

2016 IFFO Annual Report



IFFO

THE MARINE INGREDIENTS ORGANISATION





IFFO Director General

Andrew Mallison

Introduction

Hello and welcome to the first IFFO Annual Report. This sort of document is hardly a new idea but is not something we have done in the past, perhaps as our organisation spent its early years as a low profile group of businesses in a little known corner of the seafood world. The products offered by our members were basic commodities sold in bulk, made from small, bony fish no-one wanted to eat but could be made into useful raw materials or, in the case of fish oil, burned as fuel.

Today's industry has come a long way. IFFO members have specialised, high value and high quality products that have allowed the modern aquaculture industry, so hugely important to food security, to become established and flourish. The fish oil that was once burned in boilers is now the omega 3 capsules that are a familiar sight in pharmacies around the world, improving human health for millions of users. Our members have embraced sustainability and invested in science to drive the industry forward.

IFFO traces its roots back to 1959 and is the only global association for the marine ingredients industry, providing a platform to share knowledge and address challenges. Our members are fishmeal and fish oil producers, feed manufacturers, aquaculture companies, nutraceutical companies and organisations, traders, brokers, shippers and other service providers. We welcomed our first retailer into membership only five years ago and now have more members in more countries than ever before. We are a not-for-profit organisation, funded by members but protecting the reputation of the whole industry.

This report is intended to give an overview of who we are, what we have delivered in 2016 and what we are trying to achieve in future. We welcome comments and feedback and hope you find the report useful.



Membership

With a collective history of 58 years, IFFO has thrived with the continued support of its members, 40% of which have been members for over 10 years.

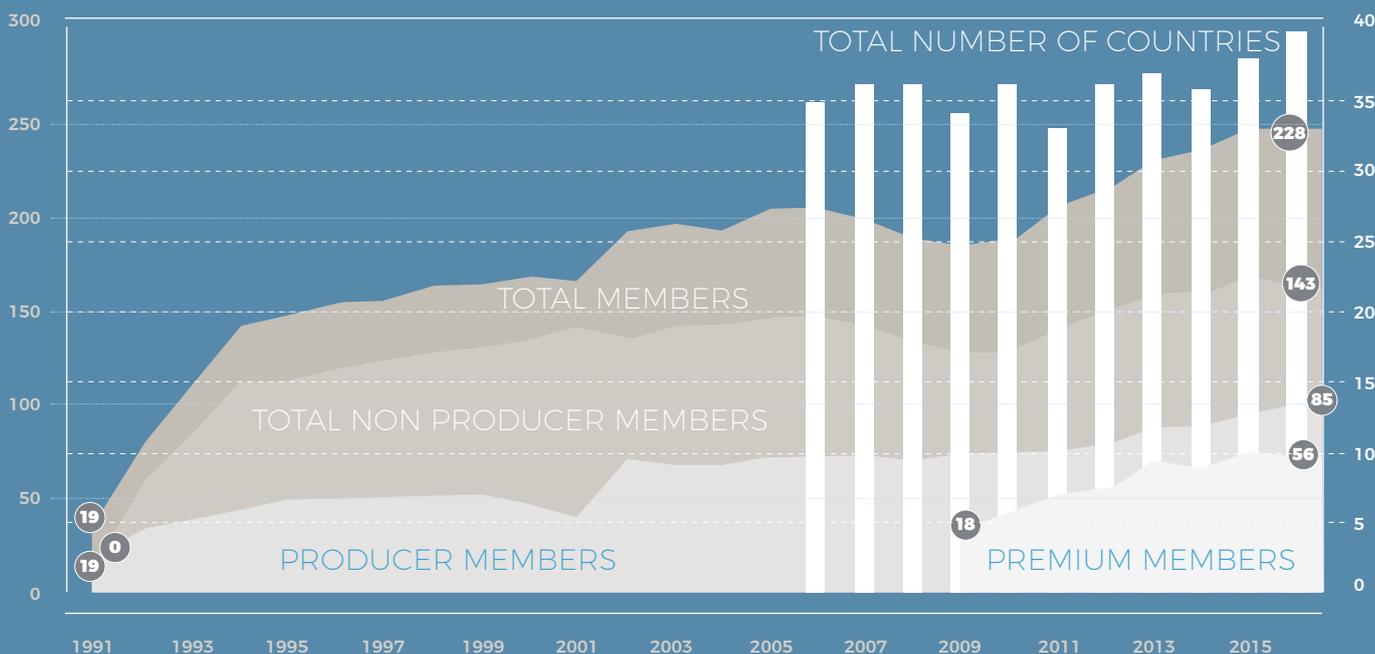
Membership numbers have grown steadily over the last decade, with 230 members at the end of 2016. Our members have operations stretching across 55 countries and covering every continent, with over 50% of the world's production of fishmeal and fish oil coming from IFFO members.

