



INTERNATIONAL FLAME RESEARCH FOUNDATION

2024

# ANNUAL REPORT

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Including financial statements

# LEGAL & ADMINISTRATION



## Legal status:

Company Limited by Guarantee; Company Registration No. 10573161

## Registered office:

Translational Energy Research Centre, Sheffield Business Park, Europa Avenue, S9 1ZA

## Bank:

Lloyds TSB Bank, Sheffield Church Street, Chelmsford Legg St OSC,  
1 Legg St, Essex, CM1 1JS, UK

## IFRF Council

### Directors of IFRF Ltd (Group A)

General Secretary - Mohamed Pourkashanian\*  
Executive Director - Greg Kelsall

### Non-Directors of IFRF Ltd (Group B)

President - Sauro Pasini\*  
IFRF Vice President - International - Sébastien Caillat  
Company Secretary - Melissa Ayres

### National Committee Representatives

America - Dave Schalles  
China - Yong Yan  
France - David Honoré, Vice-Chair  
Germany - Reinhold Kneer  
Italy - Massimiliano Fantuzzi  
Netherlands - Rob Bastiaan  
Sweden - Nils Skoglund

### Co-opted Specialists

New fuels - Chuck Benson\*  
Safety - Jacques Dugué  
Early Career Researchers - Karen Finney  
Academia - Miko Hupa  
Regional (Asia) - Yong Yan

\*Member of Executive Committee



## 2024: Reinvigorating our relations and research

2024 was a very important year in the history of the IFRF, because the foundation stopped looking around to see if it would survive and, taking that for granted, began to look to the future.

The first thing you usually do when looking ahead is to figure out if you are equipped to face the challenges that lie ahead, if you are doing what your members want, and, above all, if and how you could do it better.

I must admit that this decision to question ourselves was not made independently, but was somehow generated by discussions within the French Committee. Whatever the origin, its value was immediately appreciated and a Strategy Workshop was organized, favoring a face-to-face meeting, to make the discussion more constructive and opening it, among other things, not only to official representatives but also to those who were interested. To make the discussion as open as possible, the conduct and management of the outcomes was delegated to Bénédicte Cuenot of Cerfacs.

The topics discussed concerned the technical scope of the IFRF, its governance structure, and more detailed issues regarding the foundation's operating procedures.

I do not intend to go into the details and results of the discussions, which you will find described extensively in the Director's Annual Report, but I believe that the meeting was successful in encouraging critical analysis of how we were operating and, above all, in demonstrating that the foundation was once again offering products of interest to its



members, who were therefore encouraged to take an active part in its life, demanding improvements and expansions of the offering.

I believe this was one of the most important developments in the life of the IFRF in 2024: our members were moving from the position of "I don't receive anything of interest, so I'm reducing my membership fee or canceling my membership" to "these issues interest me, I'd like to see more, why don't we develop these other topics as well?"

This was a real paradigm shift, which made me realize that, despite all the difficulties that were still present, the positive growth trend was now well established and the minimum resources needed to make plans for growth and development were beginning to become available. The decision to organize the IFRF Conference in Q2 2025, six years after the last one, was the litmus test for this new trend.

# PRESIDENT'S REPORT



Those who, like me, have lived the life of the IFRF in parallel with their working lives over the last 45 years, know that the IFRF Conference has always been the most important event in the life of the foundation.

An opportunity not only to discuss developments in the combustion sector, but also to get to know each other, exchange views on ongoing research, make friends, and develop relationships that lasted a lifetime.

Having survived the dark years of Covid, the 2025 Conference will be an important moment to consolidate the relationship between the foundation and its members and demonstrate the value of being part of it.

This reinvigoration of relations is also evident in the active participation in events organized by IFRF, TOTeMs, and National Committee meetings, as well as in the entry of new members and their increasingly active participation in the life of the foundation.

I would just like to mention one last aspect, which is also a very important sign of the IFRF's renewed dynamism, namely its participation, as a dissemination partner, in the European project proposal LabyrinthH2, which was evaluated positively, even though it was not funded. The role of liaison in the preparation of European projects on topics of interest to members is certainly something that we must continue to invest in in the future.

I conclude this brief note on the state of the IFRF by pointing out that all these important results were only possible because there was a great' team that made them possible.



I would therefore like to thank the entire Sheffield team, under the leadership of General Secretary Mohamed Pourkashanian, for bringing the IFRF back to where it is today, allowing us to look to the future with even greater optimism.

**Sauro Pasini, IFRF President**



## 2024: Re-establishing our strategic direction

In 2024 we've seen the continued consolidation of IFRF's financial position through a mixed portfolio of income generating activities focused on member subscriptions, technical events, and report sales.

