



Downing Street Acknowledges the C4FF's Good Work in Establishing Air Quality Groups

In a response to a letter by Professor Ziarati about the air quality and invitation to Professor's Lecture at Warwick University on Zero Emissions, the Prime Minister thanks the efforts by C4FF and states that it is testament to Professor and his Air Quality Groups' hard work that there so many people and organisation are involved in helping to reduce toxic pollutants across the UK.

Professor Ziarati, on behalf of CW-AQPC (www.cwariguquality.com) has responded to the Coventry City Council's Air Quality plan. The following what was submitted to the City Council:

Coventry and Warwickshire Air Quality People's Chamber Response to the Coventry Air Quality Plan

Professor Dr Reza Ziarati, Peter Maddock and Ann Wilson - www.cwairquality.com

Summary – This report presents the views of the of **Coventry and Warwickshire Air Quality People's Chamber (CW-AQPC)** on the city plan to improve air quality and outlines several specific concerns with regard to the Air Quality Plan presented for consultation. The aim of this report is to help Coventry City Council to find sensible and long lasting solutions to the problem of poor air quality. Mistakes have been made in the past so it is no shame to go back and learn from these. Coventry is one of the most heavily polluted cities in the UK. The Government admits that these high concentrations can exacerbate respiratory conditions such as asthma and have also been linked to dementia. They can cause significant problems even for otherwise healthy people; it has been reported that poor air quality makes the impact of Corona Virus worse for those with respiratory problems, and that allows it to remain airborne longer by attaching its self to larger Particulate matter. The City Council have been told that they must take urgent steps to understand the impact on health for the local population – knowing the baseline is vital before improvements are made. The air quality plan should primarily be about reducing vehicle use, manufacturing vehicles which pollute less and protecting pedestrians and residents from harmful pollutants. Errors in granting permission for so many housing sites have been based on erroneous data relating to Coventry's projected population growth. Since we all know that the figures used are false, then we need to go back and make sure no more developments take place until the air pollution problems in the City are resolved. Issues with regard to the projected growth of the population in Coventry are presented as an **Appendix** to this report. Transport Secretary **Grant Shapps** said; namely that, *'Public transport and active travel will be the natural first choice for our daily activities.'* He stated that, *'We will use our cars less and be able to rely on a convenient, cost effective and coherent public transport network.'* These statements are music to the many ears.

Introduction

Air pollution is a major public health risk ranking alongside cancer, heart disease and obesity. It poses the single greatest environmental risk to human health. Although it is claimed that air pollution has been reduced significantly since 2010, based on local studies, this is in fact, not true. The level of pollution has been increasing. The Government, the Department for Environment Food and Rural Affairs (DEFRA), has put in place a £3.8 billion plan to reduce harmful emissions from road



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transport. This includes: nearly £1.5 billion between April 2015 and March 2021 to support the uptake of ultra-low emission vehicles; £1.2 billion for the Cycling and Walking Investment Strategy to increase these activities and make our roads safer for vulnerable users; and £850 million to help local authorities develop and implement local air quality plans and to support those impacted by the plans. Yet, despite such huge funding, DEFRA recommended that the local authorities monitor these fine particulates (see Technical Guidance), but sadly they have not mandated it. The reason given by the City Council, in a report to Professor Ziarati, Chair of CW-AQPC, for not monitoring the level of these fine particulates is that equipment for measuring particulates is very expensive, costing tens of thousands of pounds. In a letter to Professor Ziarati, the DEFRA Minister responsible for Air Quality, stated that there are 171 certified automatic monitors which continuously measure pollutants on a near real-time; and that two of these monitoring stations are located in Coventry. Both stations measure NO₂ and PM₁₀ and one of the stations in Coventry measures Ozone and PM_{2.5}. Despite several promises by Coventry City Council to provide data, to-date, none has been given to the Chair or members CW-AQPC. With such huge funding, as outlined above, it is really unacceptable that these particulates, specifically PM10 and PM2.5 are not measured in all of the City's hot spots and that the data available is not shared with local bona fide communities or residents.

In their response to Professor Ziarati's inquiry, the City Council states that in an ideal world the Council would purchase good air quality analysers but they are very expensive to purchase along with significant ongoing operating costs so the tubes have an important part to play in our monitoring strategy. The point Professor Ziarati was making was that the Diffusion Tubes are inaccurate and that the way they are installed, adds to inaccuracies. To this end, the recommendation was to continue with diffusion tubes but have one accurate system of measuring NO₂ for calibration and re-calculation of the readings from the diffusion tubes. DEFRA is aware of the situation and states that many areas in the UK are exceeding legal levels of nitrogen dioxide. The statement that this is the only statutory air quality limit the UK is currently failing to meet is not true as local measurements have shown levels of PM₁₀ and PM_{2.5} have also been exceeding the Government's own targets. The two PM measuring stations in Coventry are not installed in hotspots, therefore the claim that PM levels do not exceed the targets set, is untrue. In any case, repeated requests for the release of PM data has so far fallen on deaf ears despite promises made to publish them. In 2017, the Government set out in its Plan for Tackling Roadside Nitrogen Dioxide Concentrations that, given the local nature of the problem, local action was needed to achieve improvements in air quality. Local knowledge, it was stated, is vital to finding solutions for air quality problems that are suited to local areas and the communities and businesses affected.

