

REPORT OF THE 6th ANNUAL GENERAL MEETING, (AGM), OF THE FUEL AND ENERGY RESEARCH FORUM, (FERF).

HELD ON WEDNESDAY 6th APRIL 2022 AT 12.15.pm.
AT THE DIAMOND CENTRE, THE UNIVERSITY OF SHEFFIELD.

THE FUEL AND ENERGY RESEARCH FORUM AGM.

Dr. Will Quick, Chairman (Industry) of the FERF, welcomed the approximately 40 participants to this Forum event and chaired this 6th Annual General Meeting of the Fuel and Energy Research Forum.

i) Report of the year 2021 Annual Meeting

The Minutes of the year 2021 Annual Meeting, held on-line on Wednesday 17th March 2021, (issued as FERF E-mailshot No.9, (2021), on 20th March 2021), were formally approved without modification.

ii) Review of Actions

Dr. Will Quick noted that there was one actions arising from the report of the year 2021 Annual Meeting in Item vi), Any Other Business, that would be addressed under that Item.

iii) Report by the Chairman/General Secretary

The Chairman (Industry), Dr. Will Quick, invited the General Secretary, Dr. David McCaffrey, to present the formal report for the calendar year 2021 as follows :-

The calendar year 2021 has again been a difficult and challenging year for the **Fuel and Energy Research Forum** and everyone else as a result of the Covid-19 pandemic. However, in summary, the FERF had had a more active year than for the previous two years. There have been 2 live events, however, due to the restrictions imposed by the event venues, it became necessary for some of these FERF events to go on-line. The FERF has been able to provide all of its usual services this year, where all of the 2021 FERF Newsletters, the regular **Forum** E-mailshots, and the up-dating of the website have been provided.

In March, the FERF held its 2021 Annual Meeting as an on-line event. In April, the Carbon Capture and Storage Interest Group held an on-line seminar entitled, "A UK Carbon Capture, Utilisation and Storage Update". In May, there was a joint Uniper/CIWM/FERF on-line seminar entitled, "The 9th Energy for Waste and Biomass, (EfWB), Workshop". In June, the first FERF live event of the year was a seminar of the Combustion Interest Group entitled, "Challenges with Waste Woods/Biomasses", which was held at the National Self-Build Centre, Swindon. In December, there was another joint Uniper/CIWM/FERF on-line seminar entitled, "The 10th Energy for Waste and Biomass, (EfWB), Workshop".

In early September, the **Forum** held its biennial three-day conference live at the University of Nottingham now entitled the, "1st FERIA Conference, the European Conference on Fuel and Energy Research and its Applications, the Successor to the ECCRIA Series of Conferences". As a direct result of the remit for this Conference being expanded to include biomass and waste and other fossil fuels, this should have been the most successful Conference in this series of Conferences. For the originally planned date, (September 2020, the Conference was postponed twice), there had been more abstracts

submitted, (from the UK and 16 overseas countries), than for any of the previous ECCRIA Conferences, where the original programme had triple sessions throughout.

This Conference covered most aspects of fuel and energy utilisation research currently being carried out in the UK and had attracted participants from many of the major UK organisations carrying out fuel and energy R&D, as well as a few participants from overseas, (participation from overseas was limited due to the Covid-19 pandemic). Despite this, the Conference had been attended by just under 100 participants, mainly from the UK, where there were participants registered to attend from 7 overseas countries, (China, Belgium, France, Germany, Italy, Norway and Russia). The Conference had 88 oral presentations, presented in parallel sessions, as well as about 20 poster presentations.

The 2nd Clean Energy Science Lecture entitled “Research Challenges for Zero Carbon and Sustainable Fuels : Prospects and the Pathway Forward for the Clean Energy of the Future” and which is now organised by the FERF, was presented by Prof. Mohamed Pourkashanian of the University of Sheffield and was held during the 1st FERIA Conference at the University of Nottingham on Monday 6th September 2021.

Despite these restrictions, the **Forum** has continued its major transformation into the **Fuel and Energy Research Forum**. The **Forum** has been pursuing and has made progress in achieving its new objectives, which have now broadened considerably with the expansion of the **Forum's** activities.

The year 2021 has seen the issue of three editions of the new **Forum** Newsletter (January, May, and September). During the year, the **Forum** website has continued to provide information to Members and has been regularly added to and up-dated, (it now has a News Articles section), where many of the presentations from previous **Forum** events can be viewed on this website. During the year, there have been 33 **Forum** E-mailshots. The **Forum** has also actively assisted with the promotion of, and publicity for, several other fuel and energy research events, including on-line events, and funding opportunities in the UK, Europe and worldwide, through several **Forum** E-mailshots.

FERF Members have been invited to join several both on-line and live seminars throughout the year organised by the UKCCSRC, the IChemE Clean Energy and Environment SIGs, the International Centre for Sustainable Carbon, The British Flame Research Committee, (their 2021 Annual Flame Day), and others.

A fund is available from the **Forum** for the funding of PhD students to attend national and international conferences, where the recipients of these awards have provided articles on their impressions of these conferences for previous FERF Newsletter.