Our work representing members and providing them with support covers a broad range of services, detailed in this report, but in summary our member's approval remains high with 91% giving a good to excellent rating in our 2016 survey. Outside surveys, visiting our members to see their operations and hear their concerns at first hand has proved the most effective way to gain feedback. In 2016, we visited members in Peru, Chile, Denmark, Norway and China. Typically, this has been the most rewarding and valuable part of our work, generating ideas for how we can continue to improve our services to members in future.



Number of IFFO Members

Note: Figures for 2002 onwards relate to IFFO members following merger of IFOMA and FEO



Stakeholder Engagement

As an international membership organisation representing a diverse industry, we engage with a wide range of stakeholders.



Our key focus is on our members, ensuring that we serve their needs and represent them in the wider industry, while encouraging them to meet the high industry standards expected of our organisation.

Through our events, we engage with members, non-members, academia, regulatory bodies, governments and industry press. We constantly liaise with press to shape discussions and act against misinformation, as well as publicising our work.

Finally, we work on multiple levels to engage with industry regulatory bodies, governments and NGOs to guide discussions and ensure our members and industry are fairly represented.

IFFO Events

For over 50 years, IFFO has been holding the go to events for the industry, the first in 2016 was the Members Meeting held in Miami and the second was the Annual Conference held in Bangkok. Both events provided delegates with a rich array of discussions on industry developments and market news, as well as copious networking opportunities. The host country of the Annual



Conference rotates each year between America, EMEA (Europe, Middle East and Africa) and Asia Pacific. The Members Meeting switches each year between Miami and a European city. With delegates attending from across the marine ingredients supply chain, the events provide ample business opportunities. Miami's Members Meeting



56TH ANNUAL CONFERENCE BANGKOK 2016

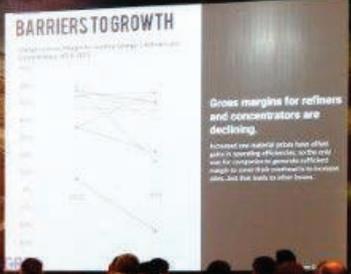


brought together 123 members from 23 countries, with over half from fishmeal and fish oil producing companies. The closed Market Forum included presentations from 9 countries, as well as updates from market experts.

IFFO's 56th Annual Conference was held in Bangkok, Thailand, with 410 delegates from 43 countries, a new record. Delegates consisted of both members and non-members, with 37.6% from Europe, 36.3% from the Americas, 17.6% from Asia and the remaining 8.5% from the rest of the world. The programme included presentations from across the industry, workshops and market meetings, giving a 360-degree overview of the marine ingredients industry in just two and a half days. A new presentation from Oman brought a total of 23 countries presenting at the Market Forum, the highest number so far. The conference closed with the IFFO Annual Awards for Leadership and Innovation being awarded to TASA. This was IFFO's second Annual Awards, which have been very successful in encouraging members to showcase their best practices and share their experiences. When asked about the conference, one delegate described it as "one big family from all over the world thinking in the same lines", another noted that "it is the only event where I can meet my suppliers".



Finally in China, IFFO jointly held the 3rd Fishmeal and Fish Oil Conference with JCI, focusing on the Chinese market and international trade to China. The event was attended by 363 delegates from 14 countries. IFFO's Director General Andrew Mallison opened the conference with a presentation on global marine ingredients supply and demand. The hot topics surrounding Peru were covered by TASA's Director Humberto Speziani. Speakers from Chinese traders, feed producers and fish farmers then shared their respective opinions about the domestic market trend.