An important activity for 2024 was a review of the strategic direction of the IFRF, through a dedicated workshop held early in the year where a series of recommendations were proposed. These aspects are outlined below, together with a look forward to the activities planned for 2025.

Looking first at the Strategy workshop; this was a face-to-face event at Fives offices in Paris on 21/3/2024 attended by the IFRF management team, together with representatives from a number of its National Flame committees, Preferred Research Partners, member organisations and supporters. The workshop included a presentation on the IFRF activities since 2022 and a forward view of its plans.

The workshop was facilitated by Bénédicte Cuenot of Cerfacs and considered a number of key questions as to the future scope of the Foundation's offering to its members, with key recommendations as follows:

- The programme of Topic Orientated Technical Meetings (TOTeMs) should be strengthened
- Training is considered a key activity of IFRF and should be developed as member offering
- The Preferred Research Partner (PRP) network was confirmed as a useful tool and their use should be consolidated
- Re-activate the role of IFRF to communicate about international or national collaborative projects, networking to build consortia and possibly coordinating projects
- IFRF should continue to produce and distribute its bi-weekly newsletter (Monday Night Mail), and to make increased use of LinkedIn to highlight key items
- The online Industrial Combustion journal is considered as a low priority topic and should instead be maintained as an existing knowledge repository. This was completed in 2024 with the journal fully indexed via Elsevier Scopus, containing 104 downloadable papers, free of charge
- The IFRF Handbook should not be fully developed, in line with the move to focus on training courses. A limited refresh should be considered to re-add the calculation spreadsheets to the handbook to restore its previous functionality
- IFRF should assess the effort/cost of securing the archive by moving it online



# DIRECTOR'S REPORT



In terms of IFRF's technical programme, an IFRF technical meeting was held as part of the 14th European Conference on Industrial Furnaces and Boilers (INFUB-14) held on 2-5 April 2024 in the Algarve, Portugal.

In addition, TOTeM 51 entitled 'Green hydrogen: Advances in CFD Simulations of Industrial Hydrogen Flames' was held as part of the AFRC's Autumn Symposium held in Calgary, Canada on the 1-3 October 2024.

The TOTeM included a keynote address covering validation of modelling utilising Bayesian statistical principles, with additional presentations including combustion models suitable for H<sub>2</sub> and H<sub>2</sub> blends, as well as a specific modelling project on a steel mill reheat furnace that will be tested on H<sub>2</sub> under a USDOE funding grant.

The symposium had 75 registered attendees of which around 90% stayed on for the TOTeM.

Further organic growth of the IFRF took place in 2024, with Amatek Land in the UK and Cenertec in Portugal joining the Associate Member Group, GRDF joining the Comité Français (French Flame committee) and Danieli joining the Comitato Italiano (Italian Flame Research Committee).

The American Flame Research Committee (AFRC), having suspended its membership of IFRF in 2021, agreed for its individual members to have the option to rejoin as IFRF members in 2023 and two members of the AFRC, namely Bloom engineering and Messer, rejoined as IFRF members in 2024. This brings the total membership of IFRF to 81 member organisations.

In terms of communications, IFRF has continued to publish MNM (Monday Night Mail), its biweekly newsletter with a circulation of over 1000 and open-rate of typically 33%. Additionally, an IFRF LinkedIn Group is also provided as a second communication channel.

This group had around 700 members at the end of 2024, representing a year-on-year growth of 26% during 2024.

Further consolidation of the IFRF Preferred Research Partner (PRP) network was undertaken with SINTEF in Norway joining the network from January 2024.

They were the seventh organisation in the network, providing potential access to 3 of their pressurised combustion, chemical looping combustion and gas turbine demonstration test facilities to IFRF member and supporting organisations.

IFRF also worked with its members and PRP organisations to explore opportunities to bid for externally funded collaborative research.

During 2024, IFRF Ltd registered as organisation with the EU (PIC number- 877879489), and took part as the dissemination partner in an EU bid (LabyrinthH2) submitted in April 2024.

Although not selected for funding, this bid re-established IFRF as a potential project partner offering to lead or contribute to the dissemination work-package of projects related to fuels/decarbonisation in the energy and industrial fields.

The typical wording on the credentials of the IFRF were subsequently added to the IFRF website as a service offered to its member and partner organisations.

# DIRECTOR'S REPORT



## Outlook for 2025

The technical programme of the IFRF will continue to be developed, to include TOTeM meetings, joint offerings with the new COST Cypher EU project, and a hydrogen combustion training course. This training course will be held in Q1 of 2025 at Air Liquide offices in Paris as one of the IFRF's Preferred Research Partner organisations.

