



Newsletter – July 2018

RRfW programme news

Submit papers for RRfW Research Topic in Frontiers journal by 15 October

RRfW is coordinating a Research Topic on resource recovery from waste, in collaboration with scientific publishing platform Frontiers and its associated family of journals. We strongly encourage participation from across the research community to raise visibility and drive momentum in the resource recovery from waste area.



The Research Topic aims to bring together research works falling under, but not limited to, the following areas: Waste streams; RRfW technologies; “Whole system” design and improvement; Methodological approaches to resource/waste value appraisal; and Waste management/use associated impacts.

As distinct from special issues in other journals, Research Topics in Frontiers act to bring together articles published in any one of the participating Frontiers journals via a dedicated webpage. Submitted papers should fit within the scope of the selected journal specialty as well as within the resource recovery from waste Research Topic. Further details on how Research Topics work and participating journals can be found in our [Research Topic blog](#).

Manuscripts should be submitted by 15 October and publication is expected by the end of the year. If you are interested in contributing to this Research Topic, please [contact us](#) to receive a direct email with the full participation details.

RRfW says goodbye and thank you to Anne Velenturf

Anne Velenturf has now left the Resource Recovery from Waste programme to take up a new position at the University of Exeter as industrial impact fellow on the Environmental Growth for Business project. She will be working to help companies make their business models more circular and in tune with the environment.



The RRfW programme team would like to say an enormous thank you to Anne for all her hard work coordinating and pushing forward RRfW, she has done a fantastic job and we are sad to see her go. However, this is not the end for RRfW as the programme continues until March 2019, with the final conference on 16th Jan 2019. Juliet Jopson will be picking up on the coordination tasks and we hope Anne will continue to collaborate with the programme where possible, so it is more of a 'see you around' rather than goodbye. For Anne's more personal reflections on her time on RRfW, please check out her [recent blog](#).

New project with Defra applies the CVORR approach to identify policy intervention points for plastic packaging

A 3 month project between the University of Leeds and Defra will look to apply the 'CVORR approach' to identify local, regional and national intervention points in resource recovery systems for influencing the policy agenda. In particular, the project will aim to uncover the specificities and pressing issues of the plastic packaging system in England, and identify key metrics that can be used to track and assess sustainability progress. Outputs from this project will contribute to developing Defra's Resources and Waste Strategy, and to underpin changes in public policies at both local and national scale.

The project is funded by an ESRC Impact Acceleration Account (IAA) Business Boost Award, worth £16.5K, and is co-led by Dr Eleni Iacovidou (Research Fellow on Resource and Waste Management) and Prof. Andrew Brown (Professor of Economics and Political Economy), both of the University of Leeds. It started on 5th July and will run through to the beginning of October.

Plastic Fantastic - CVORR on Radio 4

Phil Purnell, of RRfW & CVORR, joined Mark Miodownik on the BBC Radio 4 series 'Plastic Fantastic' to talk about the multi-dimensional value of plastic. The series first aired from 15-29 May, and is currently [still available on playback](#). The series explores our love/hate relationship with plastic, why we have ended up with oceans of waste blighting the environment and what science and society can do about it.

Changes in policy are needed to unlock the potential of metal recovery from industrial waste

The current regulatory framework for industrial wastes was not designed with the circular economy in mind and policies will be need to become more integrated in order to unlock the potential of resource recovery to contribute to clean growth, create social benefits and maintain environmental protection.

This is one of the key recommendations contained in RRfW's recent policy and practice note '[Making the most of industrial wastes: strengthening resource security of valuable metals for clean growth in the UK](#)'. Industrial wastes from the mining and manufacturing sectors contain metals such as vanadium, cobalt, lithium and rare-earth elements. Many of these are currently 100% imported and also necessary for clean technologies including wind turbines, solar panels, energy storage and a multitude of electronics. Recovering these resources from industrial wastes has the potential to contribute towards the UK's ambition for clean growth, resource security and reducing carbon emissions. Drawing on 5 years of research, RRfW has pulled together their work on recovering metals from industrial waste to highlight where changes in policy are necessary in order to promote circular economy approaches in industrial waste management.