IFFO hosted
869
 **DELEGATES**
 over 
3 **EVENTS IN 2016**

“ The IFFO Annual Conference is a family reunion for fishmeal and fish oil producers and people associated with it ”
 IFFO delegate

“ The IFFO Annual Conference has given us the opportunity to engage with our customers in a rich intellectual and social environment with a superb organization ”
 IFFO delegate

Press Engagement

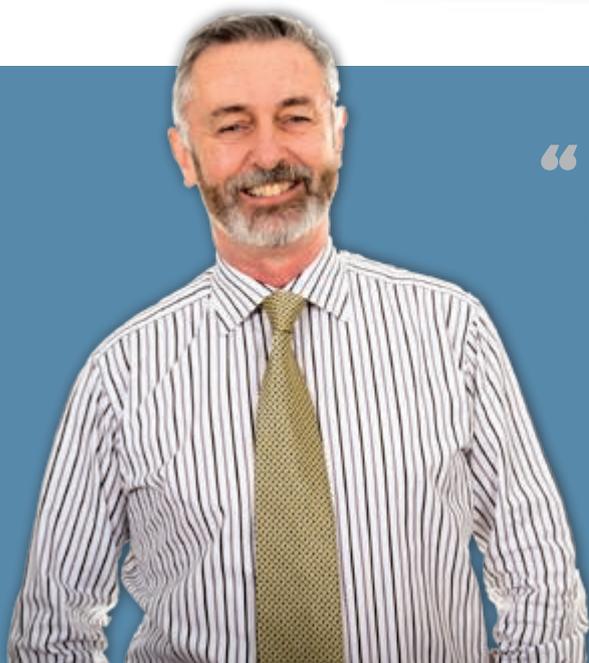
IFFO aims to lead and shape the debate on marine ingredients and respond to any discussions in the press. In shaping the debate, IFFO has published a series of position papers, most notably on the F3 (Fish Free Feed) Challenge and Fishmeal by the back door. These papers clearly set out IFFO's position on key discussion points and result in further articles and interviews.

IFFO issues regular press releases on new research, events and developments within the group. For each press release we receive an average of 20 pieces of coverage in the global industry press, including follow up pieces. With regular invitations to contribute articles in trade and industry press and responses to articles in the mainstream media, IFFO drives a steady stream of

content with consistent messaging. The main areas of discussion have focused on the finite supply of fishmeal and fish oil, the use of Ethoxyquin and sustainably sourced fish.

In this fast paced and diverse media world, our team works hard to track trends, share positive developments and respond to misinformation. Two examples of our responses to misinformation include our response to the Independent's article on 'vital fish stocks in Africa being stolen for Western factory farms', in which we noted the general practices of the industry and improved efficiency of feed. The second example is a response to a BBC News article on 'the challenges faced with the finite supply of fish oil', focusing on the importance of nutrition and improved practices of the industry. IFFO's Andrew Mallison took on critics with his opinion editorial 'Fishmeal bashing doesn't make sense', clearly detailing why the use of fishmeal and fish oil is essential, sustainable and should not be seen as an out of date feed option.

Reaching out to more niche industries, IFFO has contributed to Milling and Grain Magazine and Pets International Magazine, among others, ensuring the industry is widely represented. Outside print media, IFFO responded to a German TV programme focusing on the Norwegian Salmon Industry, giving a detailed response on the Peruvian Fishing Industry and the use of Ethoxyquin. Our members are kept up to date with industry discussions and press coverage in our monthly newsletter Update, sent to all members in English, Spanish and Chinese.



“ My point here is about achieving balance, this is not an argument for driving any species to extinction. The marine ingredients industry is very aware of the need for a healthy ecosystem and is investing in research to understand how to balance the needs of fishing for human nutrition with the needs of the ecosystem. Marine ingredients are still the best and most natural protein and oil sources for farmed fish. If the wild fishery from which they are drawn is well managed, and not detracting from direct human consumption, what is the problem? ”

Andrew Mallison,
IFFO Director General

REPRESENTING THE INDUSTRY

IFFO's team travel the world throughout the year to represent the industry at various industry events. In 2016, the team presented at 11 events and attended a further 9 events across 11 countries, in Europe, Asia and North America. The full list of events is as follows:

