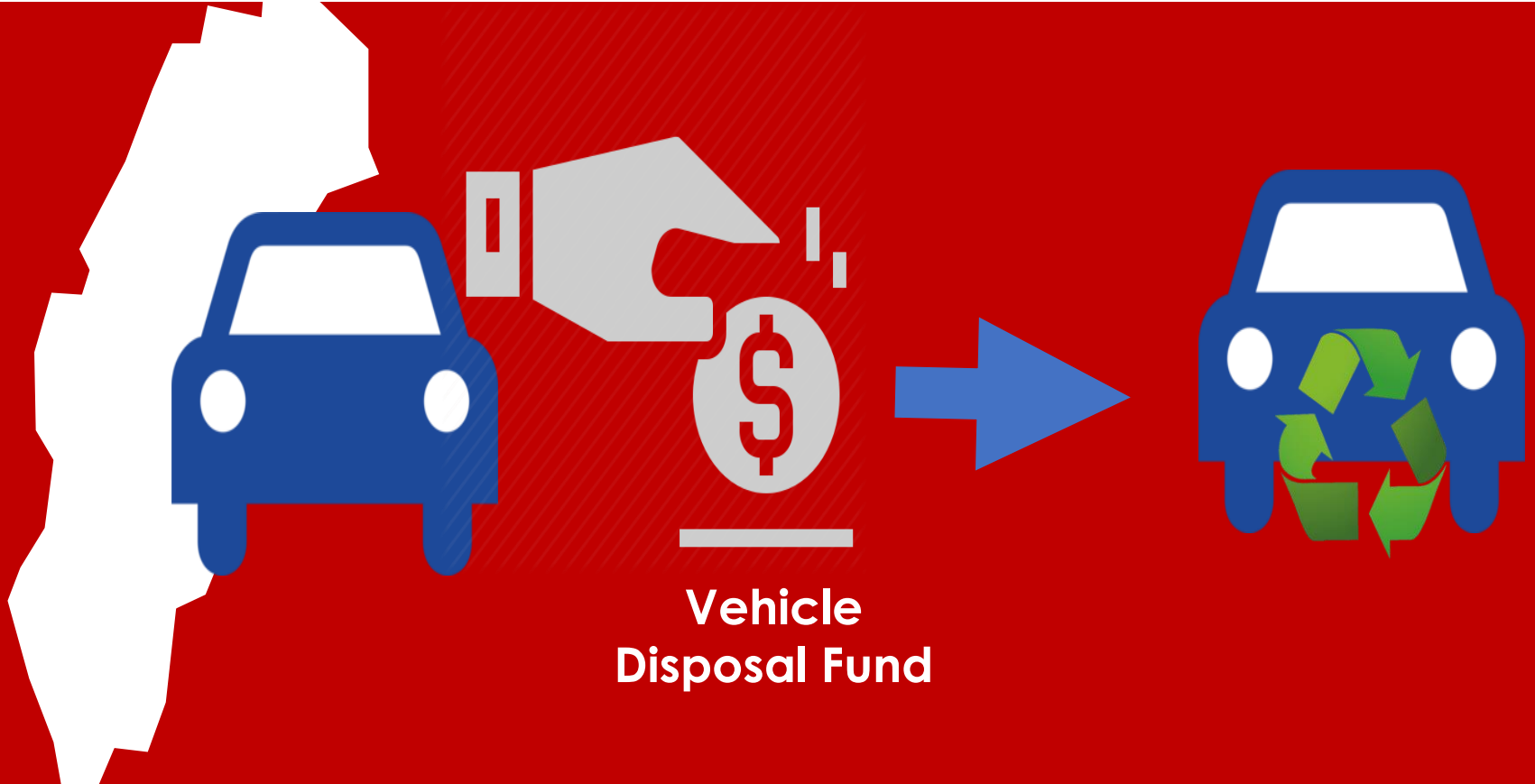
SDC | Build Eco-friendly ships



Sweden

RSC Deposit Refund System

-ships are obligated to use



¹⁵Car importers and producers pay a **recycling fee**. This is saved as a deposit in **Vehicle Disposal Fund**, and is returned to car owner when car is **eco-friendly recycled**.

