Shifting to Sustainable Shipping: Actors and Power Shifts in Shipping Emissions in the IMO

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Abstract: Emissions from shipping have consequences for human health and climate change, yet achieving policy change to reduce these emissions remains challenging on a global scale. The International Maritime Organization (IMO), the UN Agency tasked with formal international policy-making for the maritime sector, stands at the center of a complex maritime governance architecture. Yet, it is often criticized for heavy industry influence and power concentrated in the hands of a few actors. There has been recent research supporting this, while other research suggests that there are new actors influencing the agenda on shipping emissions. This article examines if the increasingly multi-actor and multi-layered governance architecture in shipping means that the actors and power in the IMO have shifted as well. The data were compiled from a selected sampling of the IMO documents from the Marine Environmental Protection Committee (MEPC) meetings between 1988 and 2021. The paper follows the agenda item of focus, ‘Air Pollution’, as it evolves over time and identifies actors utilizing three indicators of influence, submissions to the MEPC, the ISWG-GHG, and the delegations at the MEPC meetings. The research shows that some of the early state actors on this issue are still highly active (Norway, Japan, US), while other actors emerge over time (China, Marshall Islands). The emergence of the NGO Clean Shipping Coalition is notable, as is the complex role of the European Commission. Industry associations and flag states maintain active roles, yet the changes noted suggest they do not have the same influence they once did over emissions issues in the IMO.

Keywords: governance; IMO; shipping; emissions; maritime governance

1. Introduction

Emissions are one of the most concerning environmental impacts of the shipping industry. The emissions have high levels of chemicals which research has shown are linked to smog events and acid rain, causing damage to nearby buildings, increased pH levels in the ocean [1–3], and negative health effects, such as bronchitis, asthma, lung cancer, etc., [4–6]. Moreover, the greenhouse gases (GHG) from shipping contribute to about 3% of all CO$_2$ emissions in a year, more than that of Germany [7]. These emissions clearly have a negative effect on human health and the environment, yet the actors of maritime governance have been criticized as slow to change. Meeting the goals of the Paris Agreement will require changes in all transport sectors, including shipping. Examining the actors involved in the governance of shipping emissions provides valuable information in this debate to introduce emissions reduction policies as the sector moves towards more sustainable shipping and could provide insight for other sectors moving forward.

The primary locus of grand societal challenges like climate and environmental problems have shifted to a global multi-actor governance, in part due to the cross-boundary, transnational nature of the problems. While international cooperation may have been initiated by states, many international regimes are increasingly described as examples of multi-level governance with complex layering that embraces multiple actors, ranging...
from the local level to the supra-national level, including interest groups and economic actors, formally and informally, at multiple levels. This is particularly evident in maritime governance, which regulates a complex and diverse array of maritime activities across borders [8,9], and at its core stands the International Maritime Organization (IMO). As the United Nations (UN) agency tasked with regulating the maritime sector since 1948, it is the center of international maritime governance, involving states, non-governmental organizations (NGOs), and inter-governmental organizations (IGOs). The Marine Environmental Protection Committee (MEPC), in particular, deals with the environmental concerns from shipping. For better or worse, a shift to multi-actor governance multiplies the number and diversity of actors who may be key players, and it becomes a challenge to identify which actors count and when and where decisions are taken.

Some scholars have argued that the real power and influence within the regime lies (or still lies) with the industry and with states influenced by the industry [10–12], while others find new actors that influence the agenda [13,14]. At the same time, recent reports and research have called into question the transparency of maritime governance, particularly at the IMO, and affirm long-held beliefs that the influence of developed states and industry is still paramount at the IMO [15]. Moreover, the IMO has made decisions regarding emissions that have been opposed by some of the traditional power players, casting doubt on the extent of the influence of both large states and industry [13,14]. This raises a question: Do power and authority lie (or continue to lie) with the shipping industry and the states they influence? Or does the shift to an increasingly multi-layered, multi-actor approach mean that power in policy-making has shifted as well? The aim of this research is to map the actors and power shifts in maritime governance of emissions issues over time. This is crucial to better understand how these shifts have (or have not) transformed global maritime governance and affected past and future shipping regulations on emission reduction in the IMO.

The mapping of actors and power shifts in the IMO is particularly salient because the urgent challenges of climate change require making transitions quickly for our health, environment and decarbonization of the sector. Reaching the goals of the UN SDGs and Paris Agreement targets requires transitions that need to be supported with policy on a global scale. Uncovering the key actors may also provide understanding and strategy for policy processes in other sectoral approaches.