- » GOED Exchange, Tenerife
- » COFI Sub Committee on Fish Trade, Agadir
- » Petfood Forum Asia, Bangkok
- » Monterey Bay Aquarium, Monterey
- » Aquavision, Stavanger
- » COFI, Rome
- » University of Stirling; Sustainable Aquaculture MSc students
- » Global Food & Feed Conference, Antalya
- » GOAL 2016, Guangzhou
- » JCI-IFFO Autumn Conference, Fuzhou
- » Global Aquaculture Summit & Asia-Pacific Aquaculture Expo 2016
- » Seafood Expo, Brussels
- » CLG Social Standards, London
- » North Atlantic Seafood Forum, Bergen
- » 2016 China Feed Ingredients Conference, Hefei City
- » International Feed Ingredients Application Conference, Beijing
- » Summit of Value-added Application Innovation of Aquatic Resources, Beijing
- » China Special Food International Conference, Beijing
- » IFFO/JCI, Shanghai
- » VIV International exhibition of intensive animal husbandry

Advocacy

Part of IFFO's role is to ensure that the industry's interests are represented externally across a wide variety of fora, and 2016 was no exception with a large number of meetings attended and presentations provided by the IFFO staff.

At the international-organisation level, IFFO engaged with Codex (Fish oil standard), the United Nations Economic and Social Council's Committee of Experts on the Transport of Dangerous (UNTDG) goods and the International Maritime Organisation (IMO) (antioxidants), and the Food and Agriculture Organization of the United Nations (FAO) (data and statistics). A particular highlight was the interaction with the UN-TDG where a change in the wording relating to the shipping of fishmeal has been proposed. The issue of ethoxyquin demanded a lot of attention and that led to work directly with FEFAC, the European Commission unit with responsibility for the reauthorisation process, members of the applicant consortium (ANTOXIAC) and others. The London office base of IFFO makes it easy for us to arrange meetings that have an EU-wide impact, e.g. meeting with the UK's FSA on the work of the SCoPAFF committee.

There were numerous meetings attended in addition, including with FEFAC (Fish Feed Committee), FAO, research organisations (e.g. Rothamsted Research, Stirling University, Harper Adams University), retailers (e.g. Tesco, Ahold Delhaize), NGOs (e.g. Monterey Bay Aquarium and Seafood Watch, GAA) and other conferences (e.g. GOED 2016, Brussels Seafood Expo). Close working relationships with stakeholders allows us to be better informed about trends in research, consumer markets and NGO concerns.



IFFO's China team held meetings on behalf of members with various China government departments, discussing market access issues with AQSIQ and CNCA registered manufacturing plants lists and the retrospective inspections. The team participated in the drafting of China's feed hygiene and fish oil standards, as well as assisting member's response to the China's Ministry of Agriculture's announcement to prohibit certain fishmeal products.

Market Research

An essential part of the day-to-day running of an enterprise is to study and understand the market in order to take sound and strategic business actions. It is precisely to help our members in such decision-making process, that IFFO has continued to invest in a dedicated department in charge of collecting, organising and disseminating needed market information.

Our pinnacle report, The Annual Yearbook, remains the only publication with estimates on fishmeal and fish oil production, imports and exports for all countries in the world for the previous year.

Information gathering

The information is gathered by relying on different sources. The most important one is the IFFO membership, which represents more than 50% of the total world production and between 75% and 80% of the total annual trade of marine ingredients worldwide. This provides IFFO with an unmatched access to unique first-hand data on production, trade, prices and events capable of influencing the industry's performance around the globe.

Secondly, we rely on a network of key contacts outside our membership to get access to otherwise unavailable information. The UN's Food and Agriculture Organisation (FAO) in Rome is a good source of production and trade data on countries in which IFFO does not have members; we have an Analyst based in Beijing and consulting our network of port managers in China allows us to estimate the stocks of imported fishmeal; while a close working relationship through our Beijing office with the Chinese government keeps us updated on all the local fish industry statistics.

Lastly, we make use of third party sources that collect and sell information in return for a subscription or a fee, centralising and thus diluting the cost of such data for our members.



Data collation

Managed by Market Research Director Dr Enrico Bachis, with his team, the dataset has been developed over the last 6 years. In 2016, we made our methods of data collection more thorough and managed to collect production and/or trade annual data for 109 countries; monthly data for 30 countries and weekly data for around 10 countries. In addition, we have continued to build new times series on prices and production on competing commodities, and on fishmeal and fish oil consuming sectors such as shrimp and salmon farming around the world. Finally, the databank was upgraded to accommodate the new tables and graphs that have been used to improve the Weekly report layout.

