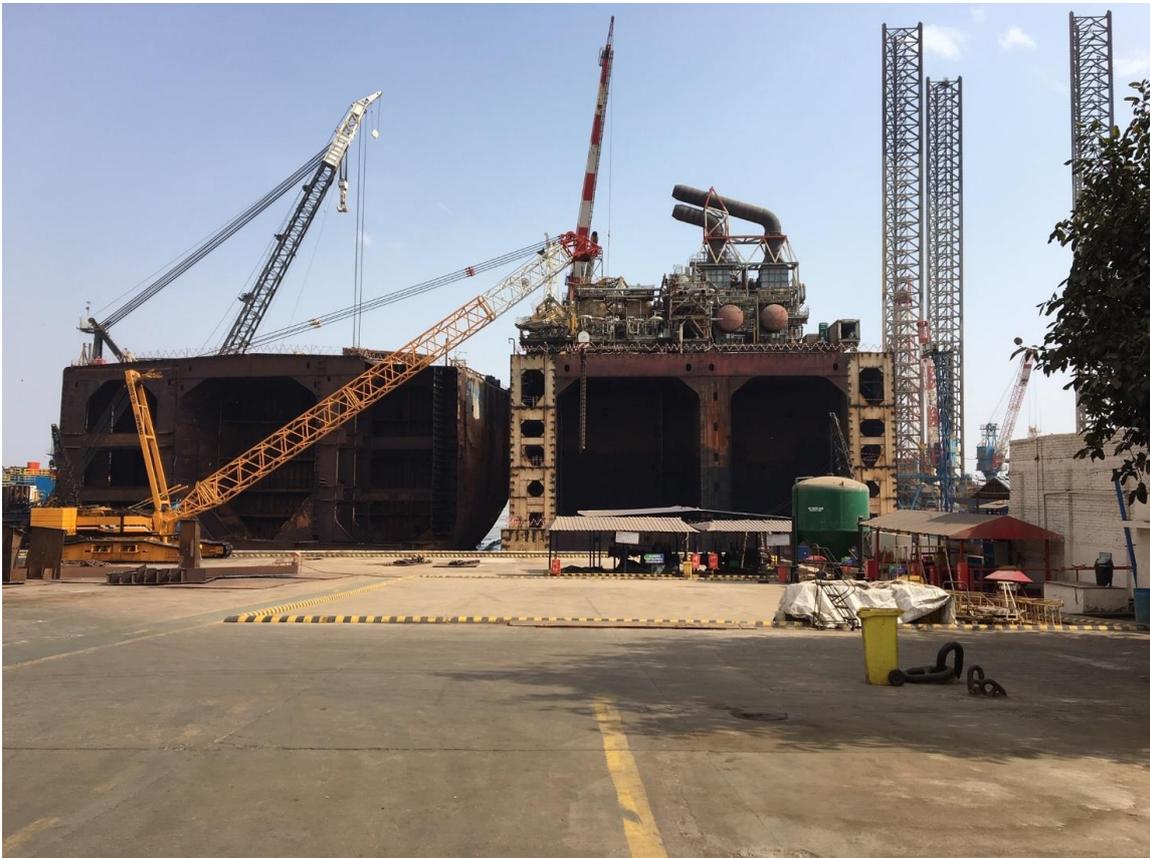


ECSA VISIT TO INDIAN SHIP RECYCLING FACILITIES

ALANG-SOSIYA, 25 – 27 FEBRUARY 2019

ECSA REPORT



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List of abbreviations

AASSRGWA	Alang Sosiya Ship Recycling General Workers' Union
ACM	Asbestos Containing Materials
CSR	Corporate Social Responsibility
ECSA	European Community Shipowners' Associations
EU SRR	European Regulation on ship recycling (No. 1257/2013)
GEPIL	Gujarat Environment Protection & Infrastructure Ltd (India)
GMB	Gujarat Maritime Board (India)
GPCB	Gujarat Pollution Control Board (India)
HKC	International Convention for the Safe and Environmentally Sound Recycling of Ships (2009)
IHM	Inventory of Hazardous Materials
UNCLOS	United Nations Convention of the Safety of Lives at Sea
PPE	Personal Protective Equipment
SRF	Ship Recycling Facility
SRIA	Ship Recycling Industries Association (India)
TSDf	Hazardous waste Treatment, Storage and Disposal Facilities

1. Executive summary

The aim of the visit was to create a better understanding of the possible threats to and opportunities for the (Indian) ship recycling industry and the (European) shipping industry. The challenges stem from recent European and International legal developments.

At the same time, participants were invited to witness the progress made on the ground at the ship recycling facilities and to see how safe and environmentally sound recycling operations can take place sustainably in intertidal zones in India. To further fully understand the impact of the ship recycling industry on the sustainable development of the region as a whole, part of the visit was dedicated to the downstream waste management and the steel making industry as well, as inseparable parts of a sustainable circular economy.