IFRF's improved financial position allows us to again plan for the IFRF conference. Last held in 2018, this will be a 3-day event to be held in Sheffield, UK during Q2 2025.

Greg Kelsall, Executive Director



# MEMBERS

IFRF has members in each corner of the world, from the Spain to Belgium, and from Norway to Mexico.

Here is how the IFRF Membership looked at the end of 2024:

**5** National Committees



**22** Countries



**81** Members





# COMMUNICATIONS

IFRF has three main platforms for communicating with its members and beyond. Monday Night Mail (MNM) a bi-weekly member e-newsletter; the IFRF website ([www.ifrf.net](http://www.ifrf.net)); and LinkedIn.



**1,087**  
subscribers at the end of 2024      **25** MNMs published      **33.8%** subscribers engaged with MNM on average

### Top 10 stories of 2024

1. Geopolitical tensions reinforce need for faster expansion of clean energy – IEA
2. Hydrogen to start flowing in Germany in 2025
3. IFRF Conference 2025: Sustainable and safe industrial combustion – sponsored by Air Liquide, Rina, Sulzer Chemtech and Suntec
4. IFRF's new Combustion Industry News reporter announced as Tracey Biller
5. Latest update of EU upcoming funding opportunities
6. IFRF Conference 2025: Call for abstracts and registration
7. Japan's 53MW Chokai Minami biomass plant comes online
8. Industrial Combustion training 18-19 March 2025
9. COP29: UN approves Article 6.4, launches global carbon market
10. Furnace and reactor digital twin offering to IFRF members



# EVENTS

- **TOTeM 51: 'Green hydrogen: advances in CFD simulations of industrial hydrogen flames'** - 30th Sept- 3rd Oct 2024 in Calgary, Canada - *The Symposium format included two days of technical sessions, and the third morning was dedicated to a ToTEM.*
- **IFRF 2024 Future Planning Strategy Workshop** - Fives offices in Paris on 21st March 2024 - *The workshop included a presentation on the IFRF activities since 2022 and a forward view of its plans. With IFRF's financial position now stabilised, the workshop, facilitated by Bénédicte Cuenot of Cefracs, considered a number of key questions as to the future scope of the Foundation's offering to its members.*

1  
TOTeM

1  
Workshop

4  
General Assemblies

## National Committee Flame Days

The Comité Français de la FRIF (France) had 3 meetings: A General Assembly on 14th March at CERFACS, Toulouse

An IFRF Workshop at the Fives Headquarters in Paris on 20th March  
A General Assembly at CRIGEN - ENGIE in Stains on 27th November

The American Flame Research Committee (AFRC) held its General Assembly at and hosted TOTeM 51: 'Green hydrogen: advances in CFD simulations of industrial hydrogen flames'.

The DVV held a General Assembly on December 11th at VDZ Düsseldorf.

# FINANCIAL STATEMENTS



REPORT OF THE DIRECTORS AND  
UNAUDITED FINANCIAL STATEMENTS  
FOR THE YEAR ENDED  
31 DECEMBER 2024  
FOR  
IFRF LIMITED

CONTENTS OF THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2022

Company Information	11
Report of the Directors	12
Income Statement	13
Balance Sheet	14
Statement of Changes in Equity	15
Notes to the Financial Statements	16 - 18
On the Unaudited Financial Statements of IFRF Limited	19
Detailed Income and Expenditure Account	20

# FINANCIAL STATEMENTS



IFRF LIMITED

COMPANY INFORMATION FOR THE YEAR ENDED 31 DECEMBER 2024

**DIRECTORS:**

Dr S Caillat  
Professor M Pourkashanian

**SECRETARY:**

Mrs M J Ayres

**REGISTERED OFFICE:**

C/O Translational Energy Research Centre  
Europa Avenue  
Sheffield  
South Yorkshire  
S9 1ZA

**REGISTERED NUMBER:**

10573161 (England and Wales)

**ACCOUNTANTS:**

Bronsens  
Chartered Certified Accountants  
Hillside  
Albion Street  
Chipping Norton  
Oxfordshire  
OX7 5BH

# FINANCIAL STATEMENTS



## REPORT OF THE DIRECTORS FOR THE YEAR ENDED 31 DECEMBER 2023

The directors present their report with the financial statements of the company for the year ended 31 December 2024.

### DIRECTORS

The directors shown below have held office during the whole of the period from 1 January 2024 to the date of this report.

