



All Party Parliamentary Group for the Waterways

General Meeting

Tuesday 14th September 2021 starting at 9.45am by video meeting

“Freight and Sustainability on the Inland Waterways”

Waterways APPG members present - Michael Fabricant MP (Chair),
Simon Baynes MP, Lord Hodgson of Astley Abbots

Apologies had been received from Heather Wheeler MP and Lord Bradshaw.

Also in attendance were three officials from Defra and 29 representatives of navigation authorities and waterway organisations.

Welcome and Introductions

Michael Fabricant MP, Chair of the Group, welcomed parliamentarians, department officials and representatives of navigation authorities and waterway organisations to the meeting.

Paul Rodgers, National Chairman of The Inland Waterways Association (secretariat) ran through the Zoom video meeting functions and explained how attendees could raise questions later on.

Michael Fabricant MP then introduced the first speaker, on the subject of “Freight and sustainability on the inland waterways”

“Inland Waterways – Britain’s underutilised resource” - David Lowe of the Commercial Boat Operators Association

David Lowe started by outlining his experience with passenger and freight boats over 50 years. He is currently Chairman of the Commercial Boat Operators Association as well as a member of IWA’s Freight Group and Canal & River Trust’s Freight Steering Group.

David outlined on a map the key commercial freight waterways in the UK and particularly in the North East, which are capable of taking barges between 150 tonnes up to 1000 tonnes. Ships up to 3000 tonnes can access some locations. Canal & River Trust has designated some of its North East waterways as priority freight waterways.

David noted that there are niche opportunities on the smaller waterways eg 45 tonnes of steel carried to London recently, and in getting building materials to waterside developments. A promising development in mainland Europe is the concept of “last mile” deliveries, the movement of goods to their final canalside locations, eg barrels of beer to canalside bars.

David noted that Europe also demonstrates that properly managed, the mixed use of commercial waterways shouldn't cause any conflicts between commercial traffic and a wide range of pleasure boats.

David then outlined examples of different types of craft currently operating in the North East: 500 tonnes converted tankers currently carrying aggregate on the Aire & Calder, a 3000 tonnes vessel upstream of Goole on the River Ouse, and oil tankers carrying oil to Rotherham. In London there is the carriage of waste, grain and building materials for a riverside development project. Waste barges are currently carrying 750,000 tonnes of waste per year from London to North Kent, then carrying 200,000 tonnes a year of ash from there to Tilbury, saving 100,000 lorry journeys each year. On the River Mersey and the Manchester Ship Canal there are tankers operating and grain carried between Liverpool and Runcorn. On the River Severn there is 250,000 tonnes of sand carried each year in 150 tonne capacity barges. Abnormal Indivisible Loads are also carried on the waterways.

David outlined some other potential traffics: effluent between water treatment sites, waste from city centres to recycling plants, RDF for power generation, biomass/pellets for power generation, import/export via ports and wharves (steel, grain, timber, containers etc), marine and quarried aggregate, and containers.

David noted that the Aire & Calder Navigation could be upgraded fairly easily, with just one lock (Bulhome) needing to be rebuilt to give 22ft/6.65 m beam. This would allow 700 tonne and/or container craft. This would enable longer and wider craft, to a continental size, and has the potential to allow 10,000 tonnes a day to be carried on the Aire & Calder Navigation.

David showed a demonstration of a small container barge to demonstrate that containers are possible on smaller waterways. The proposed Port of Leeds at Stourton would be capable of handling 200,000 tonnes of cargo per year.

David noted that Government Policy ('Decarbonising Transport') says it will '...support and encourage modal shift of freight from road to more sustainable alternatives such as rail, cargo bike, and inland waterways' but Canal & River Trust (CRT) has insufficient funds as it is to maintain the system and will need additional funding to develop freight.

Great British Rail is to have a statutory duty to promote rail freight to secure economic, environmental, and social benefits for the nation, with the government issuing guidance on its priorities for rail freight in each funding settlement. David suggested that the Great British Rail policy should be adapted to apply to CRT even though it is an arms length charity, so that CRT would be obliged – on the Commercial Waterways (1968 Act) - to promote water freight to secure economic, environmental and social benefits for the nation.

David suggested that Government should be asked to issue guidance on its priorities for water freight in each CRT funding settlement; with part of that being additional funding – coming from DfT – which would specifically cover the Commercial waterways which DfT wished (as part of its strategic direction) to see improved.