REPORTS

By making use of all the gathered information in 2016 we produced:

IFFO REPORT	NUMBER PUBLISHED	LANGUAGES
Weekly Report	52	English, Spanish & Chinese
Monthly Report	12	English & Spanish
China Market Outlook	12	English & Spanish
China Port Stocks Report	12	English & Spanish
Trade Report	1	English & Spanish
Annual Report	1	English

In addition to the above reports, IFFO's China Office also prepare short market reports giving in-depth analysis on key fishmeal and fish oil consuming animal farming species in China. The topics already covered include catfish, eel, tilapia and weaning piglets. In 2016, a short report on white shrimp was completed, further expanding this pool of knowledge.





Presentations

Among the presentations the IFFO Market Research department gives to different audiences each year, two are recurrent at our Members' Meetings and Annual Conferences: the update on global trends in the fishmeal and fish oil markets.

Such presentations offer a summary of a wide range of statistics and analyses on our industry, with two highlights that make them unique. Firstly, that they provide the only thorough investigation on the global production, country by country, during the previous year. Secondly, they offer a projection of what people familiar with the industry expect in terms of production for the months ahead.

A record of 75 different sources were consulted in 2016 to produce these projections. This number has dramatically increased over time due to both the expansion of the IFFO membership and to a better exploitation of the IFFO network. These updates on global trends in the fishmeal and fish oil markets work as an introduction to the Market Forum - Supply Side, where individual countries are invited to give short presentations to delve into the latest development in their own regions.

“Data is key and ensures IFFO’s continued success. In 2016 we collected production and/or trade annual data for 109 countries, monthly data for 30 countries and weekly data for around 10 countries.”

DR ENRICO BACHIS,
IFFO Market Research Director

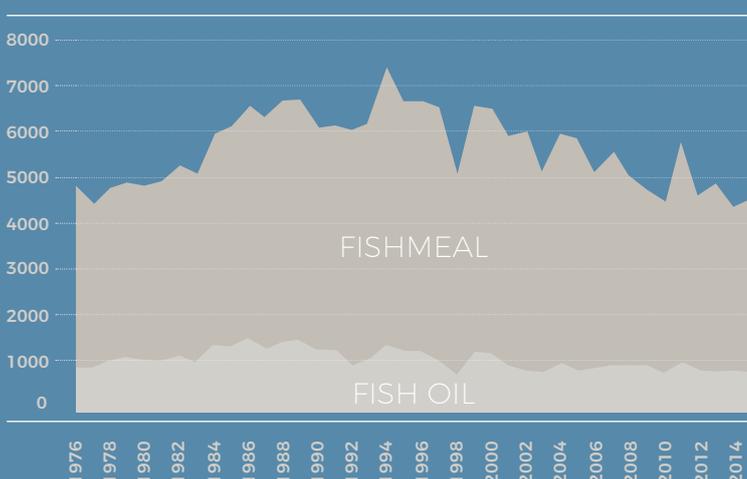


INFOGRAPHICS

In 2016, we added a new infographics channel to disseminate the market information. This new channel allows members to access important data as soon as they are provided to us, instead of waiting for the weekly and monthly which are sent after a complete set of data is received. Members can now access fishmeal and fish oil prices (previously just included in the weekly report) and fishmeal and fish oil production (previously just included in the weekly and monthly reports) as soon as IFFO receives the data. An example of infographic is here.

World production time series

Source: IFFO / (Data update yearly)



Technical projects

The IFFO technical team manages projects that aim to support the members in their operational activities. The work in 2016 covered the topics of raw material supply and antioxidants.

Raw material - Byproduct

In 2016, Stirling University completed a study on byproduct use in fishmeal and fish oil production finalise and report. The project was commissioned in 2014 to provide an analysis of raw material availability and estimates for the global quantity of fishmeal and fish oil that could be produced assuming that all byproduct could be utilised as raw material. The team at the Institute of Aquaculture, University of Stirling, led by Prof. Dave Little, developed a model to predict the potential availability of raw material for marine ingredient production from fisheries and aquaculture byproduct. The model was based on FAO data for fisheries and aquaculture production, in the same way the annual IFFO data is estimated. As well as looking at total volumes of fishmeal and fish oil produced from byproduct currently, predictions were made for 5 and 10 years' time. In addition, the team also provided estimates for the availability of EPA and DHA.

Nearly 20 million tonnes of raw material are used annually in the production of marine ingredients, but the model showed an estimated 35 million tonnes available for marine ingredients production, should all byproduct be collected. This increases to a

total of 45 million tonnes being available in 10 years' time with the increase principally coming from the growth in aquaculture and the availability of byproduct from processing aquaculture species. Future availability of fish oil is not predicted to rise proportionately, as a large proportion of aquaculture product is likely to have a low oil yield, with freshwater species dominating growth in Asia.