Dr S Caillat  
Professor M Pourkashanian

This report has been prepared in accordance with the provisions of Part 15 of the Companies Act 2006 relating to small companies.

### ON BEHALF OF THE BOARD:

A handwritten signature in black ink, appearing to read "M. Pourkashanian".

Professor M Pourkashanian - Director

Date: 12th May 2025

# FINANCIAL STATEMENTS



**IFRF LIMITED (REGISTERED NUMBER: 10573161)**

## **INCOME STATEMENT FOR THE YEAR ENDED 31 DECEMBER 2024**

	Notes	31.12.24 £	31.12.23 £
<b>TURNOVER</b>		62,218	61,120
Administrative expenses		56,326	43,808
		5,892	17,312
Other operating income		-	9,489
<b>OPERATING SURPLUS</b>		5,892	26,801
Interest receivable and similar income		13	-
<b>SURPLUS BEFORE TAXATION</b>		5,905	26,801
Tax on surplus	4	1,122	5,092
<b>SURPLUS FOR THE FINANCIAL YEAR</b>		4,783	21,709

The notes form part of these financial statements

# FINANCIAL STATEMENTS



IFRF LIMITED (REGISTERED NUMBER: 10573161)

**BALANCE SHEET  
31 DECEMBER 2024**

	Notes	31.12.24 £	31.12.23 £
<b>CURRENT ASSETS</b>			
Debtors	5	3,419	10,696
Cash at bank		45,985	33,784
		<hr/>	<hr/>
		49,404	44,480
<b>CREDITORS</b>			
Amounts falling due within one year	6	14,833	14,692
		<hr/>	<hr/>
<b>NET CURRENT ASSETS</b>		34,571	29,788
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>		34,571	29,788
		<hr/>	<hr/>
<b>RESERVES</b>			
Income and expenditure account		34,571	29,788
		<hr/>	<hr/>
		34,571	29,788
		<hr/>	<hr/>

The company is entitled to exemption from audit under Section 477 of the Companies Act 2006 for the year ended 31 December 2024.

The members have not required the company to obtain an audit of its financial statements for the year ended 31 December 2024 in accordance with Section 476 of the Companies Act 2006.

The directors acknowledge their responsibilities for:

- (a) ensuring that the company keeps accounting records which comply with Sections 386 and 387 of the Companies Act 2006 and
- (b) preparing financial statements which give a true and fair view of the state of affairs of the company as at the end of each financial year and of its surplus or deficit for each financial year in accordance with the requirements of Sections 394 and 395 and which otherwise comply with the requirements of the Companies Act 2006 relating to financial statements, so far as applicable to the company.

The financial statements have been prepared in accordance with the provisions applicable to companies subject to the small companies regime. The financial statements were approved by the Board of Directors and authorised for issue on 12th May 2024 and were signed on its behalf by:

M Pourkashanian - Director

# FINANCIAL STATEMENTS



**IFRF LIMITED (REGISTERED NUMBER: 10573161)**

## **STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2024**

	Retained earnings £	Total equity £
<b>Balance at 1 January 2023</b>	8,079	8,079
<b>Changes in equity</b>		
Total comprehensive income	21,709	21,709
<b>Balance at 31 December 2023</b>	29,788	29,788
<b>Changes in equity</b>		
Total comprehensive income	4,783	4,783
<b>Balance at 31 December 2024</b>	34,571	34,571

The notes form part of these financial statements

# FINANCIAL STATEMENTS



## NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2023

### 1. STATUTORY INFORMATION

IFRF Limited is a private company, limited by guarantee, registered in England and Wales. The company's registered number and registered office address can be found on the Company Information page.

The presentation currency of the financial statements is the Pound Sterling (£).

### 2. ACCOUNTING POLICIES

#### Basis of preparing the financial statements

These financial statements have been prepared in accordance with Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" including the provisions of Section 1A "Small Entities" and the Companies Act 2006. The financial statements have been prepared under the historical cost convention.

#### Turnover

Turnover is measured at the fair value of the consideration received or receivable, excluding discounts, rebates, value added tax and other sales taxes.

#### Tangible fixed assets

Depreciation is provided at the following annual rates in order to write off each asset over its estimated useful life.

#### Taxation

Taxation for the year comprises current and deferred tax. Tax is recognised in the Income Statement, except to the extent that it relates to items recognised in other comprehensive income or directly in equity.

Current tax is recognised at the amount of tax payable using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

#### Deferred tax

Deferred tax is recognised in respect of all timing differences that have originated but not reversed at the balance sheet date.