City Air Quality Plan

The CW-AQPC has found the plan to be a disappointing document; that fails to take into account factors which are vital to the local population. Some of the specific comments are as follows:

1. The plan seems to lack any clear modelling of the impact on Air Quality of the population growth, economic growth and housing contained in the Local Plan. So what are the baseline measures? What would happen over a ten-year period if we had no action plan? What effect will the plan have at each stage?
2. It is recognised that NO₂ is a major problem, but particulates are an even greater problem, they are not mentioned. Currently no effective measurement of NO₂ or particulates is in place, we therefore have a Plan with no quantified starting point.



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3. The Plan is in reality, a Traffic Management Plan and as such, lacks the imagination needed to make lasting change. It is effectively an attempt to apply a sticking plaster over a gaping wound.
4. The Plan looks for quick fixes, using electric vehicles and re-routing traffic flow. Yet there is no evaluation of the success of early investments e.g. what is the usage of fixed charging points? What is the market penetration of electric vehicles in Coventry?
5. The plans for cycle-ways and walk-ways have been dramatically scaled back in order to look for quick wins. This is a clear example of a kneejerk reaction and a lack of any Inventive strategic thinking. Modal shift has to be a major part of the solution
6. It is particularly disappointing and unacceptable that the vital part that trees and open spaces play in improving Air Quality has been ignored. Not really a mention, in stark contrast the City Council continues to progressively remove more and mature trees and build on Green spaces.
7. Specifically, there is an issue in solving the problems of Air Quality on the Holyhead road. The proposed plan includes a new junction off the ring road and past St Osburg's school entrance. This is a move that should be instantly rejected, diverting more traffic past a school is counter intuitive. We must protect our children from poor Air Quality, not move it towards them.
8. The Plan, clearly now (£24.5m) has to be framed within a drastically reduced financial envelope, but there is no tracking of the proposed changes or any quantification of the impact from the original plan that was costed at nearly £90m.
9. Covid-19 has impacted on Coventry in the same way as in all parts of the UK. When we emerge from it, nothing will be the same as before. It is therefore irrational to be rushing into a plan of this nature, without time to reflect. The reflection time could be used to ask the following questions: a) Should we use our green spaces differently? b) How can trees help us? c) What has the air quality been like during the lock down? d) Can we come up with a better and more creative solution for the long term, and engage our schools and colleges to do so?

Cycle and Cycling routes

Since the air quality plan also intends for people to ditch their car and cycle to work, planning for example, to provide a cycle route the whole length of the Binley Road is unwise. Surely the cyclists would prefer to use quieter and less polluted routes. Those who live in Stoke, not far from Binley Road, do not dare to cycle. Some keen cyclists when cycling on busy roads have ended up in hospital and it may be the case that debris falls on the proposed cycle routes that are near very busy roads. It is said that Binley Road would be the main route to the University Hospital. There are those who cycle to and from there, but are not known to have been using Binley Road. If City planners contact the cycling groups, perhaps it would be a useful exercise to ask their opinion. The answer to the question that would a cyclist want to cycle along these main roads on a regular basis is surely **no**.

The tree wardens are also concerned that these main roads into the city are, in places, lined with old and beautiful trees. How would the proposed cycle-ways avoid damaging them? The City's track record is not a good one in this respect! Those of us who often walk our dogs on the roads nearby eg on the land off WykenCroft, where the cycle-way was put in along the river from Wyken Croft to Ansty Road a few years ago, recall that the first high wind after the installation brought down three big trees into the river. All their roots had been severed. This would be very worrying along a main road. And of course, our precious trees need to be replaced to absorb pollution and to disperse it.