This paper uses the concept of governance architecture [16] as the vantage point for an investigation of the IMO that maps the actors and powershifts. It gives a framework to focus on the IMO as the locus of the issue area of emissions in shipping, yet also allows for the broader multi-actor, multi-level governance dynamics to factor into the larger process of the policy-making at the IMO, in which the multitude of actors, their roles, their economic interests, and thus, determining their influence, become obscured.

This article explores the issue through the formal policy-making venue of the IMO by mapping the actors and power changes over time by following the agenda item ‘Air Pollution’ in the MEPC from its first appearance in 1988 to 2021. To map the actors and power changes, I seek to answer three sub-questions. Are the same states still the power players? Have new actors emerged? Is the industry influence still as strong as it once was? The research draws on data from a selected sampling of submissions to both the MEPC and related working groups, as well as delegation size and composition, utilizing them as indicators of influence to show changes over time.

The article is organized into five main sections. In Section 2, I expound on the concepts that surround governance and present the complexity of the IMO as it is organized and the complications of flag states and port state control. Section 3 contains a short review of the current literature on governance of shipping emissions issues in the IMO and leads into the methodology of the research in the fourth section. The fifth section presents and explains the results of the data, and the sixth returns to the research questions with evidence of some continuing actors, some emerging actors and a shifting black box of power in the IMO policy.
process. Finally, the article concludes with more questions raised regarding the complexity of mapping the influence of certain actors and an agenda towards further research.

2. Background

Scholars are often interested in the power questions and processes, which are central to mapping the actors of a governance architecture. However, some find that the traditional state-centric theories of International Relations (IR) or International Political Economy (IPE) are not fully suitable for exploring these unique environmental and global governance questions. Governance scholars argue that the traditional applications of state-centric IR theories are insufficient to examine the changing governance processes, which are increasingly multi-level and multi-actor. Thus, the operationalization of governance can make a good fit for capturing the changing dynamics of policy-making, particularly in environmental and sustainability issues [16–18].

While some definitions of governance are limited in scope, other research has viewed governance not as a static thing that exists but as a dynamic and broad concept that considers actors, agendas and change as part of the process [19]. I build on these and previous definitions [9,20–22], defining governance as the act and process of governing an issue area involving government, civil society, market and all stakeholders. This process encompasses norms and strategies that shape the interactions, both formal and informal, and within this process, actors, events and attention shape the agenda to change or innovate policy. The IMO, as an international organization which includes member states, inter-governmental organizations (IGOs) and non-governmental organizations (NGOs) in the meetings which result in policy and regulation for the maritime, is fertile ground to operationalize concepts of governance.

Within this governance process, we refer to the governance architecture. Biermann et al. define the term “as the overarching system of public and private institutions that are valid or active in a given issue area of world politics. This system comprises organizations, regimes, and other forms of principles, norms, regulations, and decision-making procedures ([16], p. 15)”

The IMO has 175 member states and three associate members, 66 IGOs and 85 NGOs. The IGOs have observer status, while the NGOs are considered to have consultative status. The IMO has 175 member states and three associate members, 66 IGOs and 85 NGOs. The IGOs have observer status, while the NGOs are considered to have consultative status. In addition, UN agencies are also invited to observe. Of the 66 IGOs, only a handful attend
meetings; in MEPC, for example, attendees include the Helsinki Commission (aka, Baltic Marine Environment Protection Commission or HELCOM), Organization for Economic Cooperation and Development (OECD), League of Arab States and the European Commission (EC). NGOs consist of green NGOs and industry associations, labor unions, etc. The number of active NGO delegations has risen steadily over the years, and more attend MEPC than the general IMO Council, with around 50 NGO members attending the last several MEPC meetings. The International Association of Classification Societies (IACS), Baltic and International Maritime Council (BIMCO), International Chamber of Shipping (ICS) and Friends of the Earth (FOE) are examples of longstanding members and among the most active NGOs.

The five committees are the Maritime Safety Committee (MSC), the Marine Environmental Protection Committee (MEPC), Legal Committee, Technical Committee, and Facilitation Committee. There is, in practice, no formal voting in the IMO; the norm is that the policies and changes are agreed upon by consensus. A roll call vote is a rarity. Therefore, the bulk of the work in the policy development process comes from the committees, sub-committees and working groups. Traditionally, any issue (such as a text of a policy or recommendation) that cannot be agreed upon during the meeting is pushed to working groups that may either take place strictly within the meeting date and be tasked to finish by the end of the week or an intersessional working group (ISWG) that continues their work in-between the biannual meetings. By the time a policy change or innovation has reached the Council, it is, for the most part, already agreed upon. For example, in the case of the GHG strategy, the draft text was composed by the intersessional working group, and it was approved in MEPC 72.