A second policy & practice note is being developed on optimising resource recovery from organic waste stream and will be available shortly on the [RRfW policy webpage](#).

RRfW engages with Defra's Resource & Waste Strategy consultations

Summer 2018 has been a busy one for policy engagement with consultations for Defra's Resources and Waste Strategy well underway. The RRfW policy team has had a number of opportunities to contribute to discussions around the strategy, as well as an invitation to present at Defra's Waste Sector Group on Data in June. The policy team represented the RRfW programme at a meeting on the 'Targets, Metrics and Monitoring needs for the Resource and Waste strategy' and at a Defra academics workshop on evidence for the Resource and Waste strategy, both of which were held in June. In the coming months RRfW will look to contribute further to the Strategy development, and resources policy more widely, through the sharing of recommendations built on evidence from RRfW research. Overarching programme policy recommendations on 'The Value of Resources' will be launched in a Westminster event this autumn (see 'RRfW meetings' section below for further details). For further information or if you wish to contribute to the policy engagement please contact [Rachel Marshall](#).

RRfW meetings

Ministerial briefing event to be rescheduled

The Ministerial briefing event on 'A Strategy to Valuing Resources and Wastes', originally due to happen on 19 June 2018, has been postponed and will now happen in the autumn. The meeting is being co-organised between RRfW and Policy Connect All-Party Parliamentary Sustainable Resources Group in London. The event aims to strengthen dialogue between academia, industry and policy-makers. Resource Recovery from Waste will share their policy recommendations based on 5 years of research and will present a business case for government intervention. Further details will be available on the [RRfW policy webpage](#) once they are confirmed.

Save the date: RRfW final conference 16th January 2019

The final RRfW annual conference will take place on 16th January 2019 at One Great George Street in London. The meeting will look to celebrate the achievements of the programme, examine the implications of this work on the policy landscape and look ahead to the next steps necessary to realise resource recovery in the UK as part of a circular economy. Further details to be announced as they are confirmed.

Publications and Presentations

RRfW programme publications

RRfW has been working with academia, government and industry to develop a shared vision and approach for the transition to a circular economy. Insights from our engagement with governmental actors have recently been published in the journal [Sustainability](#). In the paper, the authors compare the views of waste and resource specialists from a diversity of governmental departments with the Governments' formal published visions, strategies, and plans for the promotion of a circular economy, resource recovery, and waste management in England, Wales, Northern Ireland, and Scotland. The comparison showed that while parts of the vision described by specialists have already been incorporated in policy and regulation, there are large differences in the extent to which this has been achieved across the four nations in the UK, with Wales leading the charge and England at the back of the pack.

This research has been picked up and commented on by the Welsh Minister for the Environment, Hannah Blythyn, leading to news items in [Rebnews](#), [British Plastics](#) and [Government Europa](#). The key messages and recommendations from the paper are further discussed in our RRfW blog [Urgent action needed by government departments to keep circular economy on track post-Brexit](#).

For the full list of RRfW publications, please see our [publications page](#). For the policy and practice note mentioned in the news section above, please see our [policy page](#).

INSPIRE

Dr Danni Sinnett (Centre for Sustainable Planning and Environments, University of the West of England) has had her paper 'Going to waste? The potential impacts on nature conservation and cultural heritage from resource recovery on former mineral extraction sites in England and Wales' accepted in the Journal of Environmental Planning and Management. This reports on the ecological, geological and cultural designations associated with former mine sites. Dr Danni Sinnett and Dr Margarida Sardo (Science Communication Unit) will be presenting their work examining the views of residents of former mining landscapes at the [AusIMM Mine Waste and Tailings Conference 2018](#) in Brisbane on 23rd and 24th July 2018: [read abstract](#).