Final remarks - The key to achieving 50% reduction in carbon emissions footprint in the region is a radical shift to green energies, smart systems and maximising local community generation of clean energy. The focus in the region should be on reducing road transport and vehicle use. The protection of pedestrians against pollution from vehicles must be a top priority. The key



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pollutants harming the public are Particulate Matters, PM₁₀, PM_{2.5}, PM_{less than 2.5} and NO₂ as well as Ozone. According to RSP, (2016) exposure to PM_{2.5} costs the UK some £20 billion and the deposition of pollutants to vegetation can save the UK £1 billion per year in Health care and loss of production. Whilst it is acknowledged that vegetation only removes a small % of PM_{2.5} and event less NO₂ yet provides the barrier needed to keep pedestrians protected from vehicle pollution. Furthermore, vegetation controls the distribution pollutants. A well designed visitation barrier can reduce the exposure to vehicle pollution by as much as 50% in its immediate wake (Air Quality Expert Group, 2018). It has to be understood that electric cars should be considered part of the solution. These machines still produce PM's, particularly the most harmful ones which are less than 2.5 Micron and a significant PM of particles as small as 0.1 Micron. The latter are much smaller particles emitted from tyres and road surfaces. A medium solution is the use of hybrid cars in urban areas. The City has already stated that the traffic network is in gridlock and and *'Current plans for a shift to cycling, walking and bus use, are entirely unrealistic. A 10% shift to sustainable transport - has not been demonstrated anywhere in the country.'* However, proposal by the Government for higher taxes for more expensive cars is nonsensical as some of these cars are more fuel efficient than many less expensive ones. Domestic bonfire causes harmful toxins and should be banned.

The Coventry air quality plan should be studied in relation to the recent and on-going plans for new housing estates. The points worthy of consideration are given in the following appendix.

Appendix – Impact of recent and on-going development in local areas on air quality

New evidence show it is possible that all housing needs in the period 2011-2031 circa 17-19000 homes, for Coventry can all be accommodated on brownfield land within the city, as per estimates in 2009. Supporting papers are available and will be forwarded on request. There are significant endangered species living in the development zone: badgers, rare bats, great crested newts. The Government has promised to reverse losses to biodiversity by 2020 under the Aitchi Convention. The development of important habitat, as recognised by the wildlife trust and natural England, will make losses of biodiversity worse, not better. The Lawton Report of 2011, said we are in the last chance saloon with our wildlife. Development will materially damage ancient woodland through overuse, cats and dogs disturbing wildlife and excess human use will interfere with plant and tree regeneration in the woods. There will be significant damage to the land that is archeologically significant some sites contains a complete stone age economy - containing living areas, hunting, grazing and cultivation areas spread from Corley Rocks Ancient Monument all along Hall Brook to Manor Farm. It contains a rare standing medieval village - behind the homes in Bennetts Road, and the likely remains of a buried Saxon barrow (off Penny Park Lane). It contains remains of a Medieval Fish Pond, and possibly the currently unknown site of Keresley Castle. According to Natural England, the nation has lost 70% of its specialist farmland birds and 70% of butterfly species in the last 40 years. Splitting and taking out these corridors, accelerates loss of bio-diversity. Development with all associated roads, drives, and patios, will worsen an already acute flooding situation - homes flood regularly in Bennetts Road and Watery Lane. Development of Keresley, taken together - ie "cumulatively"- with Finham, Westwood, Cromwell Lane and Eastern Green, will inevitably make existing illegal levels of air pollution worse along main commuter routes in and around the city. There is no need, under the latest population analysis, to build on this scale (42400 homes over 20 years). It will unnecessarily make the air quality even more toxic. The law requires a precautionary approach to air pollution; the air quality directive requires a "cumulative" assessment.



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Gavin Barwell said: “We need to build more homes in this country so making sure that we re-use brownfield land is crucial. We want to bring life back to abandoned sites and protect our valued countryside”; clearly the Minister's view has not been seriously considered by the City.

Coventry University students-CWAQPC-C4FF Air quality Project

The project concerns an investigation into Global state of air quality monitoring and measurement informing the design and manufacture of an Air Quality Measurement Station. There are two group of students. C4FF and CW-AQPC are seen as the clients. The project is student project and is expected to come up with a specification for design of the measuring station. Both groups recently made a presentation to their academic Supervisor, Professor Paul green and Professor Ziarati. So far a good progress by both student groups.

The UK Government's Response to C4FF Concerns regarding EUREKA and EU Funded Education and Research Programmes

A letter has been sent to Mr James Duddridge, MP, Parliamentary Undersecretary of State, BIES, asking him to review the two recently awarded EURKA projects and help C4FF to receive the grants expected. In previous letter to Professor Ziarati, the Minister had assured that Government will be supporting EUREKA approved projects and more funds are being allocated to this novel programme. In an earlier letter he reassured Professor Reza Ziarati that the UK will continue to participate in EU annual budgets including 2020. This means that the Government will continue to make contributions and get receipts from EU budget programmes under the normal rules. All EU projects and programmes, including Erasmus+, will be financed as foreseen under the current Multiannual Financial Framework (2014-2020). This provides certainty to all beneficiaries of EU programmes, including UK beneficiaries. They will continue to benefit from EU programmes until their closure.