The underlining idea was that if Indian facilities meet the requirements of the European Ship Recycling Regulation 1257/2013 (EU SRR), they should be eligible for inclusion in the EU list of ship recycling facilities. This inclusion would then in turn facilitate the further upgrading of a sustainable ship recycling industry worldwide and facilitate prompt ratification of the IMO Hong Kong Convention (HKC).

Since 2016, many facilities have received statements of compliance with HKC and the EU SRR by Classification Societies and have applied to be included in the EU list. With this aim, those facilities have started to implement new procedures and management systems that would overcome and offset anticipated temporary financial losses. The latter could however be mitigated by the steady flow of end of life ships, and responsible involvement of both shipowners and cash buyers must therefore be part of the solution.

Therefore, the major stakeholders that can impact the final outcome of the current legal processes at the European and the international level are the European competent legislators, the (European) shipping industry and the (Indian) ship recycling industry, each to a greater or lesser extent.

The EU Ship Recycling Regulation can only fully meet its aim to facilitate the Hong Kong Convention within the EU and in third countries provided it is inclusive. If facilities in third countries comply to the legal requirements of the EU Ship Recycling Regulation, their inclusion will facilitate the third country government to ban substandard ship recycling practices and ratify the Hong Kong Convention, providing a global solution and level playing field to an industry operating internationally.

The entire visit was marked by the willingness of the side of the ship recycling facilities, the Ship Recycling Industries Association (India) SRIA and the authorities, namely the Gujarat Maritime Board (GMB), to transparently demonstrate and critically discuss the actual state of play towards healthy, safe and environmentally sound recycling operations in Alang-Sosiya.

2. Background information

2.1. The IMO Hong Kong Convention

The 2009 International Convention for the Safe and Environmentally Sound Recycling of Ships, also known as the 'Hong Kong Convention' (HKC), was adopted in 2009. It provides a meaningful system of workable and enforceable regulations with the ultimate goal of lifting the level of sustainability of recycling facilities on a global scale to the benefit of all parties involved. The HKC places clear and pertinent obligations on all parties concerned – shipowners, recycling facilities, flag states, port states as well as recycling states – to ensure that end-of-life ships do not pose any unnecessary risks to human health, safety and the environment during their life-time and when being recycled.

The underlying principle when developing the HKC was the real and urgent need to address the poor working conditions, the lack of training and the environmental degradation in substandard ship recycling facilities worldwide. To achieve this, the HKC set itself as the global standard below which no single recycling facility would fall, provided that the right mind set, investment and training was provided.

To date ten countries have ratified the Convention (Belgium, Denmark, France, Japan, the Netherlands, Norway, Panama, the Republic of the Congo, the Republic of Serbia and Turkey). These States represent around 23,16 % of the gross tonnage of the world's merchant shipping. The combined annual ship recycling volume of the contracting states during the preceding 10 years is around 0,6 % of the merchant shipping tonnage of the same states.

For the Convention to enter into force, ratification by 15 States is necessary, representing 40 % of world merchant shipping by gross tonnage and a combined maximum annual ship recycling volume not less than 3 % of their combined tonnage. Based on the latest publication by IHS Ltd for the fleet and recycling volumes in 2018¹, this means:

- 15 States;
- whose fleets amount to at least 533.457.349 GT (i.e. 40 % of the 2018 world fleet of 1.333.643.373 GT); and
- whose recycling facilities' combined maximum annual ship recycling volume is 16.003.720 GT or more (i.e. 3 % of the condition on the Contracted tonnage of 53.457.349 GT).

Satisfying the first two conditions is not an obstacle to the entry-into-force of the HKC. The critical issue will be to meet the third condition. This requires that the combined maximum annual ship recycling volume in the preceding 10 years is not less than 3 % of the contracting tonnage. The maximum annual tonnage is assessed for each of the

¹ Calculations and table by Dr Nikos Mikelis – based on data provided by IHS Global Ltd

countries that have ratified HKC by assigning to that country the maximum gross tonnage that was recycled in a single year during the 10 most recent years².

RECYCLING STATE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Max.ann'l recl.vol. Max 2009-2018
BANGLADESH	6,608,531	3,927,297	5,837,137	8,837,828	7,304,784	5,519,035	7,517,000	9,888,137	6,361,485	7,926,846	9,888,137
CHINA	7,737,730	4,723,151	5,968,520	8,167,710	7,083,536	4,975,527	4,036,142	3,464,380	3,573,932	344,855	8,167,710
INDIA	7,561,258	6,533,954	8,504,517	12,210,082	8,087,096	6,794,891	4,558,446	8,474,617	5,755,526	4,712,267	12,210,082
PAKISTAN	2,100,637	2,443,304	3,013,926	5,499,481	5,376,443	4,092,971	4,588,831	5,703,133	4,302,798	4,187,469	5,703,133
TURKEY	557,251	658,473	1,067,425	1,540,800	1,369,955	977,695	751,759	721,083	971,278	771,743	1,540,800
Sum of top 5 recycling States	24,565,407	18,286,179	24,391,525	36,255,901	29,221,814	22,360,119	21,452,178	28,251,350	20,965,019	17,943,180	37,509,862
Rest of the world	393,113	387,853	624,848	563,497	611,954	404,511	344,419	348,750	460,041	431,175	624,848
WORLD TOTAL	24,958,520	18,674,032	25,016,373	36,819,398	29,833,768	22,764,630	21,796,597	28,600,100	21,425,060	18,374,355	38,134,710