Deposit refund system

Apply in ship industry



STEP 1

Ship owners pay
quota every year



STEP 2

Saved in the
Ship Disposal fund
while the
ship is at work



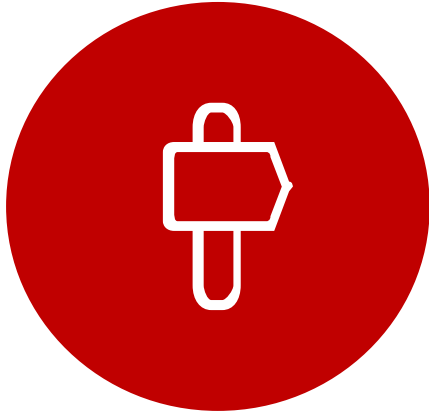
STEP 3

If it is well
recycled
the money is
returned

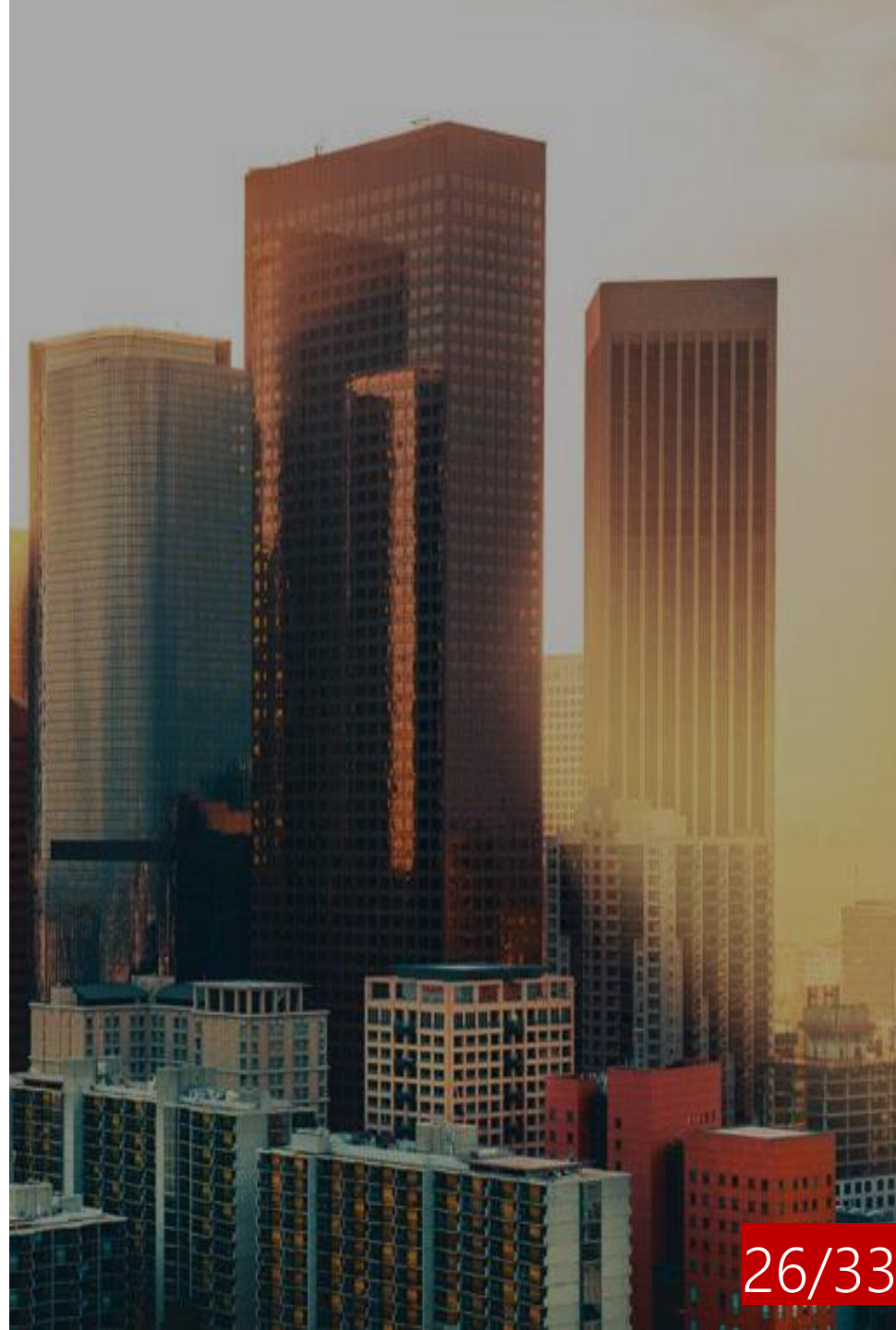


STEP 4

If not, the money
is sent to RSC to
support safe
recycling facilities



CONCLUSION





How does RSC collect money?

RSC collects money from..

Collects money collected by countries at the stage where ship owners buy ships, decide to dismantle ships, or operate ships.

RSC collects money from..

collects money for ships that fail to comply with the Deposit Refund policy run by each country

How does RSC collect money?



Commitment to **IMO's SD 1** to improve implementation

Benefits

Acceleration of RATIFYING HKC

RSC will be the background for the realization of the HKC by expanding the scope of responsibility surrounding the recycling of ships and laying the foundation for a sufficient financial foundation

DUTY | RESPONSIBITLIY | REALIZATION



Challenges

Shipowner's rejection

IMO could face difficulties as shipowners would not be willing to conform to RSC

To overcome this issue

III committee should let ship owners realize that paying for the revolving fund system stands to reason, emphasizing the **Polluter Pays Principle**.

The technical cooperation committee should set the fee for the revolving fund system to the amount that shipowners do not feel too burdened.

This could be achieved through **enough discussion** with ship owners.



Challenges

amount of money
one could get as a
refund from the
deposit refund
system



amount of money one
could make by selling
ship in an unsafe ship
recycling facility



ship owners may choose not to get a refund

The amount of money that would be refunded to ship owners has to take into account that using substandard shipping yard **should not be more attractive**



Especially at the early stage of the policy when there are leftovers of unsafe ship recycling facilities



RSC
Deposit
Refund System

feasible enough

By introducing RSC

- Take an interest in the life and environment of marginalized workers
- Solve environmental and health issues of the ship recycling business.



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