The Government's Response to C4FF on Matters Raised by the Centre about Pollution

In response to C4FF's efforts in helping to improve the air quality, the Department for Environment Food and Rural Affairs, Rebecca Pow, MP. Under Secretary of State, has written to Professor Ziarati explaining about the Government 'Road to Zero' strategy which is an approach to reduce emissions of road vehicles. It is reassuring to read, that this Department has identified mechanisms, such as, a Multi-Day Air Quality Forecast Service and Daily Air Quality Index, to advise the public of strategies to support any potential health concerns potentially related to air quality.

As the result of the Minister's letter to Professor Ziarati several contacts were made with Coventry City Council. The discussions are ongoing. A report on the progress of getting data from the two stations which measure PMs will be expected in April.

Government Recent Efforts – Climate Assembly UK: the Path to Net Zero



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In a letter to Professor Ziarati, the Prime Minister, with regards to the advisory and academic panels working towards zero emissions, states that it is testament to your hard work that so many talented individuals and organisations from across the UK are involved.

As the UK's first citizens' assembly on climate change prepares to meet for the first time at the end of January, the two panels of stakeholders and researchers helping to ensure the balance and accuracy of the assembly have been announced.



**IMechE and C4FF Sponsored and IET, IMarEST Supported 'Towards Zero Ship Emissions'
Lecture and Visit to Warwick University Battery Facilities**



The event was organised as the UK's GreenShip Project's Multiplier Event; it took place on Thursday 27th February 2020, 14:30-17.30Hrs at Warwick University, Organised by Centre for Factories of the future (C4FF) and led by Professor Dr Reza Ziarati, C4FF's Chair.

Summary of Lecture: Towards Zero Emissions is outlined in the event poster below:



Project number: 2019-1-ES01-KA202-065523

Date: Thursday 27th February 2020; Time: 14:30.00-17:30

Venue: Warwick University

Organiser: Centre for Factories of the future (C4FF)

Contact information: Professor Dr Reza Ziarati, reza.ziarati@c4ff.co.uk

Towards Zero Emissions

Keynote Lecture – Future of Transportation - Focussing on Shipping

Professor Dr Reza Ziarati BSc (Eng), PhD (Eng), Cert Ed, CMechE, CElecE, CMarEng, CEng, FIMechE, FIET, FIMarEST; Centre for Factories of the Future (C4FF), UK

Supporting Presentations – 40 Minutes

Professor German De Melo – Application of Quantum Physics in ICE – UPC, Spain

Associate Professor Kayvan Pazouki – Clean Shipping, Newcastle Univeristy, UK

K6 – A New Universal Engine Concept

Captain Heikki Koivisto – Latest Developing in Efficient Shipping, SAMK, FI

Panel Discussions – Job Specification and Training Programme for Seafarers – 25 Minutes

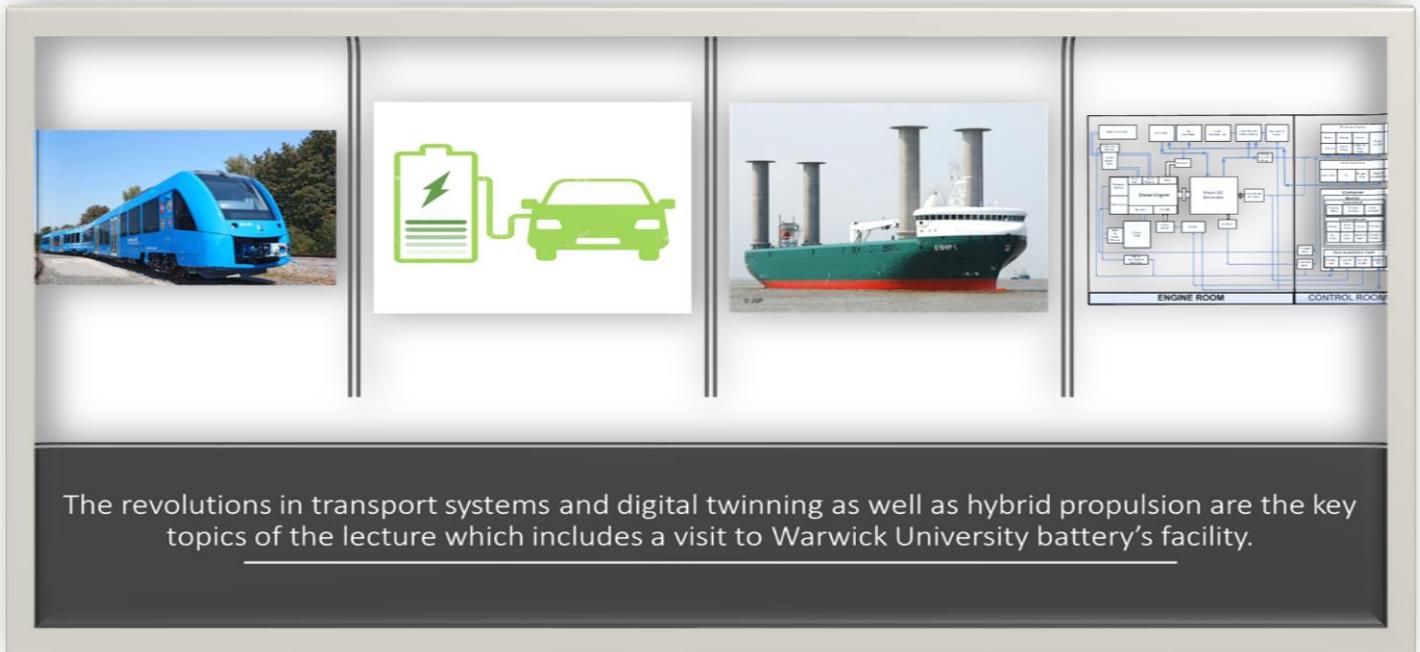
Going Electric – Is This a Wise Solution?