Table 1: recycling capacity - Dr Mikelis – data from IHS Global Ltd, World Casualty Statistics

To secure the circa 16 million GT of recycling capacity there is no doubt that India and China hold the key, as can be seen from the current official data above. Interestingly, the whole of the European Union (including France, Belgium and Denmark, as well as the UK) this year adds to just 223.394 GT, which is just 0,57 % of the world's capacity.

Worthwhile mentioning as well is that, although the Hong Kong Convention has not yet entered into force, voluntary compliance to it can be achieved by ship recycling facilities through obtaining a statement of compliance from an independent classification society. Many non-EU facilities have already undertaken these efforts, while it seems that EU ship recycling facilities have not yet taken any interest in the process.

2.2. The EU Ship Recycling Regulation and technical guidance note

In 2013, the European Union adopted the EU Ship Recycling Regulation (EU SRR), which broadly reflects the main provisions of the HKC. The EU SRR foresees in an EU approved list of recycling facilities where EU-flagged vessels will have to be recycled. The EU list could play a strategic role in motivating ship recycling facilities all over the world to become compliant with the HKC requirements, ahead of the entry into force of the HKC.

In order to incentivise each and every ship recycling facility situated outside the European Union to be -voluntary- compliant with the EU SRR and, therefore, the Hong Kong Convention, an open and inclusive process is required.

² This method was borrowed from OECD where it was used to calculate shipbuilding capacity, while accounting of dormant capacity



Picture 1: operating from built structures

Today, the EU list contains only ship recycling facilities located in the EU, Norway, Turkey and the United States. Two Indian facilities are in the process of inspection and evaluation while more inspections to other Indian facilities are planned to take place in 2019.

The EU SRR itself does not a priori preclude facilities that operate in intertidal zones from being eligible for inclusion on the EU list. The interpretation developed by the EU Commission however, via the Technical Guidance Note, makes any sustainable ship's dismantling operations in intertidal zones technically challenging. The note

states for instance that any contact between hazardous waste (e.g. blocks and cut parts of the ship's structure) and water/non-impermeable floors has to be completely avoided during the recycling process. One could even question whether these technical requirements can be met by ship recycling facilities using the so-called 'alongside method' or the 'landing method' in non-intertidal zones. Reference can here be made e.g. to the question on *What is meant by 'impermeable floors' and 'built structures'*.

While in the meantime the Indian ship recycling facilities have showcased that they can avoid the actual contact of blocks with the intertidal zone and thus can operate from built structures, the next challenge presented to the Indian ship recycling facilities by the EU inspection team is how they can ensure sufficient and adequate medical care for the workers (being interpreted as the availability of a hospital in the vicinity of the ship recycling area).

This way, the non-legally-binding technical guidance note interprets the EU SRR in a far-reaching and more stringent manner than the EU SRR. This may discourage the ship recycling facilities in third countries to further apply for inclusion in the EU List. Especially those ship recycling facilities in India that have engaged already in establishing standards equivalent to HKC and who are receiving statements of compliance from other classification societies than the one acting on behalf of the EU Commission.

However, a pragmatic approach during the auditing process under the EU SRR would give those facilities certified by classification societies against EU SRR compliance a fair opportunity to be included in the European List. Today a handful of facilities in India have already been stated in compliance to the HKC and the EU SRR by independent Classification societies.

This restrictive interpretation by the EU Commission and as such by the one classification society acting on behalf of the EU Commission may eventually make it very difficult for EU flagged vessels to comply with the EU SRR, as adequate capacity is not available on the EU list. Not only in terms of volume, but especially in terms of the size of ships enabled to be recycled and the geographical spread of compliant



facilities. Ship flying the flag of an EU Member State operate globally and many ships do not even trade in EU waters. The current list does not offer any more capacity than provided under the EU Waste Shipment Regulation. Exactly this was one of the reasons why the EU developed its new EU SRR, which aims to facilitate the ratifications of the HKC, within the EU and in third countries.

3. ECSA visit: purpose and outcome

3.1. Visit purpose

The aim of the visit was to create a better understanding of the possible threats to and opportunities for the (Indian) ship recycling industry and the (European) shipping industry. The challenges stem from recent European and International legal developments.

At the same time, participants were able to witness the progress made on the ground at the ship recycling facilities and to see how safe and environmentally sound recycling operations can take place sustainably in intertidal zones in India. To further fully understand the impact of the ship recycling industry on the sustainable development of the region as a whole, part of the visit was dedicated to the second hand market, the downstream waste management and the steel making industry as well, as part of the circular economy.