The **Forum** is in the initial stages of the planning of the “2nd FERIA Conference, the European Conference on Fuel and Energy Research and Its Applications, the Successor to the ECCRIA Series of Conferences”, planned to be held at the University of Sheffield on 4th to 6th September 2023.

The **Forum** is now connected to LinkedIn, (<https://www.linkedin.com/company/71250581/admin%E2%80%9D>), and Twitter, ([@Ferf_Forum](https://twitter.com/Ferf_Forum)), as had been announced in a previous FERF E-mailshot.

The Executive Committee has been in discussions with and is actively promoting several other fuel and energy research issues and events. The **Forum** is actively co-operating

with a number of bodies, particularly in the UK and overseas and has continued to provide an information service to Members. In particular, these discussions have led to the proposal to continue with a 3rd Clean Energy Science Lecture, where the date and venue is to be announced.

iv) Report by the Treasurer

Dr. Andrew Goddard, the FERF Treasurer, presented the Treasurer's report to the meeting, which included a summary of the Income & Expenditure Account and the Balance Sheet for the period 01/01/2021 to 31/12/2021.

The Income & Expenditure Account for the calendar year 2021 showed expenditure resulting from normal **Forum** operating activities i.e. newsletter services, secretarial and administrative services, treasurer and webmaster services, the rental of the Forum Post Office Box, the website rental fee and related costs, the credit card facility fee and the public liability Insurance provisions. However, there were no seminar expenses in part due to the postponement of several events as a result of the Covid-19 pandemic.

The significant source of income was, as usual, Membership subscriptions. This consisted of Membership subscriptions from a total of 49 Members for 2021, (8 more than for 2020), 2 late payments for 2019 and 10 late payments for 2020. The only other income was 2 non-members seminar fees. It should also be noted that there was no surplus from the 1st FERIA Conference, so there was therefore a significant deficit in this 2021 account.

This account is supported by the Balance Sheet at 31/12/2021, where overall there was a significant cash deficit for the year. The total assets at 31/12/21 were described, which were currently all held in the **Forum's** HSBC current account.

v) Election for Vacancies on the Executive Committee.

There were four vacant positions on the Executive Committee, (Chairman, (Academe), and 3 x Representatives from Academe), for which the following nominations had been received.

CANDIDATE. **(POSITION).**

Prof.W.Nimmo
(Chairman, Academe)

Prof.E.H.Lester
(Representative from Academe)

Prof Y.Yan
(Representative from Academe)

Dr.A.Samson
(Representative from Academe)

PROPOSERS.

Dr.W.J.Quick
Dr.D.J.A.McCaffrey
Dr.A.J.Goddard

Dr.G.S.Riley
Dr.W.J.Quick
Prof.W.Nimmo

Prof.W.Nimmo
Prof.H.Zhou
Prof.Y Hu

Dr.D.J.A.McCaffrey
Dr.A.J.Goddard
Prof.W.Nimmo

The candidates for the positions of Chairman (Academe), and the three vacant positions for the Representatives from Academe were therefore elected unopposed.

vi) Any Other Business

a) Dr. Quick reported that Uniper Technologies had held two on-line half-day technical meetings through the “Go to Webinar” software system during 2021, where in both cases, FERF Members had been invited join these seminars, (Wednesday 12th May and Thursday 9th December 2021), thus completing his action. These seminars were badged as Uniper/FERF/CIWM events, where most of the presentations from these seminars were on the FERF website. He continued that Uniper Technologies would be continuing this series of on-line seminars and wished to broaden the scope of these meetings and that the Programme and how to join future on-line seminars would be publicised through FERF E-mailshots.

b) Dr. Goddard and Dr. Gudka had previously invited all FERF Members to visit/log into the FERF’s LinkedIn Group Page, where they had both asked all parties to populate this page with appropriate information. It was fully recognized that this medium, (LinkedIn), was the most suitable method of publicising forthcoming webinars as it was an instant notification for these event that were often announced at short notice, (rather than as part of the FERF’s 4-monthly Newsletters). Following a discussion from the floor, it was suggested that the management of the FERF’s social media activities should be separated from the Webmaster duties and it was agreed that this matter would be considered at the FERF’s Executive Committee Meeting later this afternoon.

c) Dr Quick reported that Dr. Williams, the FERF Newsletter Editor, had asked FERF Members for appropriate articles/announcements, particularly on work being carried out in Academe and Industry, for the next, (May 2022), and future edition of the FERF Newsletter.

REPORTS FROM THE INTEREST GROUP CO-ORDINATORS

To include progress in their Interest Groups during the year 2021.