For the purpose of this research, I examined the MEPC as the locus of the main debate on emissions issues in shipping, as well as the Inter-sessional Working Group on GHG (ISWG-GHG) and the GHG-WG. The MEPC holds, on average, two annual meetings, and all member states, IGOs and NGOs are welcome to attend. The meetings are generally held across one week at the IMO headquarters in London.

3. Recent Trends

A review of the literature shows scholars have explored the multi-level or polycentric governance nature of maritime policy [9], some with a direct focus on shipping [8,18,23–27]. Previous research also noted the industry influence in this multi-actor governance at the IMO [11,12,15] and further explored the changing authority and/or policy, with some seeking to explore the changing role of authority and the state [8,27] or the actions of the EU [28,29], and others seeking to explore new actors as policy entrepreneurs [13]. In regard to the IMO specifically, the research agrees that there is considerable industry involvement, and the power has been shown to be concentrated in the hands of a few states and non-state actors. However, some research points to changing power and influence [13,19,25,29,30], while other research maintains little has changed and the main power lies with the industry [11,12,15]. While most scholars acknowledge that there is a correlation between economic interests and actors in the IMO, there is divergence on the extent and the current state of the actors.

Following two critical reports on transparency and corporate capture at the IMO [31,32], there has been a renewed interest in examining the influence and actors in the organization [14,15,33]. A few recent works aside, much of the previous research on maritime governance and the IMO are detailed case studies mostly utilizing qualitative methods such as interviews and content analysis. The recent quantitative research [15,33] has chosen to focus broadly on all the issues in the MEPC committee or the MSC committee, or a combination thereof. These works have not focused on one issue area but combined issues and/or different committees. Moreover, a cumulative approach has been taken with the data being compiled over a few decades and presented as sum totals; no one has looked at the issue of change, save for a single member state study on the role of China [34]. If the research diverges on whether there is shifting authority, finding empirical evidence of
change over time on all the actors would provide valuable insight. This leaves a gap in the research that I aim to fill by mapping the actors within the issue area of shipping emissions, in the locus of the IMO, over time.

To map the actors and power shifts in the IMO, it requires answering two central questions. How do I establish who the actors are? How do I establish if they change over time? By answering these two questions, I can turn to the stated sub-questions: Are the power players the same? Have new actors emerged? Is the industry influence still as strong as it once was? Answering these questions will provide insight for future research on global environmental governance and policy research and will also provide the foundations for further analysis as part of my larger research project in maritime governance.

4. Methodology

In order to fill the gaps in a longitudinal perspective, I examine the IMO as the locus of formal policy-making and map the actors involved in this specific issue area by gathering data to uncover the main actors, where they are active and if they have changed over time. I build on the recent trend of analyzing the submission data but with a selected sampling and longitudinal view rather than cumulative. Following this, I determine who the actors are by quantifying members’ submissions to MEPC and working groups as evidence of agenda-setting from the formal policy-making process at the IMO. As part of the policy cycle, policy-making is a result of the negotiations and process of addressing the issues on the agenda [35]. If power is understood to be the authority to act or accomplish a task, and influence is the ability to affect actors’ behavior [36,37], then in the policy-making process, influencing the agenda can be conceived of as an indicator of power. When an actor submits a proposed policy or policy change to the IMO for discussion, they are de facto engaging in agenda-setting and influencing the discussion of others. Member states will have to support one proposal or another; other actors may want to submit papers in support or opposition, provide alternatives, etc. Whether or not the outcome is successful is not the question; the question is twofold: (1) if they have the influence over the agenda and if that is maintained over time, or (2) if other actors emerge will that provide evidence of a shift in authority over time. Therefore, I reviewed submissions to the committee of the IMO that deal with emissions issues, the MEPC and the resulting working groups on GHG as two of the three chosen indicators.