During the closing workshop, an open discussion allowed all participants to discuss the possible ways forward and how all competent stakeholders could facilitate ratifications of the HKC. The group discussed more in-depth the impact of the EU SRR and the EU list and how this could be a catalyst for improvements, or, on the contrary, stop all progress in South Asia. A detailed programme of the visit can be found **in Annex 1**.

The underlining idea was that if Indian facilities meet the requirements of the EU SRR, they should be eligible for inclusion in the EU list of ship recycling facilities. This inclusion would then in turn facilitate the further upgrading of a sustainable ship recycling industry worldwide and facilitate prompt ratification of the IMO HKC.

The following main elements were considered by the shipping industry representatives during the visit and the closing workshop:

- To take stock of the progresses made by the facilities towards health, safe and environmentally sound recycling operations in comparison to the ECSA fact finding visit in 2016.
- To further encourage the most progressive recycling facilities to apply for inclusion in the European List of approved facilities.
- To promote the early ratification of the International Hong Kong Convention and therefore seek Indian Authorities and SRIA to support development of sustainable ship recycling operations towards ratification by India.
- To foster a constructive dialogue between the EU members states, the Indian Authorities and the most progressive facilities towards inclusion in the EU list.
- To underline the importance of the ship recycling industry to the further sustainable development of the region as whole, including the second hand market and the steel industry.
- To realise the threats and opportunities caused by recent developments, mainly at the European level.

3.2. Outcome of the visit to Alang-Sosyia

3.2.1. Overall progress

The entire visit was again marked by the willingness of the side of the recycling facilities, SRIA and the competent authorities (GMB) to transparently demonstrate and critically discuss the actual state of play towards healthy, safe and environmentally sound recycling operations in Alang-Sosyia.



Picture 2: Use of cranes with higher lifting capacities

So as to compare facilities and the progress made since the ECSA visit in 2016, the ECSA delegation selected and visited recycling facilities that have received statements of compliance with HKC or are in the process of upgrading their installations towards HKC requirements, as well as recycling facilities that were solely governed by the Indian Ship Recycling Code (2013). Some facilities were visited as well in 2016, while other facilities were visited for the first time.

Members of the ECSA delegation with previous experience of Alang recycling facilities, identified in general further progress mainly through the mechanisation of the ship recycling process (use of more cranes, with additionally higher lifting capacities), the further expansion and use of impermeable floors and the intensified training courses and social improvements for the workers.

Due to handling of heavy ship's steel blocks on the secondary cutting zone, cracks may appear in the concrete structure and render the surface permeable. In order to protect the concrete surface, facilities lay covering steel plates which absorb shocks more effectively. In order to restore the impermeability of the concrete surface, cracks are repaired on a regular basis.



Pictures 3 - 4: mechanisation of the recycling process – operating from built structures – impermeable floors

The most progressive facility owners clearly see a business case for offering sustainable ship recycling conditions to shipowners. Remarkably, the HKC has already a profound impact on the ground whilst not yet in force. At the same time, it was noted that in practical the most progressive facilities are eager to be included in the EU list. As such, the EU SRR is –at this moment still- a catalyst for real improvements on the ground, should the EU allow an inclusion when the facilities are compliant to the legal EU SRR requirements.

In addition, as noted in 2016, the overall enforcement process of a safety/training and environment protection system at ship recycling facilities by the Authorities represented by the Gujarat Maritime Board, as well as the establishment of a social welfare system, represent a major step ensuring workers to work in healthier and safer conditions.



Picture 5: Training GMB training institute



Picture 6: ECSA at the Trade Union office

Since 2016, additional efforts undertaken by the local Trade Union Alang Sosiya Ship Recycling General Workers' Union (ASSRGWA) and SRIA to enhance their mutual cooperation and exchange of information has proven to be most valuable to the progress made.

3.2.2. Waste handling and downstream waste management

Ship recycling facilities in Alang-Sosiya have intermediate facilities for temporary storage of hazardous and non-hazardous waste. The most organized intermediate storage facilities were found in HKC certified facilities. It was noted that some of the



Picture 7: asbestos storage

most advanced ship recycling facilities had invested in their own asbestos handling facilities. Facilities not having these asbestos handling rooms (with negative pressure) need to transfer all asbestos containing material (ACM) directly to further downstream disposal facility GEPIL (Gujarat Environment Protection & Infrastructure Ltd – Website: <http://www.gepil.in/>) outside of the ship recycling facility area.

All ship recycling facilities in the region are members of a common centralized hazardous waste Treatment, Storage and Disposal Facilities (TSDF - GMB Solid and Hazardous Waste Management Plant). GEPIL operates, maintains and develops treatment facilities on behalf of Gujarat Maritime Board (GMB) for facilitating the collection, transport, treatment and disposal of hazardous wastes and municipal solid waste generated from the ship recycling facilities located at Alang-Sosiya.