# FINANCIAL STATEMENTS



Timing differences arise from the inclusion of income and expenses in tax assessments in periods different from those in which they are recognised in financial statements. Deferred tax is measured using tax rates and laws that have been enacted or substantively enacted by the year end and that are expected to apply to the reversal of the timing difference.

Unrelieved tax losses and other deferred tax assets are recognised only to the extent that it is probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits.

## 3. EMPLOYEES AND DIRECTORS

The average number of employees during the year was 2 (2022 - 2).

## 4. TAXATION

### **Analysis of the tax charge**

The tax charge on the surplus for the year was as follows:

	31.12.24 £	31.12.23 £
Current tax:		
UK corporation tax	1,122	5,092
Tax on surplus	1,122	5,092

# FINANCIAL STATEMENTS



IFRF LIMITED (REGISTERED NUMBER: 10573161)

## NOTES TO THE FINANCIAL STATEMENTS - continued FOR THE YEAR ENDED 31 DECEMBER 2024

5. DEBTORS: AMOUNTS FALLING DUE WITHIN ONE YEAR	31.12.24	31.12.23
	£	£
Trade debtors	2,869	10,696
Prepayments	550	-
	<hr/>	<hr/>
	3,419	10,696
	<hr/>	<hr/>

  

6. CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR	31.12.24	31.12.23
	£	£
Deferred income	1,383	-
Trade creditors	2,413	4,698
Tax	1,109	5,092
Accrued expenses	9,928	4,902
	<hr/>	<hr/>
	14,833	14,692
	<hr/>	<hr/>

### 7. LIMITED BY GUARANTEE

The company is Limited by Guarantee. Accordingly the company has no shareholders and no reconciliation of movement in shareholders' funds is present. The liability of each member shall not be more than £1 in the unlikely event of the company being wound up.

# FINANCIAL STATEMENTS



## ON THE UNAUDITED FINANCIAL STATEMENTS OF IFRF LIMITED (REGISTERED NUMBER: 10573161)

In order to assist you to fulfil your duties under the Companies Act 2006, we have prepared for your approval the financial statements of IFRF Limited for the year ended 31 December 2024 which comprise the Income Statement, Balance Sheet, Statement of Changes in Equity and the related notes from the company's accounting records and from information and explanations you have given us.

As a practising member firm of the Association of Chartered Certified Accountants, we are subject to its ethical and other professional requirements which are detailed at <http://www.accaglobal.com/rulebook>.

This report is made solely to the Board of Directors of IFRF Limited, as a body, in accordance with our terms of engagement. Our work has been undertaken solely to prepare for your approval the financial statements of IFRF Limited and state those matters that we have agreed to state to the Board of Directors of IFRF Limited, as a body, in this report in accordance with the requirements of the Association of Chartered Certified Accountants as detailed at <http://www.accaglobal.com/factsheet163>. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and its Board of Directors, as a body, for our work or for this report.

It is your duty to ensure that IFRF Limited has kept adequate accounting records and to prepare statutory financial statements that give a true and fair view of the assets, liabilities, financial position and profit of IFRF Limited. You consider that IFRF Limited is exempt from the statutory audit requirement for the year.

We have not been instructed to carry out an audit or a review of the financial statements of IFRF Limited. For this reason, we have not verified the accuracy or completeness of the accounting records or information and explanations you have given to us and we do not, therefore, express any opinion on the statutory financial statements.

Bronsens  
Chartered Certified Accountants  
Hillside  
Albion Street  
Chipping Norton  
Oxfordshire  
OX7 5BH

Date: .....12 May 2025.....

This page does not form part of the statutory financial statements

# FINANCIAL STATEMENTS



IFRF LIMITED (REGISTERED NUMBER: 10573161)

**DETAILED INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED 31 DECEMBER 2024**

	31.12.24	31.12.23
	£	£
<b>Membership fees</b>	62,218	61,120
<b>Other income</b>		
Sundry receipts	-	9,489
HMRC credit interest	13	-
	<hr/>	<hr/>
	62,231	70,609
<b>Expenditure</b>		
Insurance	1,823	1,859
Sub contractor fees	47,483	37,652
Telephone, computer and website costs	2,124	2,264
Meetings and conferences	2,514	-
Sundry expenses	35	-
Accountancy	1,776	1,656
	<hr/>	<hr/>
	55,755	43,431
	<hr/>	<hr/>
	6,476	27,178
<b>Finance costs</b>		
Bank charges	571	377
<b>NET SURPLUS</b>	<hr/>	<hr/>
	5,905	26,801
	<hr/>	<hr/>

This page does not form part of the statutory financial statements