Every member state, observer or consultative member can write submissions. These documents then form the basis for discussions or negotiations on how to proceed with a policy change or innovation. The meetings are not open to the public, and journalists have limits on what they can repeat outside of the meetings. Therefore, these submissions are one set of indicators that can determine who the major actors are in the governance process at IMO. Additionally, I examined submissions to the MEPC GHG working groups (the GHG-WG and the ISGHG-WG) as the locale of most ‘formal’ discussions. I chose a selected sampling of MEPC meeting documents from 1988 to 2021, beginning in 1988, as MEPC 27 was the introduction of the agenda item of focus, and ending with MEPC 77 in 2021. Within this time frame, I selected meetings before the adoption of a policy change or innovation. The meetings are not open to the public, and journalists have limits on what they can repeat outside of the meetings. Therefore, these submissions are one set of indicators that can determine who the major actors are in the governance process at IMO. Additionally, I examined submissions to the MEPC GHG working groups (the GHG-WG and the ISGHG-WG) as the locale of most ‘formal’ discussions.

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Another indicator could be the audio recordings as used in previous research [15] to quantify how often some actors speak at the meetings. However, the audio records have not been available for the full time period of focus and, thus, are not the best indicator
for looking at the questions longitudinally. Qualitative data could also be used to supplement the data, but given the time limitations of this project, I have chosen not to include interviews at this stage of the research.

Finally, I examined the delegations as an indicator. Although there are challenges with utilizing delegations (also noted by Psaraftis and Kontovas [33]), as the size of a delegation does not always have a direct correlation to its influence and a lack of transparency as to who the delegates are representing, it can provide insight into the actors. First, by assessing how many delegations were present for the selected MEPC meetings over time, and second, by choosing three representative MEPCs (MEPC 27, 44, 77) during the selected period to assess the composition of the delegations in further detail. Combining the data from all three, MEPC submissions, ISWG-GHG submissions and delegation size from MEPC 77, allows a viewpoint to begin mapping the actors. This is not intended to assume that all indicators are of equal power or influence or are applicable to other issue areas; this is intended to give a window into the actors on the issue of shipping emissions.

The data were pulled from the IMO archives, which can be found online at IMO docs (https://docs.imo.org, accessed on 6 June 2022). The submissions and supporting documents from each meeting under the relevant agenda items were included, omitting any documents by the organization itself (i.e., Secretariat or Chair). In addition, I have observed the weeklong meetings MEPC 77, 78 and ISWG-GHG 12 online as an observer with the Norwegian delegation, as well as attended ISWG-GHG 13 and 14 in person. This ethnographic research has provided me with an understanding of the language, procedure and norms at the IMO that are crucial to interpreting the data. As other literature has discussed, the IMO is an organization with many traditions and norms [14,38] that influence the process.

5. Results

5.1. Increasing Numbers—IMO Membership and MEPC Attendance

The first evaluation is a broader set of data to lay out the big picture of the IMO and the MEPC, as it is the main agenda-setting body responsible for the emissions issues. We expect that as membership of the IMO increases over time, there will be an increase in the number of delegations attending the MEPC meetings. The data show that the delegations at MEPC have increased steadily in size over the last five decades, from 71 delegations at MEPC 27 (1988) to 179 delegations at MEPC 77 (2021), a 252% increase. During this same time, the number of general IMO members increased by only 173%. This indicates an increased attendance by delegations to the MEPC in particular, not only the IMO. As the MEPC expanded competencies over the years, it is reasonable to expect the number of interested actors would grow as well. Another explanation for the increased growth is the increasing salience of issues that were on the agenda in the committee, for example, GHG issues, which attracted more actors. These two are not mutually exclusive, as both things likely occurred in tandem. Additionally, one cannot rule out that actors (both states and non-states) sought out others of similar interests to engage in the MEPC to expand their network or coalition. As other results from this research suggest, there is evidence of coalition-building to be elaborated on in Sections 5.4 and 6.1. Regardless of the cause, this increasing number of actors supports the picture of the shift to multi-actor governance.

5.2. Increasing in Size and Scope—MEPC Delegations

As the number of delegations attending MEPC increases, the distribution and composition of the delegations shift slightly. While the early IMO meetings were predominantly state actors, the amount of NGO and IGO actors has increased, with NGOs making up a larger percentage (see Figure 1) [39]. Beyond the actual number of delegations increasing, the size of the delegations has increased, averaging 3.18 persons per delegation at MEPC 27 and 5.77 persons per delegation by MEPC 77. This shows the increasing size of each delegation and provides further evidence of the increasing multi-actor nature of the IMO.
Looking further at MEPC 27, the top fifteen delegations account for the majority of the attendees. These results are in line with other research that found that action is concentrated in the hands of a few powerful actors at the IMO [15,33]. By MEPC 44, it was twenty-five delegations that accounted for over 50% of attendees. That same equation holds true for MEPC 77. With that said, however concentrated the power is, by delegation size, it suggests that it has become somewhat less concentrated since MEPC 28.