Pictures 8 and 9: waste storage at HKC compliant ship recycling facilities

GEPIL provides expert services to sellers and buyers of ships destined for recycling, like: detailed assessment of ships with respect to hazardous wastes for getting beaching permission, safe Removal of Asbestos Containing Materials (ACM) from ship structures before and during recycling. GEPIL also operates at the GMB TSDF a secured landfill

dedicated for burying asbestos, glass wool and other hazardous wastes, effluent treatment plant (bilge and waste water) and incineration facilities.



Picture 10: landfill at GEPIL



Picture 11: incinerator at GEPIL

3.2.3. Medical health care & labour housing colony

The existing hospital in Alang can accommodate ca. 20 patients and is equipped with rudimentary services and facilities incl. medical analysis laboratory, surgery room and radiology room. The closest more advanced hospital³ is located in Bhavnagar which is at about 1 hour drive from Alang-Sosiya. Due to the current on-going development of a two-lane road to Bhavnagar, the time needed to get to a hospital could be significantly reduced.



Picture 12: mobile health unit



Picture 13: ambulance owned by a ship recycling facility

³ <http://www.hcghospitals.in/Hospital/hcg-hospitals-bhavnagar/2>

There is an additional medical facility in Bhavnagar run by the Red Cross⁴. In addition, a mobile health unit was very recently purchased which travels to the facilities directly on well-in advance-indicated times for medical check-ups of the workers, as it can provide basic medical care. The Indian Red Cross, other partners and the Ship Recycling Industry Association (SRIA) have established this mobile health van with a team of professionals that provides health care to all ship recycling workers in Alang as well as to the local community of the wider area.

Again, it was noted that some of the most advanced facilities have in the meantime invested in additional own facilities. Two ship recycling facilities purchased their own ambulance, in order to minimize the time needed to take injured workers to a hospital.

New infrastructure including a welfare centre is under construction in Alang which will be able to accommodate 6000 workers. The 1st phase of the labour housing colony for workers of Alang-Sosiya ship recycling facilities has been completed and currently, workers are invited to occupy the provided housing colony. The advanced infrastructure is meant to promote Corporate Social Responsibility and will ultimately integrate safety, health and waste handling services, incl. e.g. emergency response centre, health care centre and social and leisure facilities.

3.3. Outcome of the visit to the steel industry in Bhavnagar-Shihor

The first day of the visit was dedicated to the steel industry. This industry is located mainly in Bhavnagar – Shihor which is around 1 – 1,5 hour drive away from Alang-Sosiya.



Picture 14: production steel bars from melted scrap

The local steel mills consist of small, medium and large size enterprises. Depending on the facility, the steel is produced by using bigger or smaller batches of steel scrap originating directly from the ship recycling industry. The ships' scrap will thus be supplemented in greater or lesser amount with plain scrap imported from scrap facilities around the world.



Picture 15: melting of scrap

⁴ <http://www.redcrossgujarat.org/redcrossnetwork.html>



Picture 16: production steel from ships' scrap



Picture 17: finished steel product

The finished steel products are produced through either cold re-rolling, hot re-rolling or melting of the steel scrap. Depending on the exact technique used and the quality of the input, the steel produced is of a different quality and is, as such used in different applications according to the applicable Indian or international standards. E.g in order for steel bars above a certain diameter to meet the requirements (for use in construction works for instance) the scrap from ships is melted and its composition monitored.

As one of the BRIC⁵ countries, India is considered a country under advanced economic development. It is characterised by a growing population and an increasing demand for steel. It follows that the further development of a sustainable ship recycling industry as a provider for the much needed scrap as a supply for the steel mills, is important to the region as a whole.

⁵ BRIC is a grouping acronym that refers to the countries of Brazil, Russia, India and China.

3.4. The sustainable development of the wider region

Sustainable development means meeting the needs of the present whilst ensuring future generations can meet their own needs. It has three pillars: economic, environmental and social. Supporting developing nations outside Europe to follow the sustainable development goals defined by the UN, one must start with providing safe and stable jobs locally, where needed the most. Sustaining a high rate of economic growth in such nations is therefore key.



Given the need for steel in many of the growing economies, and the EU being a net exporter of steel, the ship recycling is an industry which is of great economic and social importance to a number of south Asian countries, like Bangladesh, India, Pakistan and also China. In India in particular, in the whole region of Alang, industries have developed around the recycling of ships. It stretches from steel re-rolling to second-hand markets for selling/buying ships parts and furniture. It accounts for an annual turnover of more than a billion USD alone. Such a high utilization rate is impossible in more developed countries and additionally save energy and is more sustainable than in other recycling destinations. The importance of the ship recycling industry for supplying scrap to the steel industry in India is immense. India hosts the world's biggest recycling facilities in Alang, accommodating a total of 66,000 directly employed workers.

3.5. The EU SRR as a catalyst for sustainable development in Alang

For over 20 years between 96% and 99% of all recycled tonnage has gone to just five countries, namely India, Bangladesh, Pakistan, China and Turkey. It is clear that the EU SRR does not attempt to regulate or change the EU ship recycling industry, as that industry is well-regulated already. Nor does the EU SRR contain any protectionist measures in its articles. On the contrary, it focusses on the early enactment of an international regime, so current sub-standards practices would gradually improve and a sustainable ship recycling industry can be established in India and worldwide.