There are pressures on manufacturers of engines in all sectors; marine, automotive and rail/traction to seek solutions to reduce exhaust emissions and reduce fuel consumptions. This visit and lecture will report on the work of Centre for Factories of the Future's (C4FF) and several leading national and international research centres in shipping, automotive and rail/traction and



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focuses on findings of several recent and ongoing projects in engine design and constructions as well as new types of engines viz., hybrid, gas and electric. The intention is to learn about innovations in all three sectors which may be transportable from one sector into another. Use of new fuels and electrification as well as gasification of propulsion systems have led to remarkable breakthroughs. Special references are made to a new type of engine concept. Some of the ideas which were thought crazy not so long ago, such as application of quantum theory in emissions control and energy usage, are included. The workshop is expected to lead to the verification of job specification and course design for those responsible for energy efficiency and emissions reduction in all three sectors.



Supported by Institution of Engineering and Technology and Institution of Marine, Science and Technology

Government Recent Efforts – Climate Assembly UK: the Path to Net Zero

As the UK's first citizens' assembly on climate change prepares to meet for the first time at the end of January, the two panels of stakeholders and researchers helping to ensure the balance and accuracy of the assembly have been announced.

Climate Assembly UK was commissioned by six cross-party House of Commons Select Committees in summer 2019 in response to the Government's commitment to meet net zero carbon emissions by 2050.

Climate Assembly UK will meet for the first time at the end of January and will have three further weekend meetings before the end of March. The 110 assembly members will consider how net zero can be achieved by 2050 and make recommendations on what the Government, businesses, the public and wider UK society should do to reduce carbon emissions.



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At each weekend Members will consider a range of climate-focused topics including transport, energy use in the home, agriculture and consumer choices.

An extensive team of climate specialists, business leaders, constitutional and economic experts and civil society organisations are involved in ensuring Climate Assembly UK is balanced, accurate and comprehensive.

Three groups of experts are considering the Assembly in detail:

- The Expert Leads ensure that Climate Assembly UK upholds the key principles of balance, accuracy and comprehensiveness, and that the assembly focuses on key questions about how to achieve net zero emissions by 2050;
- The Advisory Panel is made up of key stakeholders with an interest or expertise in the areas of climate change that Climate Assembly UK will examine. The Panel offers feedback to the Expert Leads on key aspects of the assembly's design, such as who is invited to speak, the topics of discussion, and the balance of information provided;
- The Academic Panel is made up of researchers working on areas of climate change to be covered by the assembly. The Panel will use its expert knowledge to review written briefings for Assembly members and to support the Expert Leads in their role.

Over the past four months the Expert Leads, Advisory Panel and Academic Panel have been working with the assembly team to develop and consider detailed plans for the design of the assembly and the speakers that will address assembly members. Further consideration will take place in the coming months, and final plans for the assembly will be published in advance of each weekend.

Expert Leads

The four Expert Leads work closely with Involve and Parliament on the design of the assembly and play a key role at the assembly weekends. They are supported by both the Advisory Panel and the Academic Panel. The Expert Leads were announced on 2 November 2019.

They are all specialists in different approaches to tackling climate change. The Expert Leads are:

- Chris Stark, Chief Executive of the Committee of Climate Change;
- Jim Watson, Professor of Energy Policy, University College London and Research Director, UCL Institute of Sustainable Resources;
- Lorraine Whitmarsh, Professor of Environmental Psychology, University of Cardiff, and Director of the UK Centre for Climate Change and Social Transformations;
- Rebecca Willis, Professor in Practice, Lancaster University, specialising in energy and climate governance.



Advisory Panel

The Expert Leads draw on the knowledge and experience of a panel of key stakeholders to ensure that the assembly's content on climate change is balanced, accurate and comprehensive. The 19 members on the Advisory Panel offer feedback on key aspects of the assembly's design including who is invited to give evidence and what they are asked to cover, the questions on which assembly members are asked to give their views, and the written briefings created for assembly members.