Japan is consistently the largest delegation, followed by the ‘usual suspects’, the United States, Norway, United Kingdom, Germany, Greece, Netherlands, and Russian Federation. There was no IGO nor NGO in the largest delegations at MEPC 27 or 44, only member states. However, at MEPC 77, the IGO observer, European Commission was the second largest delegation. For NGO observers, the International Association of Classification Societies (IACS), Clean Shipping Coalition (CSC) and the Cruise Lines International Association (CLIA) were in 21st, 22nd and 25th place, respectively. Furthermore, at MEPC 77, the Marshall Islands appeared as one of the largest delegations. There has been other research that noted the changing dynamics within the delegation of the small state of the Marshall Islands [13] beginning in the debates leading up to the GHG Strategy, with the delegation shifting away from being led by International Registry, Inc., (IRI) to more involvement from state representatives. With the Marshall Islands becoming a vocal actor in the IMO, the delegation size reflects those changes.

There is also an increase in NGOs (Figure 1) [39]. For the purposes of the IMO, the categorization of NGO is used broadly, including industry and environmental interest groups, classifications societies, unions and research institutes. In MEPC 27, 3 of the 15 NGO delegations attending the meeting were from environmental interest groups. By MEPC 77, the number of NGO delegations had grown to 53, with only eight environmental interest groups. Thus, while the number of NGOs has increased, it has not grown equally across all types of NGOs, and this data would suggest that there is an increase in industry-leaning NGO delegations in the MEPC. However, the difference could be explained by the member organization CSC, which is a coalition of several environmental interest groups. In addition, the mere fact that an NGO may be affiliated with the industry does not indicate

![Figure 1. Delegate affiliation by MEPC (complied from selected IMO MEPC documents).](image-url)
that they are, in fact, aligned over emissions issues. For example, the interests of the International Association of Independent Tanker Owners (INTERTANKO) and the Cruise Lines Industry Association (CLIA) have very different operational needs and, thus, likely have differing positions on various technical emissions issues. Overall, the increasing number of NGO actors further diversifies the scope of the actors involved in the MEPC. Further research would be needed to dig deeper into each NGO’s details to determine what their interests in the MEPC are and if those interests are, in fact, aligned with industry or other interests.

5.3. The Usual Suspects—Adding It All Up

Examining submissions to the MEPC, similar patterns are seen. Among the states, the main submitters are a cast of the same actors, Japan, Norway, US, Germany, Denmark, China, Korea, etc., (Figure 2). There are also a handful of NGOs that make the list, ICS, CSC and IACS, are the top three from this sampling, followed closely by Oil Companies International Marine Forum (OCIMF), INTERTANKO and the Baltic and International Maritime Council (BIMCO). ICS, IACS, OCIMF and INTERTANKO are some of the earliest industry observer members of the IMO, while CSC, a coalition of green NGOs, received observer status in 2010.

![Figure 2. Top 20 submissions MEPC (complied from selected IMO MEPC documents).](image)

Aggregating the MEPC submissions with the Inter-Sessional GHG Working Group (ISWG-GHG) submissions and the delegation size from MEPC 77 gives a picture of the main actors of the IMO on emissions issues (Figure 3). Presenting this first as aggregate data allows the overall key actors to be confirmed, then allowing for a closer examination of those actors and where they act. The main actors are similar to the MEPC data alone and are not so dissimilar to what other research has shown [33]; Japan, Norway, Denmark, France, China, United States, Germany, the European Commission, ICS and CSC were the top ten actors.

5.4. Who Is Acting Where?

Viewing the data from the perspective of venues, one can also find evidence of how and where actors are acting during the selected period. As mentioned, Japan, Norway, Denmark, China and ICS are relatively consistent. They have activity or presence in each of the three indicators. The US, Germany and the EC are present with large delegations...
and MEPC activity but little working group activity. The same can be said for IACS, which features in the top actors by submissions to MEPC, but little working group activity. In contrast, Canada, France, and the United Kingdom seem to submit on this issue only in the working group. However, this may be a case of strategy and venue shopping, i.e., they believe they have more opportunity to influence policy at the working group level.