David outlined some further suggestions which for modest funding would bring big gains:

- DfT to assume responsibility for water freight on all large waterways
- DfT to re-introduce Freight Facility Grants for wharves, handling facilities etc.
- DfT to provide funding for the larger waterways - modernising and renewing lock operating systems including centralised control, dredging, bye-passes etc.

David concluded his presentation by suggesting that DfT should consult widely with industry partners and other interest groups, and outlined the significant environmental and economic benefits:

- Reduction of CO₂, particulates, tyre wear, brake dust, road wear

- Reduction of road congestion, accidents etc = less need for road building
- Bringing interest, colour, vibrancy, and purpose to our inland waterways all year
- Reduced costs
- Shortage of lorry drivers
- More efficient distribution
- Better connectivity for ports

“How waterborne freight can contribute to the Government’s 25-year Environment Plan” – John Pomfret, The Inland Waterways Association

John Pomfret, Chair of IWA’s Freight Group, outlined the existing freight waterways and gave an overview of current waterborne transport in the UK. He noted that most of the waterborne freight uses the sea, with 13% of domestic freight transport (25 billion tonne-km) in 2019 being by water – mainly using UK coastal waters. Inland waterways accounted for 1.7 billion tonne-km.

John noted that there is capacity for much more. UK inland waterways provide barge links from ports to large inland conurbations (e.g. London, Manchester, Leeds, Sheffield), direct maritime links by river and sea ships from inland ports in continental Europe to inland ports in UK. Waterborne freight can be competitive where vessels are large or environmental/social factors are taken into account. Data suggests that on fuel efficiency – many studies suggest that waterway traffic uses about a quarter of the fuel that road transport does. Waterborne transport efficiency is increased further where tides can be used.

John then outlined the ways in which transfer of freight to inland waterways can contribute to several themes contained in the UK’s 25 year Environment Plan, published in 2018:

- **Clean air** - Lower fuel use by inland waterway vessels compared with road HGVs means that modal shift of freight from road to waterways contributes directly to achievement of the clean air target in the short/medium term. Ability of waterway freight craft to accommodate batteries or other non-fossil fuel propulsion equipment means that contribution to air quality targets can be maintained long term.
- **Clean water** - Risk of spills from accidents involving waterway freight vessels is less than 25% of risk from road traffic accidents.
- **Minimizing pollution and waste** - Long life of waterway craft means that end-of-life waste is minimal compared with road vehicles. The plan classes noise as pollution. Estimated annual social cost of urban road noise in England is £7 billion to £10 billion. Inland waterway craft are quiet and separation from receptors is usually greater than for road or rail.
- **Urban congestion and effects of HGV on rural roads** - UK freight waterways have significant unused capacity and congestion is not a widespread problem. Modal shift may produce significant reductions in road congestion, especially in urban areas. Waterway transport can often allow waterside development (especially minerals extraction) to proceed in cases where road access is unsuitable for use by HGVs.

John then outlined some examples of opportunities realised:

- There has been a progressive increase in inland waterway traffic on the Thames to 1 billion tonne-km in 2019 (slight dip in 2020 due to pandemic). The Thames can accommodate large vessels but safeguarding of wharves very important. Examples range from 1600 dwt barge carrying construction spoil on the Thames inland waterway to a new parcels service.

- There is much new actual/potential freight traffic on CRT's Humber-based waterways (designated as priority freight waterways) including sea dredged aggregates to Leeds. Planning permission has been granted for a new quarry based on use of waterway. Ongoing investigation of upgrading to take larger vessels. The Aire & Calder Navigation is now repaired and barges will be able to take full 500 tonne loads when dredging is complete.
- The River Severn saw aggregates traffic retained after the move to a new quarry site and is an example of where rural roads not suitable. It was a planning requirement to use waterborne transport. Initial grant funding for wharves has enabled barges carrying 250,000 approximately tonnes annually sand on River Severn from riverside quarry to processing plant.
- Wisbech has a shipping service operated directly by Wisbech inland port, with two ships (each 2300 dwt) are owned by the port and operate a regular fortnightly service for timber from Riga to Wisbech. Flexibility has led to growth in other traffics as well and the port now handles nearly 100 vessels annually.

John also outlined some examples from Europe, including an upstream port in Paris which removes traffic from roads in Paris conurbation. Container traffic has doubled in 2 years. A similar scheme would benefit London but the planning system mitigates against this.