R3AW

Recent outputs from the R3AW project continue to help improve the basis for value recovery and improved environmental understanding of steel slags. A recent paper in [Environmental Science and Technology](#) uses a multi-decadal dataset to highlight the relatively small fraction of potential carbon uptake in alkaline steel slags that has been realised at a site in north east England. Our partner project under the NERC/EPSRC/ESRC/BEIS [Greenhouse Gas Removal from the Atmosphere](#) theme is looking at engineering options for optimising atmospheric carbon uptake in slags in the future. Another paper from the same site in [Science of the Total Environment](#) shows the controls on vanadium fate in surface waters. Vanadium can be highly toxic in surface waters and the study demonstrates the importance of rapid carbonate precipitation and iron oxides in surface settings in limiting its mobility and potential toxicity. A final paper in the [Journal of Environmental Management](#) shows how acidophile bacteria from mine drainage sites can be used to accelerate metal release from steel slags in pilot laboratory studies. All papers are, or will soon be, available open access at the above links. (Image: Carbonate deposits downstream of the former site of the Consett Iron and Steel Works into which atmospheric carbon dioxide is sequestered. Courtesy of Will Mayes).



CVORR

Two CVORR papers have been accepted for presentation at the [15th Congress of the International Society for Ecological Economics \(ISEE\)](#) 10-12 September 2018 in Puebla, Mexico:

- "Exploring the 'Systems of Provision' Approach as New Paradigm for Assessment and Appraisal of Resource Recovery Systems?" by A Brown & O Zwirner
- "Environmentally extended circular systems of provision approach for integrated socio-ecological economic analysis." by O Zwirner & A Brown

Presentations were also given at the following meetings earlier this year:

- "Closing the loop on plastic packaging" presented at the Climate Action North East Regional Conference event on "Plastic Pollution – What's the solution", 5 June 2018, Sunderland, UK
- "CVORR: Complex value optimization for resource recovery from waste – a new tool" by Eleni Iacovidou, Costas Velis and Phil Purnell, presented at the 2nd Conference on Life Cycle Assessment of waste - Integrated Residual Resource Management and Assessment, 18-22 June, Copenhagen, Denmark

B3

Prof Barrie Johnson, Bangor University, has presented material from the B3 project at three conferences so far this year:

- [AIMS Mines of the Future conference](#). "The evolution, current status and future prospects for using biotechnologies in the mineral extraction and metal recovery sectors". Invited keynote speaker. Aachen, Germany, May 2018

- [5th International Symposium on Microbial Sulfur Metabolism](#). “Design and application of sulfidogenic bioreactors targeting metal capture from, and mitigation of, acidic waste-waters”. Vienna, Austria, April 2018.
- [COSUMA](#): Comprehensive sulfate management in cold mining waters (symposium). “Development and application of novel low pH sulfidogenic bioreactors for mitigating mine waters”. Invited plenary speaker, Oulu, Finland, March 2018: [view presentation](#).

All project journal publications are listed on the RRfW project pages: [AVAnD](#), [B3](#), [CVORR](#), [INSPIRE](#), [MeteoRR](#), and [R3AW](#). You can also find further publications and presentations on our [Researchgate](#).

Other news

Deadlines soon: Post-doc & PhD positions available on REcycling of Lithium Ion Batteries project

A post-doctoral position and four fully-funded PhD positions are currently open at Newcastle University on the EPSRC funded project “REcycling of Lithium Ion Batteries”, which is part of the flagship £65m Faraday Battery Institute investment into battery technology.

The deadline for applications for the post-doctoral position is the 14th July, while the PhD applications need to be in by the 3rd August. Full details are available via the links below:

- Research Assistant/Associate/Senior Research Associate (Recycling of Lithium Ion Batteries - Assessment) Job ref: D134664R [Newcastle University Job Vacancies](#)
- Faraday Institution Postgraduate Studentships: Recycling and Circular Economy of Batteries. [Overview and how to apply](#). Funding is only available for **UK/EU** candidates.