Figure 3. Cumulative data from MEPC submissions, ISWG-GHG submissions and MEPC 77 delegation size (complied from selected IMO MEPC documents).

5.5. Coalitions, Strategy or Coincidence?

If one takes a deeper dive into the submissions, they can be parceled out into single submissions or group submissions. For an actor to be the sole submitter of a policy proposal versus a co-signer requires a different level of power and influence, so this is a noteworthy difference. This research shows that group submissions are more numerous in the ISWG-GHG (Figure 4), where over 75% are group submissions, while in MEPC, that number was only 24%. This could be explained simply by a matter of resources. Not all states have the resources to send staff to London other than for the actual MEPC meetings. Moreover, working groups are conducted without official translators from the IMO, which could be a barrier to some delegations. However, it could also show coordination among actors. Coalition-building could increase the power base and, thereby, the influence of a particular actor or group of actors. Previous research has noted that coalitions appear when working on certain policies, for example, the high, medium and low ambition surrounding the process on Sulphur issues [27] and initial GHG Strategy [14]. These are generally not static groupings and can vary depending on the issue area.

In the MEPC, Denmark and Germany are among the top submitters when taken as a whole (Figure 2). However, if parceled out by authorship, one can see neither state would be in that position if it was not for the group submissions, and in their case, group submissions are likely as EU member states. Reviewing single submissions, China and CSC (among others) would move up in rankings.
For the ISWG-GHG, France emerges as the top actor (Figure 4). If comparing only single-author submissions, China, Norway and IMarEst would come out on top. Although outside the scope of this research, the large number of group submissions in the working group could provide some additional empirical data to uncover actors who work together, why and to what extent.

![ISWG-GHG Top Submissions](image)

Figure 4. Top 15 Submissions in ISWG-GHG (complied from selected IMO MEPC ISWG-GHG documents).

6. Discussion

6.1. Emerging Actors—From States, Large and Small, to NGOs

According to the data collected on submissions and delegations, there have been some shifts in actors in this issue area. Examining the MEPC submissions as a whole, it is particularly interesting to note that some of these actors rank high while only recently becoming active in the IMO (Figure 5). The CSC, for example, only joined in 2010, yet they are one of the top submitters in this issue area. China and ICS, both strong actors, become more active beginning around MEPC 57. This could be a reaction to increased action on emissions issues, as MEPC 57 was the meeting wherein the revised MARPOL Annex VI and NOx technical code was adopted. As the issues increased in salience and relevance to the actors, they increased their participation. The increasing role of China has also been noted by other research, which cited changing domestic politics and strategies of China as a reason for their increased role [34]. The size of China’s shipping fleet has increased over the years, and thus, this has increased their interest and their influence. Alternatively, in the literature on climate governance, China has often been noted as a laggard. The increased activity, therefore, could also be an attempt to influence or slow the policy on emissions. To determine if an actor is a leader or laggard would require a further content analysis of submissions, specifically proposals put forth by the actor in question. Regardless of their position, China’s increasing activity in shipping and the IMO is further evidence of shifting actors.

Another example of an emerging actor is the Marshall Islands, which appears in the GHG strategy debates and is now quite active in MEPC within this issue area. The increasing delegation size of the Marshall Islands was also evident in MEPC 77. The Marshall Islands became a strong actor, a state ‘punching above its weight’ and pushing aside the industry influence of the registry for the GHG debate in 2017 [13]. Furthermore,
between MEPC 65 and 70, there was a rise in the number of smaller developing states, particularly island nations, that began to attend the MEPC meetings and become co-signatories on submissions. This observation has a few possible explanations, for example, the increased participation in global climate governance of developing states to meet the goals of the UNFCCC [40] and/or coalition-building (including funding) of like-minded states or IGOs, namely, the EU [13,30]. In the case of the IMO, both of these factors play an important part in the increasingly active role of the small island developing states.

Therefore, are the same states still the power players? While the research shows some states (Japan, United States, Norway) have been at the forefront of this issue since it first came on the agenda, others have emerged more recently (Denmark, Netherlands, China, Marshall Islands). This links to the second sub-question, have new actors emerged? As stated, new actors have emerged over the years, both state and NGO members. China increased its activity on this issue area around 2008 and has also increased its economic interest in the shipping sector. CSC joined in 2010 and immediately became an active member. Additionally, as previously mentioned, the increasing activity of the Marshall Islands (and other small island developing states) with regard to this issue area is evident through this data and in line with other research.