Combustion, Dr. Gerry Riley

Dr. Beeley reported on behalf of Dr. Riley by reminding the meeting that the last Seminar of this Interest Group had been held as a live event on Wednesday 23rd June 2021 at the National Self-Build Centre, Swindon. This seminar, entitled, “Challenges with Waste Woods/Biomasses”, had been postponed twice as a result of the Covid-19 pandemic. It had unfortunately not been possible to broadcast this event live on-line. However, Dr. Beeley continued that this had been a good seminar and thanked RWE Generation for sponsoring this event and picking up the fees for hire of the centre and refreshments. This had been a hybrid event with some presenters able to attend while other were not due mainly to their respective organisations being cautious during the Covid pandemic. While it was not technically flawless, it seemed to be managed quite well using Teams, where this is something to consider for future events. There was a good mix of speakers from academia and industry and it was nice to be able to speak in person after so many months of isolation. It is unlikely that there will be another Interest Group event this year, however, a seminar is planned for next year. Dr. Beeley concluded that Dr. Riley would welcome the views of Forum Members and was always open to suggestions for a hot topic for future Interest Group seminars.

Environment, Prof. Bill Nimmo

Prof. Nimmo reported that there had not been an Interest Group seminar during 2021 due to the Covid-19 pandemic. He continued that the recent seminar of this Interest Group entitled, “New Fuels and Emissions Control”, had taken place today at the University of Sheffield and had been joint with the Biomass and Waste Interest Group. Prof. Nimmo reported that the front runner for the next Interest Group seminar was likely to again be issues on environmental impact. The NOx best practice Ricardo Study on EfW has recently been published and on 8th November 2021 and the Government had announced that EfW plant would be eligible for support for CCS development. Three days after this, the Cory Belvedere, (London), EfW plant announced its intention to apply CCS. Prof. Nimmo continued that he would always welcome the views of Forum Members and was open to suggestions for topics for future Interest Group seminars.

Biomass and Waste, Dr Katie Chong

Dr. Chong reported that there had not been an Interest Group seminar during 2021 due to the Covid-19 pandemic. She continued that the recent seminar of this Interest Group entitled “Pathways to Net Zero”, had taken place today at the University of Sheffield and had been joint with the Environment Interest Group. Dr. Chong was considering a future Interest Group seminar on Hydrogen, which could be held at an EfW plant with an educational centre. She also congratulated Dr. McCaffrey for all of his efforts regarding the success of the 1st FERIA Conference under the very difficult Covid-19 circumstances. Dr. Chong concluded that she would always welcome the views of Forum Members and was open to suggestions for topics for future Interest Group seminars.

Electricity Generation and Storage, Mr. Niall Moroney

Dr. McCaffrey reported on behalf of Mr. Moroney that there had not been an Interest Group seminar during 2021 due to the Covid-19 pandemic. He continued that Mr. Moroney was currently planning a joint seminar with the Fuel Characterisation, Up-grading and Carbonisation Interest Group to take place in late June or early September this year. He continued that the main subject areas that he had in mind were “Gas-fired Electrical Generation”, “Hydrogen combustion”, “Hydrogen for Electricity Storage” and “Hydrogen for Industrial Processes”. Mr. Moroney concluded that he would always welcome the views of Forum Members and was open to suggestions for topics for future Interest Group seminars.

Carbon Capture and Storage, Prof Jon Gibbins

Prof. Gibbins reported that he had held an on-line CCS Interest Group seminar entitled, “A UK Carbon Capture, Utilisation and Storage Update”, on Tuesday 20th April last year. He continued that the UKCCSRC had been presenting regular on-line webinars during the Covid-19 pandemic and that **Forum** Members had been invited to join these seminars.

Prof. Gibbins reported that the next Interest Group seminar would be a face-to-face event on the work on CO₂ capture from coal fired plant. He considered that this work should not be lost and should be archived for potential future technology transfer.

In answer to a question from the floor, Prof. Gibbins reported that there had been a number of initiatives in this area, which had included 41 applications for the funding proposals of Industrial De-carbonisation projects. It was expected that the projects to be funded would be announced later this year, where this subject could also form the basis of a future Interest Group seminar. Prof. Gibbins concluded that he would always welcome

the views of Forum Members and was open to suggestions for topics and content for such future Interest Group seminars.

Fuel Characterisation, Up-grading and Carbonisation, Prof Ed Lester

Fatih Gulec reported on behalf of Prof. Lester that there had not been an Interest Group seminar during 2021 due to the Covid-19 pandemic. He continued that Prof. Lester was currently planning a joint seminar with the Electricity Generation and Storage Interest Group to take place in late June or early September this year. He continued that the main subject area would be the decarbonisation of the steel industry/steel production without coke, in collaboration with the Centre for Doctoral Training, (CDT), operated by Tata Steel, (Port Talbot). Although initially planned be held at Port Talbot, this venue was found to be too small. Alternate venues were possibly Swansea University, the University of Nottingham or Imperial College London. Dr. Lester concluded that he would always welcome the views of Forum Members in this matter and was open to suggestions for topics and content for such future Interest Group seminars.

Concluding Remarks

Dr. Will Quick, FERF Chairman, (Industry), repeated his earlier statement that the year 2021 had been a difficult and challenging year for the **Forum** and everyone. However, it had also been a much more active year for the FERF than for the previous year. He concluded the meeting by thanking the speakers for their presentations, the local organisers for the arrangements for the day and all those for attending this event.

Dr David J A McCaffrey

General Secretary of the Fuel and Energy Research Forum

9th April 2022