Throughout the visit and during the closing workshop in particular, interactions between the two main legal regimes were discussed, the possibilities it entails, but also –and mainly– the challenges and risks which originate from the experience with recent inspections in Alang, carried out by the EU Commission.

If the EU legislators would interpret the EU SRR beyond the requirements mentioned in the legal text of the EU SRR, it is highly unlikely that any Indian facility that has applied for the EU list, will be approved for inclusion in this list. It can even be expected that SRIA stops to encourage their members to apply for inclusion in the EU list. In the end this means that ships flying the flag of an EU Member State will not be allowed to go for recycling where the majority of ships are recycled today.

At the same time, ship recycling facilities in India will not have direct access to EU flagged ships, even though exactly these ships will come with good and proper Inventories of Hazardous Materials (IHM) for instance, making it more safe for the local workers to dismantle these vessels. In this scenario, many facilities who have already invested great time, funds and efforts risk to get extremely discouraged. It is then questionable whether India will still see the need to ratify the HKC. Neighbouring states, who may have not been as committed as India, might deprive them from a large part of the ship recycling market and by doing so, from the much needed steel scrap. As explained in sub-chapter 3.1, in order to meet the third criteria for the entry into force of the HKC, a ratification of the HKC by China as well as India is deemed to be the most realistic way forward today at this stage. India is deemed to be the most progressive State in South Asia when it comes to compliance with the IMO HKC and the EU SRR. It is known that SRIA and many Indian facilities have invested great time, funds and efforts to upgrade substandard practices. When India does not ratify, it is highly unlikely Bangladesh and Pakistan will follow. In this scenario, substandard ship recycling will keep existing on a large scale in the future and the EU Commission will have failed to meet the aim of the EU SRR which is to facilitate the ratification of the HKC.

On top, realising that the EU flagged fleet is only around 22% of the total world fleet (on average, during the operational life time of a ship), and taking into account the legal possibility provided under UNCLOS to reflag, a large part of the world fleet will still be available to a (possible sub-standard) ship recycling industry anywhere around the globe. Ultimately discouraged recycling states in South Asia might not succeed in banning current sub-standard ship recycling practices from their territories.

At the same time, there are other worrying practices occurring today, although at a different scale. Facilities in India, who have upgraded their practices considerably, who have invested time and money in investments and training, and who have applied to be included in the EU list are often found under the most pressure from local and international NGOs, whereas facilities who have not undertaken any steps are not targeted. Same seems to go for third country states and shipowners engaged in the development in a sustainable ship recycling industry.

Only in a scenario, where Indian ship recycling facilities are rewarded for complying to the EU SRR requirements and included in the EU list, the EU will have a chance to succeed in facilitating the global entry into force of the IMO HKC. Currently, it seems that ship recycling facility owners are made over and over again accountable for additional new requirements not even mentioned in the EU SRR, when the previous ones have been overcome (such as the provision of a hospital in the near vicinity of the ship recycling facilities). This is not encouraging at all.

4. Practical challenges

Even though it is to be clearly noted that the ECSA visit to the region did not attempt to replace or match any existing auditing scheme, it is safe to say that, based on the visits on the ground and based on the open and fruitful discussions during the visits and the closing workshop, some challenges could be identified at this moment in time.

The main challenges below are identified from the starting position that, in order for the EU to facilitate the ratification of the HKC by third countries, Indian facilities which are compliant, should get a fair chance to be included in the EU list. Should the IMO HKC not be ratified by the major recycling states, it would deprive the workers and the environment in those regions where needed the most of the much needed progress. The main challenges are related to the following issues:

The Indian ship recycling facilities and the downstream waste management

- It was noted during the visit that the most advanced facilities are developing or have developed their own asbestos treatment facilities at the facilities. This is a very costly undertaking. It might be more efficient to develop a joint asbestos treatment facility, as has been done for the other waste streams (GEPIL). It was not entirely clear if this has been done and/or if there are plans to do so in the near future.

The medical care and the housing of the workers

- The same goes for a large extent for the ambulances, which have been purchased by some of the more advanced ship recycling facilities. It is questionable if this can be considered as a sustainable development. Rather than imposing the requirement to ensure a well-equipped hospital in the vicinity to the ship recycling facilities, it seems to be more fair to engage in a constructive dialogue with the competent Indian authorities, in order to convey the message and to search for a workable and sustainable long-term solution, while respecting each other's competences and independency.
- While the 1st phase of the housing colony is finalised, it seems to remain challenging to convince the workers to make use of these facilities. This seems to be partially due to the following reasons:
 - o The location of the colony. It is located ca 10 minute drive away from the ship recycling facilities. SRIA and some individual facility owners try to overcome this by providing transport to and from the colony.
 - o Two ship recycling facilities have built smaller housing colonies in the backyard of their ship recycling facility, while one facility owner intends to develop a smaller colony for his worker closer to the ship recycling facility area. These colonies seem to be more used by the workers.
 - o Differences in cultural and religious background amongst the –mainly migrant- workers. Some prefer to stay in their own cultural and/or ethnical group.
 - o The lack of leisure provisions, shops with a sufficient supply of local and regional food and drinks etc at the colony. This is of course a vicious circle, as no shops will appear when no-one moves to the colony.