As a small piece of follow-on work, IFFO sponsored three short MSc projects at Stirling University, all related to byproduct utilisation. These looked at different areas of the marine ingredients supply chain, including the issues and the opportunities to secure more fishery byproduct raw material in Scotland and the UK, and the possibility of achieving increased value from farmed Scottish salmon byproduct. This work is seen as an important development towards addressing raw material supply opportunities in other regions. This early work supports some of the thinking and the development of an approach and methodology that could be used in other regions, and so is very valuable.



Some of the key findings are as follows:

- » More than 82% of secondary processing fish byproducts are utilised in marine ingredients production;
- » In the study area (Scotland, UK) fisheries byproducts were often poorly valued, and added-value processes were not common;
- » Geographically remote processing raises a problem around collection of the raw material;
- » Shellfish byproducts are particularly poorly utilised, despite opportunities for added-value via some specific compounds;
- » By-catch and onboard processing represent a potential resource of about 24% of current UK raw material supply, but this is discarded at sea because there is no incentive to land the material;
- » Logistics, and storage of the material are key issues to be addressed;
- » Hydrolysates have potential as a value-added product, and especially in aquafeed production, but are strongly influenced by the storage regime;
- » Byproducts should be managed with the same level of care as the primary product (adopt HACCP);
- » The whole of the supply chain needs to work together to improve the availability and utilisation of the raw material from byproduct.



One of these students is continuing to provide some support on the subject and is working on a draft manuscript on byproduct use in the Scottish salmon farming industry which should be available and submitted to a scientific journal early in 2017. This paper makes the case for a more sophisticated way of looking at the use of marine ingredients in aquafeed other than the straightforward FIFO approach.

Forage Fish Stocks

Prof. Ray Hilborn and his team at the University of Washington have been working on a project since 2015 on providing more accurate predictions of the implications of harvesting such stocks. This work really looks at the results of the Lenfest report from another perspective, arguing that the impact on predator populations is not as marked as has been proposed. Some of the technical aspects of the models in Lenfest are being scrutinised, and more accurate and appropriate models being developed. Hilborn's team is working on a series of scientific papers that will be published as a result of this work, and these are due to be published in the literature throughout 2017 and into 2018.

Ethoxyquin

As members will be very much aware the reauthorisation process for ethoxyquin as an animal feed additive in the EU has caused a great deal of activity over 2016. The EFSA Opinion published in November 2015 highlighted some areas of concern relating to missing data, and after a period of discussion, the IFFO board supported a significant financial contribution to work being undertaken by Nifes in Norway to provide science to fill some of those data gaps. The project is also being sponsored by the feed companies Biomar, Cargill, Marine Harvest and Skretting. This work commenced in October, will continue throughout 2017, and will report in March 2018. The NIFE's team has a great deal of expertise with ethoxyquin having undertaken several studies on the substance previously. Nifes also undertakes annual surveys of ethoxyquin in farmed fish on behalf of the Norwegian government.

Antioxidants and Fishmeal Stability Trial

IFFO, in collaboration with TASA, conducted a 12 month fishmeal stability trial to evaluate the use of alternative antioxidants, as well as lower dosage levels of ethoxyquin. This trial was concluded in June 2016 and examined the efficacy of different treatments of ethoxyquin, BHT and tocopherols during storage of fishmeal in 50kg and 1-tonne bags. The results were used as proof for proposed changes to the shipping rules for fishmeal in the Model Regulations of the United Nations Transport for Dangerous Goods committee (UN-TDG). These changes were then approved and now allow for the use of tocopherols and reduced residual levels of ethoxyquin (50ppm instead of 100ppm). Further to this, the trial results and UN-TDG approval will also support for changes to the IMO shipping codes.