The Advisory Panel members are:

- Fernanda Balata, New Economics Foundation
- Tanisha Beebee, Confederation of British Industry (CBI)
- Patrick Begg, National Trust
- Allen Creedy, Federation of Small Businesses (FSB)
- Audrey Gallacher, Energy UK
- Professor Michael Grubb, University College London (UCL) Institute for Sustainable Resources
- Eamonn Ives, Centre for Policy Studies
- Ann Jones, National Federation of Women's Institutes
- Ceris Jones, National Farmers Union (NFU)
- Chaitanya Kumar, Green Alliance
- Kirsten Leggatt, 2050 Climate Group
- Matthew Lesh, Adam Smith Institute
- Nick Molho, Aldersgate Group
- Luke Murphy, Institute for Public Policy Research (IPPR)
- Tim Page, Trades Union Congress (TUC)
- Doug Parr, Greenpeace
- Dr Alan Renwick, Constitution Unit, University College London (UCL)
- Dhara Vyas, Citizens' Advice
- Rebecca Williams, RenewableUK



Academic Panel

The Expert Leads also have the support of a panel of academics whose research is focused on areas of climate change that the assembly will consider. The 13 members of the Academic Panel comment on the written briefings created for assembly members. The Expert Leads have also drawn on the expertise of individual members of the Panel to inform their work on the assembly design.

The Academic Panel members are:

- Professor Jillian Anable, Professor of Transport and Energy, University of Leeds.
- Professor John Barrett, Professor of Energy and Climate Policy, University of Leeds.
- Professor John Barry, Professor of Green Political Economy, Queen's University Belfast.
- Professor Jason Chilvers, Professor of Environment and Society, University of East Anglia.
- Professor Nick Eyre, Professor of Energy and Climate Policy, University of Oxford.
- Dr Clair Gough, Senior Research Fellow with the Tyndall Centre for Climate Change Research, University of Manchester.
- Dr Rosie Green, Assistant Professor in Nutrition and Sustainability, London School of Hygiene & Tropical Medicine.
- Dr Jo House, Reader in Environmental Science and Policy, University of Bristol.
- Professor Tahseen Jafry, Professor of Climate and Social Justice and Director, The Centre for Climate Justice, Glasgow Caledonian University.
- Professor Carly McLachlan, Professor of Climate and Energy Policy, University of Manchester.
- Professor Dale Southerton, Professor in Sociology of Consumption and Organisation, University of Bristol.
- Professor Benjamin Sovacool, Professor of Energy Policy at the Science Policy Research Unit (SPRU) at the University of Sussex.

Climate Assembly UK will meet for its first weekend on Friday 24 January.

Notes to Editors:

- For media bids and enquiries please contact Gary Calder, Senior Media and Communications Officer, House of Commons, +44 (0)20 7219 7556 | +44 (0)7917488622, calderg@parliament.uk.
- [Climate Assembly UK](#) will meet across four weekends to hear balanced evidence on climate change and make recommendations about how the UK should reach its target of net zero carbon emissions by 2050.
- The Expert Leads were suggested by Involve, Sortition Foundation and mySociety in their response to Parliament's tender for contract in Spring 2019, and were approved by the Climate Assembly UK team at the House of Commons.



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- The members of the Advisory Panel were chosen by the Expert Leads and Parliament to represent a broad range of views across different sectors.
- The Academic Panel were chosen by the Expert Leads and Parliament to cover key areas of research relevant to the assembly.
- The Expert Leads will not receive payment for their involvement in Climate Assembly UK, however their usual place of employment have been offered payment to compensate for the experts' time away from their normal role.
- The Advisory Panel will not be receiving payment for their involvement.
- The Academic Panel will not be receiving payment for their involvement.
- The Energy and Climate Intelligence Unit is supporting the communication outreach around Climate Assembly UK weekends and results.
- Climate Assembly UK was commissioned by six cross-party House of Commons Select Committees: Business, Energy and Industrial Strategy; Environmental Audit; Housing, Communities and Local Government; Science and Technology; Transport; and Treasury.
- Former Prime Minister Theresa May [announced](#) the Government's commitment for net zero by 2050 on 12 June 2019, following a recommendation by independent advisors the Committee on Climate Change. The 2019 Conservative party manifesto reaffirmed the Government's commitment to this target.
- The [announcement](#) by the six Select Committees holding a citizens assembly on climate change is in direct response to Government policy on net zero and was announced on 20 June 2019.
- The policy for net zero carbon emissions by 2050 [became law](#) on 27 June 2019, making the UK the first major economy in the world to legislate for net zero.

Year of Efficient Ship

MariFuture has continued with the publication of a Development Paper on efficient ship each month throughout 2019 in support of the 'Year of Efficient Ship' due to the importance of the subject in order to make our members and partners aware of the impact of toxic pollutants from shipping; and the means available to us to reduce the level and amounts of the emissions from ships to a minimum level. In parallel, we will publish the results of our air quality research carried out to investigate the air quality in several cities and towns, focusing mainly in the UK.