The ban on beaching & pressure from the NGOs

- The EU SRR does not ban any recycling method. As the HKC, it focusses on accompanying measures that can be taken in order to ensure the safe and environmentally sound ship recycling. A ban on beaching (with "beaching" not even being defined) risks to exclude the current world largest ship recycling market (+ 91.6% of tonnage in 2018) to the EU list. Beside this market not being available to owners of EU flagged ships and creating a two tier market, this would disincentive India and other recycling states to ratify the IMO HKC. As such, it would deprive the workers and the environment in those regions where needed the most of the much needed progress.
- Ship recycling states, ship recycling facilities and ship owners engaging in third country facilities to upgrade substandard recycling practices are found to be under the most pressure. This while facilities who have done no upgrading at all are not or hardly targeted.

The shipping industry

- Being in need of a global level playing field, ship owners from their side need to incorporate a sustainable social and ecological responsibility as well when it comes to the recycling of their vessels. A well balanced global list of compliant facilities can only remain when the facilities on it receive a good and constant flow of end-of-life vessels.
- Ships going for recycling need to be delivered to the facility with proper IHMs. This will ensure a better and safer recycling of the vessel.

The stakeholders and public opinion

- Given the long-time presence of substandard facilities in South Asia, it is found hard to convince stakeholders of the recent developments that have upgraded the region and Alang in particular. Shipowners based in developed states, are the best placed stakeholders to engage more in this debate and to sensitise the general public and others of the progress made at the facilities and of the importance of the entry into force of an international applicable regime.

5. Conclusions

Based on the visits to the steel mills, the ship recycling facilities, the downstream waste management and disposal sites and based on the discussions throughout it all and in particular during the closing workshop, ECSA has identified main opportunities and threats to the international shipping and the ship recycling industry in third countries. These follow from the recent developments at the mainly European and the international level and apply to EU flagged shipping industry and the Indian ship recycling industry in particular.

In general, due to the implementation of the EU SRR and the possible far-stretched interpretation by the EU Commission and the Classification society acting on its behalf, it was concluded that the main risk in the end is that no Indian facilities will be included in the EU list.

The major stakeholders that can impact the final outcome (each to a greater or lesser extent) are the European competent legislators, the (European) shipping industry and the (Indian) ship recycling industry.

The first criterion has to be fulfilled by the facilities of course and this is to be in compliance with the legal requirements of the EU SRR. The ECSA visit did not have the capacity of an audit nor the intention of it. It did however give a good impression on the feasibility of inclusion to the EU list, provided that the right mind-sets, investments and trainings are available.

Since 2016, many facilities have received statements of compliance with HKC and the EU SRR by Classification Societies and have applied to be included in the EU list. With this aim, those facilities have started to implement new procedures and management systems that would overcome and offset anticipated temporary financial losses. The latter could however be mitigated by the steady flow of end of life ships, and responsible involvement of both shipowners and cash buyers must therefore be part of the solution as well.

However, when no Indian facility is finally felt eligible for inclusion in the EU list, or felt given a fair chance to even be included, the positive progress that started back in 2009 with the adoption of the HKC, risks to be stopped by the EU legislators. Indian facilities could turn their back on the EU, herewith not only endangering the ratification of the international HKC by India but also leaving the EU flagged shipping industry with a ship

CLASSIFICATION SOCIETIES

One important side effect of the current situation is that Indian facilities can be found in compliance with the EU SRR requirements by one classification society while not (yet) by another classification society.

It is clear that this huge discrepancy and difference in applicability of standards needs to be solved and avoided in the near future.

In theory, this situation should not exist, as classification societies audit facilities against the same theoretical standards. How this can happen today to some of the Indian ship recycling facilities that have applied for inclusion in the EU list is not clear.

recycling market that will again be as inadequate as at the time of the EU Waste Shipment regulation. Substandard recycling will then risk to remain in the future rather than disappear.

This possible scenario of backing out of the procedure to be included in the EU list has been explicitly expressed as a possible way forward by a large part of the SRIA Members during the closing workshop. In the best case scenario, SRIA members will still aim for HKC classification only, but a two-tier market will be created as EU flagged ships, which consist around 22% of the world fleet during their operational live, will not be allowed to go to HKC-certified facilities unless they are also on the EU list. EU flagged ships will not have the same market access as their competitors flying the flag from a third country. Unless they reflag out of an EU flag, they will suffer severe (financial) disadvantages compared to their non-EU competitors. The EU will fail to establish a global level playing field and will not have met the aim of its own EU SRR, which is to facilitate the ratification of the HKC, within the EU and in third countries.