Circular Economy Tools

[Circle Economy](#) is a collaborative social enterprise whose mission is to accelerate the practical and scalable implementation of the circular economy. As part of this, they are developing a [series of tools and services](#) designed to facilitate decision making and action plans for businesses and governments in a wide range of sectors. A number of these tools are now available to use or trial on their website:

- [Circle Portfolio](#): Enabling investors to evaluate the circularity of their portfolios
- [Circle Assessment](#): Measuring circularity and identifying opportunities to adapt circular strategies
- [Circle Market](#): An online trading platform that connects the supply and demand of excess textiles.
- [Circle Fashion Tool](#): Partners can understand the practical steps and real costs of closing their own textile loop.

Funding calls

Innovate UK Plastics Innovation: Towards Zero Waste

Innovate UK, as part of UK Research and Innovation, invite applications for their plastics innovation - towards zero waste call. This aims to support innovative activities that result in less persistent plastic waste in the environment. This can be done by developing new polymers, processes, designs, recycling regimes, value added recycle or bio-alternatives, and deliver circular economy approaches to plastic use. This could include:

- developing new polymer materials;
- new product designs;
- new recycling processes;
- increasing the value of recycled polymer;
- behaviour focussed innovation to reduce plastic waste.

All projects must involve an SME and only an SME can lead projects with costs below £100,000. The total budget is worth £4 million. Grants are worth between £50,000 and £1m each. Projects must start by 1 December 2018 and end by 31 December 2020 and last between a period of three months to 24 months. Closing date: 08 August 2018. [Further details](#).

NERC call for strategic research ideas

NERC is seeking ideas for research challenges that should be priorities for strategic research investment through strategic programme areas. NERC would welcome ideas from both researchers and those who use environmental science research.

Ideas for new strategic programme areas should be submitted by 6 September 2018. [Further details](#).

NERC innovation funding

NERC has two calls open that fill in where research grants leave off, supporting translational and knowledge exchange activity and enabling research outputs from research council funded research to be taken further and developed into practical application so their potential outcomes can be realised. These are separated into commercial and non-commercial strands:

- [Innovation Follow on Fund](#) 'proof of concept' fund to support the commercialisation of ideas. Deadline 19 Sept.
- [Innovation projects open call](#) to develop non-commercial applications. Deadline 26 Sept.

Proposals may apply for up to a maximum of £155,000 and duration of up to 18 months per project. They must involve non-academic end users as project partners, and build on the outputs of recent or previous NERC-funded research activity or research that falls within the NERC remit.

Web page for EC Horizon 2020 Circular Economy focus area

A [Circular Economy focus area web page](#) is now available that draws together all the Horizon 2020 calls on Circular Economy, allowing you to search for both open and forthcoming calls. Background documents on the Circular Economy focus area and Work Programme for 2018 - 2020 are also available.

The Horizon 2020 Circular Economy focus area supports the Commission's ambitious [Circular Economy package](#). The focus area prioritises sustainable production and consumption, addressing the important problem of plastics, as well as initiatives for a cleaner environment. It aims to reduce waste and decouple growth from increased extraction and consumption of resources, energy, water and primary raw materials.

Events listing

AusIMM Mine Waste and Tailings Conference 2018. [Brisbane, Australia, 23-24 July 2018](#)

Goldschmidt 2018. [Boston USA, 12-17 August 2018](#)

15th Congress of the International Society for Ecological Economics (ISEE). [Puebla, Mexico, 10-12 September 2018](#)

4th EU-ISMET - International Society for Microbial Electrochemistry and Technology, 4th European Meeting. [Newcastle, 12-14 September 2018](#)

European Biosolids and Organic Resources Conference. [Leeds, 13-14 November 2018](#)

RRfW final annual conference. London, 16 January 2019. Further details to be announced.

Keep up to date with forthcoming meetings via our [Events page](#).



Any news, events or funding calls to include in our next newsletter in October 2018? Email

S.J.Jopson@leeds.ac.uk

Join our network on [LinkedIn](#) and [Twitter](#) to get the latest news!