New Accepted EU Funded Projects



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PROMETHEUS - This proposal was accepted in mid- August 2019 and concerns the mental well being of ship crew. The project was expected to start in October 2019. The first meeting of the partners was on the 18-19 November 2019 in Athens and was attended by Katie Parker (Research Officer) and Professor Ziarati. In January 2020, C4FF Research Officer and Professor Ziarati have continued to carry out desk research to initiate the content of the project. We have also put together the quarterly report ready for submission early February 2020. Our next meeting with the partners is on the 6th -8th April in Finland. The photo below shows the partners meeting from November based in Athens.

The meeting in Finland was cancelled due to Corona Virus. The project is progressing well and C4FF is producing their 2nd quarterly report (1 February – 30 April).

The meeting in the UK is also cancelled for the time being. More on the progress of this project in the next month News.



GreenShip - This is a continuation of MariEMS initiative. The presentation at IMO at the HTW6 on 29th April 2019 by Capt. Zak (Solent University) and Professor Ziarati (C4FF, General Coordinator of MariFuture) describing how the MariEMS e-learning training courses can be accessed and used online, created a great deal of interest from several countries. This led to a review of a recently submitted proposal viz., GreenShip, to EU's Erasmus+ programme with a view to incorporate several countries as associated members.

This project started in October 2019 when the details were published in MariFuture. The kick-off meeting took place in Barcelona on 9-11 December 2019. Please see the photos of the meeting in action below:



The first partner meeting for Greenship was in the UK on the 27th and 28th February 2020. This second Greenship Partner Meeting combined a Multiplier Event with IMechE lectures and visit to the Battery production at Warwick Manufacturing Group and a keynote lecture at Warwick University. The lectures and battery production visit went well. Please see some of the photos of the event below:



Figure 1 and 2 (above) is at Warwick University Lecture Theatre with Professor Ziarati and Captain Heikki.



Figure 3 and 4 is of the Lecture Theatre at Warwick University showing Professor German presenting.



Figure 5 and 6 (above) is of the partner meetings based at Berkeley House.



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The GreenShip project is progressing as planned but next partner meeting in Barcelona was cancelled due to the Corona Virus. More about the progress of the project in the next month News.

Mentor Project

The last partner meeting took place in Lausanne, Switzerland on 25-26 September 2019.

The #Mentor4WBL@EU Project was designed after the European Council prompted the EU Member States to increase "substantially the number of apprenticeships and traineeships to ensure that they represent real opportunities for young people, in cooperation with social partners and where possible integrated into education programmes". In addition, according to the newly adopted "European Framework for Quality and Effective Apprenticeships" (October 2017), European Commission identifies 14 key criteria that Member States and stakeholders should use to develop quality and effective apprenticeships. Among the specific criteria, is made a concrete reference on the necessity to exist a specific procedure for teachers, trainers and in company mentors to "update their skills and competences in order to train apprentices according to the latest teaching and training methods and labour market needs". In-company WBL mentors are in the core of quality WBL. However, in most European countries, they lack standardized support and guidance which will set the expectations and boundaries clarifying and ensuring their successful contribution in the learning process. Based on the above and the identification of the WBL needs and gaps by NetWBL, there is a significant need for the development of standards and qualifications that would identify certain knowledge, skills and competences. They should also provide adequate assessment that will lead to valid certification and August 2019 marifuture.org News ensure quality in-company WBL mentorship in enterprises providing apprenticeships and internships. More information about the project will be available on the project website when it is published. The project meeting of Mentor took place in Kenilworth, 10-11th April 2019. The first workshop of the project was held on 10th April 2019 at Warwick University. C4FF coordinated the meetings during the two-day event and take a lead in the workshop.

The last few months the focus of the project has been on revising IO 1 and IO 2 and conclude IO 3 and IO 4. Partners have met via Skype on several times to discuss the Intellectual Outputs.

UniBus

Due to COVID-19 UniBus Partner meeting which was planned for Wednesday 18th & Thursday 19th March 2020 in Vaasa, Finland was cancelled and was hosted online via Skype. The partners discussed the project progress. Partners identified that pandemic has posed a greater risk on the project specially on project piloting. Partners proposed to apply for six months extension. The partners have developed a full version of early prototype of the cloud platform, coordinated by C4FF. The prototype is in the form of user-interface functional sketches, to help investigate and refine acceptance and interconnections among services in terms of required data. This cloud platform is based on S-o-Architecture and will support the services proposed in UniBus Concept. The architecture provides horizontal services (knowledge search engine, data persistence, etc) and vertical services (collaboration project management: service to support definition of project challenges by companies, to help selection of challenges by HEIs, to support the search of finance etc). The behaviour and architecture of the cloud platform is modelled on the Service-Oriented Modelling Framework (SOMF), and the result of this activity will be included as part of the design documentation led by C4FF.