Only by encouraging and rewarding South Asian facilities that comply with the legal requirements of the EU SRR, the EU can succeed in facilitating worldwide ratifications of the HKC and as such the development of sustainable ship recycling practices all over the globe. Moreover, it is clear from the review clause in the EU SRR, that the SRR is to broadly align with the HKC. Article 30, the review clause thereto reads that:

"... the Commission shall review the SRR not later than 18 months prior to the date of entry into force of the Hong Kong Convention and at the same time, shall submit, if appropriate, any appropriate legislative proposals to that effect. This review shall consider the inclusion of ship recycling facilities authorised under the Hong Kong Convention in the European List in order to avoid duplication of work and administrative burden..."

It is hence hard to interpret anything else than that the co-legislators at the time deemed both legislative instruments to be even worthy, at least to a large extent. This is also reflected in the aim of the EU SRR, which says the EU SRR is to facilitate the early entry into force of the HKC. Only when third country facilities are given an honest and fair chance to be included in the EU list, the EU will be the frontrunner in the sustainable development of a global ship recycling industry.

Given the economic importance of the ship recycling industry to India, the recycling facilities and the downstream industry will most likely remain in the South Asian region for the upcoming decades. It is an illusion to believe it will suddenly disappear or relocate to other regions of the world. If Europe therefore takes its own principles of sustainable development serious, it has the responsibility to ensure that the three pillars of sustainable development are going hand in hand in recycling industry of the southern Asian countries: encouraging increase of environmental and social standards while ensuring that the important economic effects of the recycling facilities for the economies of those nations stay viable. Recycling facilities in India have demonstrated that change for the better is possible, now encouragement is needed for others to follow such example suit.

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Annex 1: programme

Sunday 24th February 2019 - Arrivals

All participants are invited to fly in to Bhavnagar, Alang by Sunday evening, 24th February.

Monday 25th February 2019 - Day 1

Briefing and Opening workshop (09.30h – 11.30h) - VENUE: Parijat; Sarovar Portico

N°	Events	Time
1	Welcome by SRIA / GMB	9.30 to 9.40h
2	Welcome Martin Dorsman, ECSA	9.40 to 9.50h
3	Presentation: cash-buyer's perspective by Mr Anand Hirameth	9.50 to 10.05h
4	Presentation on the procedure regarding classification certification process by Mr Sumithran Sampath	10.05 to 10.35h
5	PPP by Sihor Steel Rolling Mills Association on input mills/output /need for steel: requirements / procedure by Nikhil Gupta	10.35 to 11.05h
6	Q and A	11.05 to 11.20h

Followed by visit to the Steel Rolling Mills (11.30h – 17.30 hrs)

N°	Industry's Name	Time
1	Triveni Iron & Steel Industries Pvt. Ltd. Bhavnagar	12.00 to 13.00h
2	Prakash Rolling Mills Pvt. Ltd; Shihor	15.00 to 16.00h
3	Rudra Global Infra Products Ltd; Shihor	16.30 to 17.30h

Tuesday 26th February 2019 – Day 2

All day visits planned to the ship recycling facilities in Alang. Proceed to visit Alang Ship Recycling Facilities, Alang at 8.00 AM (By Road)

N°	Place to Visit	Certification
1	Plot # 78 - Shree Ram Group	Class NK
2	Plot # 67 - Salasar Balaji Ship Breakers Pvt Ltd.	Class NK / IR Class
3	GMB Labor Training and Welfare Center	
4	GMB – SRIA Labour Hosing Colony	
5	Lucky group ship recycling facility YK	
5	Office Trade Union	
6	Red Cross Hospital – ESIC Health Center MHU – near Plot # 8	
7	Plot # V-1 - Priya Blue Industries	Class NK
8	GMB - TSDF Site - GMB Solid and Hazardous Waste Management Plant	
9	Plot # 47 - Marinelines Ship Breakers Pvt. Ltd.	Rina

10	Plot # 35 - Leela green ship recycling pvt.ltd.	Class NK
11	Plot # 30 - J.R.D.Industries	Class NK
12	Plot # 28 - Crown Steel company	Under process by Rina
13	Plot #25 - Bansal Group India	Rina

Wednesday 27th of February 2019 - Day 3

Closing Workshop. (10.00 h – 13.20h.) - VENUE: Parijat; Sarovar Portico

Moderated by: SRIA / ECSA

N°	EVENTS	Time
1	Trade Union Presentation by Vidhyadhar Rane	10.00 to 10.20
2	Dr. Mikelis – HKC & EU SRR – thoughts for the future	10.20 to 10.40
3	Presentation on experience regarding EU auditing and HKC certification process – by Gunther Zeitsman	10.40 to 11.00
4	Coffee break	11.00 to 11.15
5	Presentation by GMB	11.15 to 11.35
5	Presentation by SRIA	11.35 to 11.55
6	Open Discussion	11.55 to 13.00
7	Martin Dorsman - ECSA – Closing Remark/speech – vote of thanks	13.00 to 13.10
8	Vote of Thanks – SRIA	13.10 to 13.20