6.2. Industry: Still Powerful Actors?

Is the industry influence still as strong as it once was? As mentioned in previous sections, the shadow of industry influence looms large over the IMO through various pathways of influence. From the MEPC submission documents, ICS and IACS are among the top ten submitters. Within the organization itself, the dominance of flag states and their influence in the process favors industry influence. From the meeting documents as well as observations from the meetings, it is evident there are industry NGO observers and individuals in states’ delegations as consultants, researchers or technical advisors that may
represent industry interests. Nonetheless, this research points to rising actors outside the sphere of industry.

Looking broadly at the IMO membership, a large percentage of the NGO category are, in fact, business/labor associations whose interests usually align with that of a segment of the shipping industry. Although one does not assume all interests within the industry align, what this research is attempting to uncover is if the influence of the industry may or may not have shifted, not which viewpoints they hold. Moreover, the technical nature of the IMO policy making process means that some level of input by industry and NGOs is in fact important to ensure the feasibility of some policies. In the MEPC regarding shipping emissions issues, this research finds most active participants are several states, along with the IGO of the European Commission and the NGOs of the International Chamber of Shipping (ICS) and Clean Shipping Coalition (CSC). Of those, only the ICS is an industry representation as a trade association for shipowners and operators. CSC is a non-profit comprised of several well-known environmental NGOs, such as Ocean Conservancy and Transport and Environment, which may explain how they were so quick to become active players in the IMO.

Cross-referencing the results with the list of Top Ship Owning Economies and Top Flag States is useful as it helps to reveal the obscured role of states that have economic interests in shipping yet have that value registered in other flag state registries (see Figure 6). According to this article, the top actors are Japan, Norway, Denmark, France, China, United States, Germany, European Commission, ICS, CSC and Finland. Of these, five state actors are listed as top ship-owning economies, and if we extend the list out to the top 15 economies, Denmark, the US and Germany are found as well. Although we cannot calculate the European Union as a state, with several of its member states listed as top ship-owning economies, the collective economic interest of the EU is considerable. Again, the importance of the economic interests does not determine the position of the state as aligned with that of maritime industries, i.e., favoring policies (and therefore agenda items and submissions) that the industry supports. It does, however, influence the status of the member state in the IMO Council.

![Figure 6. Top ship-owning economies, top flags by dead-weight tonnage; source: UNCTADstat 2021 with data by Clarksons Research ([41], p. 79).](image-url)

Further obscurity can be found in delegations, it is not uncommon for industry or associations representing the industry to attend IMO as part of a delegation for consultative or research purposes, and this has been noted by other researchers [33]. These complexities make it difficult to determine exactly how much influence the industry has in the IMO processes. A quick review of the three previously selected MEPC meeting documents for the delegations of Japan, France, Denmark, Germany, Norway, UK, US, and China shows the names and listed affiliations of the registered delegate. In MEPC 27, the delegations
tended to favor government representation of the member states. By MEPC 44, the number of classification societies and industry association representatives within the delegations had grown. By MEPC 77, most delegations appear to have more delegates from classification societies and industry associations than from the government agencies representing the state. Notable exceptions from this small sampling are China, the UK and the US. Interestingly, in MEPC 77, there is an increase in the number of state environmental agency delegates, and in the case of France, even delegates from environmental NGOs.

The shifting composition of delegations provides further evidence of a shift to increasingly multi-actor governance in the IMO. While the final decisions may be made by the states, with so many other representatives or consultants ‘on the bench’, it would be unlikely that they have no influence on the states’ positions. Whether that influence is technical advice, political opinions, or environmental standards, it is still part of the governance process. This supports the picture of the continuing influence of the industry. At the same time, the increasing number of environmental agency representatives suggests that these issues are framed further as environmental issues, not as technical or regulatory issues. This could be a result of spillover of the climate negotiations after the Paris Agreement. Overall, changes such as these could signal a changing position of a state, a need for more technical knowledge or an increased salience of the issue.

Thus, despite transparency issues, the research shows there have been slight shifts over time in the issues area of emissions. There has been an increase in the number of actors and while there is still industry influence in the MEPC on emissions issues, there are also actors emerging outside the sphere of influence of the flag states, registries or shipping industries who were active in the early years of the IMO.