PoliUniBus

The partner had a second partner meeting 5th – 6th March 2020 in Istanbul hosted by Actuate. The partners reviewed PoliUniBus IO1 and Discussions took place on Output 01 Job Specification; Output 02 Methodology led by LUT. Thereafter, partners discussed the implications for Cloud Platform; implications for testing.

This project concerns the policy making at the highest levels in bringing the two worlds of academia and industry together. This project was expected to start in October 2019. The first workshop of the project was held on 21st and 22nd November 2019 at the University of Liverpool based in London. The aims of the project and the outputs were clarified. There were also discussions about the plan moving forward on the first few outputs.



Daytime Project – The project is progressing well. The partners are having regular online meeting to discuss and report project progress. C4FF has continue offering its support in various areas of the project. C4FF team is currently working on standardisation of project outputs and preparing a plan to reach out to various standardisation committee. **The partners have also started working on "Specification of the DayTiMe Toolbox architecture and API requirements"**. Because of the Covid-19 virus, the partners had to skip the phase to phase workshop in Istanbul, the planning now is to have a Teams meeting instead.

OPTIMUM - C4FF continue its support to the project. The project got extension till April 2021. The project aims to support innovative concepts for engineering, commissioning, control and supervision of smart manufacturing and material handling. It will be in line with European, National and international initiatives towards digital manufacturing, closely related to on-going activities in working groups around the German initiative Industry 4.0. Taking the results from



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ongoing architectural, component and ontology discussions, OPTIMUM's major goals are: improvement of the aspects of distributed control, adaptation of (I)IoT technologies to real industrial needs, enhancement of control and applications by context and location awareness as well as application design and common-model based 3D engineering and supervision.

ACTS Plus

The project assessment concluded in July 2019. The project received a grade of 8.1 which is considered a high grade. C4FF took a lead in preparing the final report. The project has commenced its post funding period in April 2019. The new simulator facilities the Solent University which was reported to be one of the best in the world and the ACTS Plus Advanced eCOLREGS (www.advanced.ecolregs.com) will be implemented at the university when the new simulator system centre is fully operational.

New Papers for major International conferences

Two new papers were prepared and submitted to the International Maritime Lecturers Association Conference in Georgia which took place in October 2019. One concerns Maritime English reporting on the work carried out in MariLANG project and the second is on the outcomes of the ACTS Plus project. As reported earlier Capt. Zakirul (Solent University) and Professor Ziarati (C4FF, General Coordinator of MariFuture) jointly presented the MariEMS Project and Courses for 'ship energy management trainees and trainers' to the participant at the IMO HTW6 meeting. The presentation was organised and authorised by the UK Maritime Coastguard Agency (MCA). Both Capt. Zakirul and Professor Reza attended the HTW6 as a member of UK delegation. The project partners would wish to thank MCA and IMO for this opportunity. The following are several photos from the event. Other MariFuture projects and new proposals were discussed during the visit to IMO with interested parties. A third paper is being prepared on RZ Multiple-choice which relates to the confidence assessment which removes the guessing dilemma in answering these types of questions in tests and examinations. The technique has played a major role in re-introduction of multiple-choice questions in e-learning applications.

A paper was submitted to IAMU 2020 conference and another to a Conference in Spain. More on these papers in the April 2020 News.

Cyber Security

New projects are being developed and a meeting with leading IT specialists have been arranged at C4FF. There will be an announcement on the formation of a Cyber Security team in the near future.

Air Quality Group and Conference

An Air Quality Steering Committee meeting was held at Berkeley House on the 3rd December 2019 and 21st January 2020 and plans were discussed with regards to potential proposals and current developments going on within the local and global areas.

Following this, C4FF have been looking into what other countries are doing about this Global Climate Emergency. In order to understand this, the Professor Reza attended 'The UN Climate Change Conference – COP 25.' It took place in Madrid, Spain from 2 to 13 December 2019 and



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considered countries negotiations on ambitious plans to limit global warming to 1.5°C, in line with the Paris Agreement. This is important because the next 14 months are critical for global efforts to control greenhouse gas emissions, which hit a record high in 2018. Under the Paris Agreement, governments agreed to update their climate plans by 2020. COP 25 will bring together heads of state, climate officials, non-governmental organizations, youth groups and local movements and other non-state actors to respond to the climate emergency. The next step is for the countries to update their climate plans and boost their ambition by 2020 in line with the Paris Agreement. COP 25 is a moment to ensure they are aware of the 2020 calendar and start doing their homework. Below is figure 2 which shows some photos of the inside and outside of the conference and figure 1 is the Secretary-General expressing his views on the matter.



Figure 1: The Secretary General



Figure 2: The Conference Setting

Dr Martin Ziarati