John suggested that what is needed to achieve more waterborne freight in the UK is a change in mind-set. Hauliers are more familiar with road transport which can cause resistance to change. We need better promotion of inland water transport coupled with incentives for modal shift. The Modal Shift Revenue Support scheme should give more weight to environmental benefits of waterborne transport (in particular by including all motorway miles). There should be a combination of funding support and planning conditions. Greater weight should be given to encouraging modal shift to water in planning guidance. Planning authorities need to be made aware of the opportunities and wider safeguarding of existing wharves is essential.

In terms of the infrastructure required, John outlined that modernisation and upgrading was required on some non-tidal waterways, especially those operated by CRT. He suggested that these requirements should be taken into account in the next Government funding settlement for CRT. He suggested that there should also be additional funding from DfT for freight – probably through grant systems.

John noted that innovation is important. There needs to be a gradual transition to greener propulsion systems, and development of new vessel types. Funding is required for research and development for these, along with other initiatives such as rapid deployment wharf facilities – e.g. floating piers for timber traffics in Scotland.

John ended his presentation by noting that IWA campaigns about all 7000 miles of inland waterways, of which 5000 are currently navigable. Of these, 1300 miles have significant potential for freight carriage.

“Decarbonising Inland Waterways in the UK” – Dr Momchil Terziev and Dr Tahsin Tezdogan, Strathclyde University Faculty of Engineering

Dr Tezdogan started by outlining their project proposal, which has been submitted to the Engineering and Physical Sciences Research Council for £3.8 million funding, on how the UK inland waterways can be decarbonised. They have used a scale model of the Suez Canal at the Kelvin Hydrodynamics Laboratory to predict energy consumption of boats, which has been modelled numerically at the supercomputer centre at the University of Strathclyde.

Dr Terziev gave some background to their project. There are 5000 miles of navigable rivers and canals in the UK. The EU has 23,000 miles of navigable inland waterways, with 13 member states being inter-connected; the US has more than 25,000 miles of navigable waterways; China has 75,000 miles. In the UK each km of inland waterway contributes between £109,000 and £730,000 to the economy each year. In the UK there are an estimated 80,000 powered craft on the waterways, the majority of which are powered by hydrocarbon engines. If the UK is to reach its climate change targets and zero carbon emissions by 2050, all sectors must take steps towards decarbonising.

Dr Terziev outlined the overall aims of the work which aims to ensure that inland waterways continue to be sustainable for future generations, and continue to deliver benefits to society and the economy. The research seeks to answer the following questions:

1. How can dredging be used to reduce greenhouse gas emissions from inland waterways in the most cost-effective and environmental way?
2. How can we adapt innovative green propulsion technology to the inland waterways fleet to contribute to the zero emissions target for future generations?
3. Can we equip boat operators with a user-friendly tool (such as a mobile phone application) to inform them of the best operational conditions to ensure minimum emissions from their vessel?

Dr Terziev talked through a diagram which described the project:

- They will start with some environmental data, obtained from stakeholders Scottish Canals and Canal & River Trust, on the depth and width of waterways. That information will feed into hydrodynamic analysis to create a model scale replica in the Kelvin Hydrodynamics Laboratory tank. They will then look at the effect of dredging on the energy performance of a vessel, and predicting the optimum shape of a canal where little dredging is needed to improve the performance of a boat considerably. They will also look at speed-resistance relationship (how much power is needed) and performance and criteria (erosion/damage to canal).
- This information will feed into two different teams, one based at University of Newcastle which will look at the short, medium and long term approaches of green vessel powering, eg biofuels, electric propulsion, hydrogen.
- Performance and criteria will feed into the second team, at the University of Strathclyde supported by the University of the Highlands and Islands, who will work on the operational performance decision support system. This would develop a low cost sensor that can be attached to the hull of a boat which would continuously scan the cross section of the canal. This info would be fed into a phone which would advise the boat operator whether to slow down or speed up for optimum performance. It would also be tied into an AI algorithm which would inform navigation authorities which parts of their canal network require dredging.
- Logisticians and economists at Liverpool John Moore University will then use this information to monetise the public health benefit of reducing emissions. They will also look at which companies and businesses could benefit from moving more goods on the inland waterways. They will also take info about dredging, sediment disposal and re-use. If they can demonstrate that there is a net benefit of the cost of dredging, then that will go a long way towards improving the maintenance of the canal network.
- The team looking at dredging will also work with biochemists and geneticist at the University of Highlands and Islands to look at the environmental impacts of dredging. They would ensure that any of the proposals don't cause any damage to the

environment. eg emission of greenhouse gases when dredging is carried out, by looking at ways of reversing this, eg absorbing instead of emitting the Co2 from dredging.