While this article is attempting to uncover change over time, there is only so much one can see with these data. The article gives us a glimpse at the complexity of the relationships of actors in the IMO while allowing insight into the overall trends among actors that may signal if the influence of the industry is stable or changing. Therefore, the research is viewed as a discussion on industry influence through IMO membership and activity, through economic data and through the composition of delegations. Nonetheless, to overcome some of the limitations of the formal structure, further research could take a deeper dive into the make-ups of selected delegations, as well as conduct interviews that might shed some light on the otherwise obscured role of the industry in the IMO.

### 6.3. Questions for Further Research

Looking at a comparison of these three indicators (submissions to IMO, submissions to ISWG-GHG, and delegations at MEPC) allows some observations and, thus, new questions to emerge. For example, given the large delegation sizes of the European Commission, Greece, Canada and the UK, one would expect a more active role in MEPC submissions. If there was enough state interest to support a large delegation, why would there not be an interest in actively trying to influence the agenda with submissions? One possible explanation is coordination among actors; for example, Germany has a large number of submissions in MEPC, but none in the ISWG-GHG, while France has no lead submissions in the MEPC but they have an increased activity in the ISWG-GHG. These, taken together, lead one to question the coordination between actors within the EU. Although the EU members coordinate their position on a variety of issues, why are some more active than others? Similarly, one can observe that the US is more active in MEPC, while Canada and the UK are more active submitters in the working group. This may be simply a strategy of venue shopping, or might it be evidence of cooperation, and further research is needed to make that determination.

One issue with this research, and those of many similar studies, is unpacking the influence of complex actors at the IMO. For example, the IGO observer EC, the delegates and submissions are likely only one part of the true influence they have at the IMO. They have 27 member states (at present) who may be acting in line with a chosen EU strategy and, totaling the delegations and submissions of the EC and all EU member states, that by
far eclipses any one delegations’ attendees or submissions. In addition, Port State control has given ports the authority over vessels in their domain, which means the ports in the EU can all be subject to an EU standard, and this contributes to a regionalization that can also shift the power. Moreover, although outside the scope of this research, it is noteworthy that the EU has been a partner in funding the participation of Small Islands Developing States at the IMO and related shipping forums ([13], p. 836). This could present another path of influence outside the formal policy-making venues. Alternatively, it is possible that the EC may not reflect the opinion of all member states, as some states have significantly more economic interests in shipping than other land-locked EU states. However, in some cases where the EU has competency, they are bound to support the position. How might this affect their influence? Likewise, the role of the UK as a former EU member state, and also through its relationship with commonwealth territories, for example, Bermuda (a large flag state, yet Bermuda is not a member), may also have more influence than it appears.

7. Conclusions

Having developed a broader mapping of the actors, we return to the main research question, does power and authority lie (or continue to lie) with the shipping industry and the states they control? Or does the shift to a multi-layered, multi-actor approach mean that power in policy-making has shifted as well? This research supports the picture of an increasingly multi-actor governance in shipping, and while there is still substantial industry influence, as well as that of developed nations with interests in shipping, there is evidence of change with the emergence of new actors outside the usual sphere of influence. This may be correlated to the overall changing global picture regarding climate governance, shifting economic powers in shipping, or it may be a result of other factors. It may be a response to the increasing agenda of the IMO, i.e., as it addresses more environmental issues like emissions, it requires different and new actors with specific knowledge. Or are the actors themselves responsible for the shifts? As shown, there is evidence of coalition-building on emissions issues among both states and NGOs. In light of this research, it shows there is an influence of industry, but examining it from a longitudinal perspective gives new insights into the shifts of actors on this issue and raises questions on the complexities of maritime governance, its actors and the IMO that are novel, and these warrant further research. To address the environmental and climate goals on a global scale, the maritime sector needs to do its part. If the actors within the governance architecture are shifting, whether states, NGOs or IGOs, for better or for worse, this may affect the entire policy-making process. As an agency that works on consensus, a shift in influential actors could potentially result in ambitious emission reduction and decarbonization policies, or policies that keep the status quo.

The goal of this research was to map the actors and power shifts within the issue areas of emissions in maritime governance, particularly the IMO. It was not the intention to pinpoint any one order of power or influence or to say unequivocally who has the most power, but to tease out the major players and discover if there were any changes over time, any new actors. As with much research, this raises more questions than it answers. However, as the first stage of a larger research project, this forms the foundation from which one can further explore the actors and their process within the shipping governance architecture to create knowledge towards sustainable shipping.

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34. Bai, J.; Li, X. IMO’s Marine Environmental Regulatory Governance and China’s Role: An Empirical Study of China’s Submissions. Sustainability 2021, 13, 10243. [CrossRef]


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