Governance

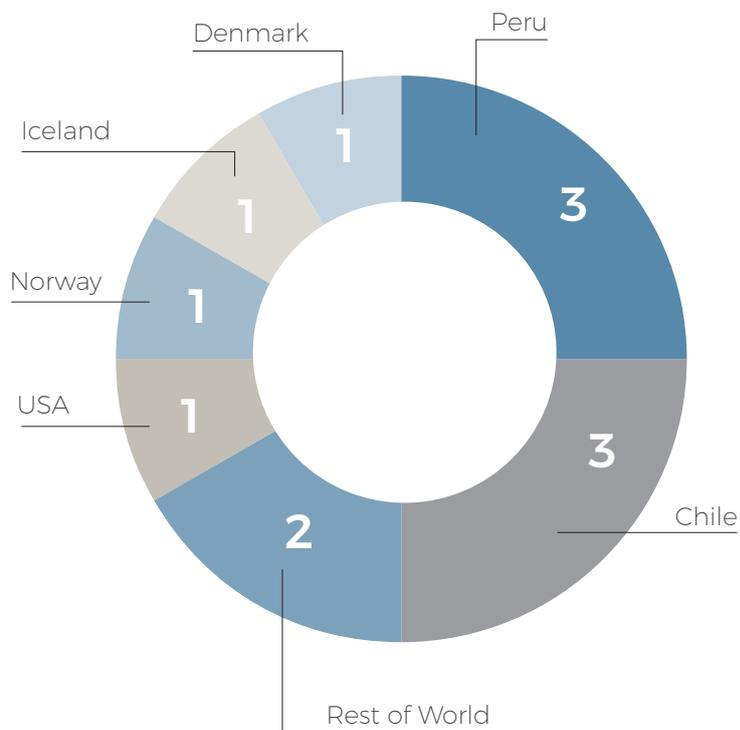
The Board of IFFO are committed to good governance standards and, as IFFO is incorporated in London, the company is regulated by the UK Companies Act (2006) and is limited by guarantee.



Under UK law, the directors of the company are registered at the UK Companies House and are responsible for the financial security and assets of the organisation. Audited financial accounts, approved by the board, are filed with the UK Companies Registrar annually.

The structure and composition of the Board are laid down in the company Articles of Association, with numbers of board seats being allocated to regions and countries for two year terms before re-election. For each term, the directors appoint a Board President and Vice President, alternating between Latin American and Non Latin American nationalities.

Country representation of IFFO Board



To ensure standards and compliance are monitored, the IFFO Director General, based in London, also acts as the Company Secretary, providing information to the IFFO Board on the requirements of UK law, with regular updates at Board meetings.



“

Good governance is an essential part of any credible business. By being incorporated in London, we are required to meet the UK's high standards of governance, transparency and financial reporting. We also are committed to acting responsibly and ethically towards our members, partners and employees

”

Mike Copeland,
IFFO President of the Board

The Team

IFFO's team is truly international, with offices in Lima (Peru), Beijing (China) and headquarters in London (UK). Our team reflect these international roots, hailing from 7 countries and speaking 7 languages, including Spanish, Chinese, Italian and Afrikaans.



The London office welcomed one new staff member in 2016. Joe Thompson joined as our new Membership and Business Information Manager. Joe handles general member enquires, membership renewals and applications. He also assists IFFO's Market Research Director Dr Enrico Bachis with our statistical and market reports. Joe has a passion for martial arts and travelling; he graduated from the University of

Kent with an upper second class in financial economics (BSc).

IFFO's previous Membership and Communications Manager, Georgie Harris, returned from maternity leave to a new part-time role managing IFFO's communications. This has moved communications away from a split role to allow for more focus and capacity in this vital area.

IFFO staff are from

7  COUNTRIES

speaking

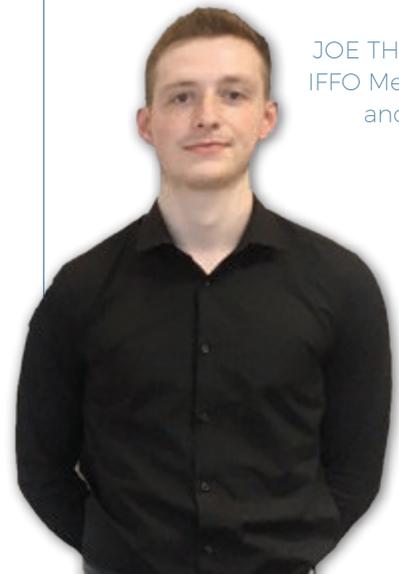
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LANGUAGES

“ The team is great fun and I've learnt so much about the industry in the short time I have been working at IFFO.

I look forward to getting to know the members more. ”

JOE THOMPSON,
IFFO Membership
and Business
Manager





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