Dr Terziev concluded by explaining that the research project aims to take a holistic approach at looking at all aspects of reducing greenhouse gas emissions on the inland waterways. An integrated framework for decarbonisation and project dissemination means that all teams will work together. They will look at producing a set of documents and proposals for stakeholders and decision makers so that they are not only aiming to contribute to the science, but also to the public engagement and debate and stakeholder understanding of these complex issues.

Questions and Answers/Discussion

Michael Fabricant MP thanked the speakers for the three presentations, and asked for any questions.

Jonathan Mosse, IWA's Sustainable Boating Group, noted that the presentations looked at a future where developments in waterways freight are orchestrated by Department for Transport, but Canal & River Trust currently comes under Defra's jurisdiction. He asked whether there was a mechanism whereby CRT can continue under Defra, but where DfT can get involved in CRT's freight and transport activities?"

Michael Fabricant explained that the machinery of government, ie which department has responsibility for what, is determined by No 10 which aims to avoid having overlaps in power to avoid lots of joint committees between departments. He assumed that Canal & River Trust would prefer to stay under Defra, and invited Richard Parry, CEO of Canal & River Trust, to respond on this point.

Richard Parry confirmed that while Canal & River Trust wouldn't want to change its ongoing relationship with Defra, and its good relationship with department officials, it does already have interfaces into DfT, as well as DCMS and other government departments with an interest in the various activities they carry out. Defra makes a lot of sense in terms of environmental and other benefits, but DfT is also relevant in terms of freight and active travel. CRT would welcome additional funding from DfT, they have had some funding already around active travel, but they wouldn't want to change the existing arrangements with Defra, as they don't particularly handicap them.

Michael Fabricant noted that after the meeting the Group will follow this up by writing to DfT to ask if some of the monies that are available could be diverted to freight on the inland waterways.

Terry Cavender, Buckingham Canal Society. BCS is working with a quarry about using the canal to reduce lorry movements through local villages, as part of the restoration. Terry asked if the APPG could request that the Secretary of State for MHCLG should issue positive direction to CEOs of Local Authorities, and elected mayors, that they should actively engage and support and protect all waterways be they existing, new or in phases of restoration. This should be under themes of carbon reduction (ie freight), wellbeing and climate change including water management.

Michael Fabricant noted that Andy Street, Mayor of the West Midlands, was very keen on the inland waterways, as was Andy Burnham, Mayor of Manchester.

Paul Rodgers noted that IWA's recent Festival of Water was held in Worcester, where the local authority is turning its face towards the river and the canal and there were many encouraging conversations with council representatives.

A question was asked anonymously: When large scale projects, like HS2 or the East West Rail link, are developed, could some regard be given to the potential of moving freight by water, either alongside the rail project or instead of it? In response, David Lowe responded that CBOA and CRT have had encouraging dialogue with HS2 about moving construction materials by water, particularly in the Leeds area. John Pomfret noted that it was important not to confuse assessment of demand for passenger transport with assessment of demand for freight transport, and any proposal for new freight waterways needs to be based on the fact that there is a demand for freight traffic flow along that route.

Simon Baynes MP noted that there is very fine waterways heritage in Wales, and in his constituency of Clwyd South they have put together a Levelling Up fund bid which includes the World Heritage Site, Pontcysyllte Aqueduct and the Llangollen railway. He asked if the presenters could say anything about freight opportunities in Wales. David Lowe responded that there had been initial discussions with Associated British Ports and other interested parties about the possibility of an inland port at Worcester, which would include freight from the Welsh ports.

Summary, actions, and closing remarks

Michael Fabricant MP thanked the four speakers and all attendees for taking part in what was an extremely useful discussion. He closed the meeting by confirming that government does take time to respond to the points that are raised by the Group. The letter written following the previous meeting, to MHCLG, had still not received a reply.

The presentations from this meeting are available on request from Alison Smedley, APPGW Secretariat by emailing alison.smedley@waterways.org.uk.



The Inland Waterways Association provides the secretariat to the All Party Parliamentary Group for the Waterways.