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# Regional Bioresources Treatment

Severn Trent & Wessex Water Market Enquiry

Webinar – 29<sup>th</sup> June

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# Agenda

- Welcome briefing & introductions - Laura
- Background - Will
- Current & future challenges
  - Industry - Will
  - Wessex - Will
  - STW - Simon
- What are we looking for? - Declan
  - Enquiry details
- What are we looking for? - Declan
- Q&A
- Closing remarks / next steps - Laura



# Welcome Briefing

Thank you for joining!

## Webinar approach

- Please note the Webinar is being recorded and will be shared – please leave now if you are not happy with this
- Please stay muted
- Please turn your webcam off as this is being recorded
- All questions will be covered in the 'Q&A' at the end of the session
- If you think of any questions during the presentation then please post them in the chat panel
- Questions posted in the chat will be answered first; any follow-up questions should be raised using the 'Raise Hand' function
- Any questions unable to be answered on the call will be taken away and all responses circulated to attendees at a later date.
- Any further questions can also be submitted to [regionalbioresources@wessexwater.co.uk](mailto:regionalbioresources@wessexwater.co.uk) and answers will again be circulated to all attendees.

# Introductions

## Severn Trent

- Declan Barlow – Trading & Biosolids Manager
- Simon Farris – Bioresources Strategy & Commercial Lead

## Wessex Water

- Will Wormald – Bioresources Strategy Lead
- Laura Mann – PR24 Programme Manager

# Background

- Sewage sludge has become an opportunity for economic and environmental growth, with most wastewater operators recognising the value of sustainable treatment through Anaerobic Digestion
- At PR19, OFWAT separated out Bioresources as a stand-alone activity subject to its own price control.
- This is with the intention of opening up the wider market, to drive collaboration, innovation and ultimately deliver better value for bill payers and the environment.
- To date, movement in the market has been slow with border trades occurring but no obvious disruption to established practices.

# Background

- Historically, we have treated our own sludge at dedicated treatment sites.
- We have utilised AD plants to maximise the production of renewable energy from biogas from the waste.
- The resulting digestate is then dewatered to a biosolid cake with 20-25%DS content. This is transported to suitable agricultural land for spreading as an organic fertiliser offering phosphorous, nitrogen and organic carbon benefits.
- Liquors are typically then recycled through onsite/nearby wastewater treatment works
- The industry has made huge strides forward in the last 10 years and is already a fantastic advert for the circular economy



# Industry Challenges

The Bioresources / Biosolids sector is facing an unprecedented challenges, that open up new opportunities;

- Increased sludge production
  - Population growth / tightened discharge permits / increase in treated flows
  - Existing assets have limited capacity, are typically ageing, and sites have limited scope for expansion
- Environmental regulation
  - Water quality – tightening restrictions on biosolids application to land
  - Soil health – concern over emerging contaminants (eg PFAS, microplastics, antimicrobial resistant bacteria)
- Climate Change & Net Zero
  - Bioresources activities responsible for c. 33% of WaSC annual operational emissions
  - Both STW & WSX have 2030 Net Zero goals
- Severn Trent and Wessex have teamed up to see if we can tackle the challenge together and find the right market partners to help us achieve our goals

# Wessex Water

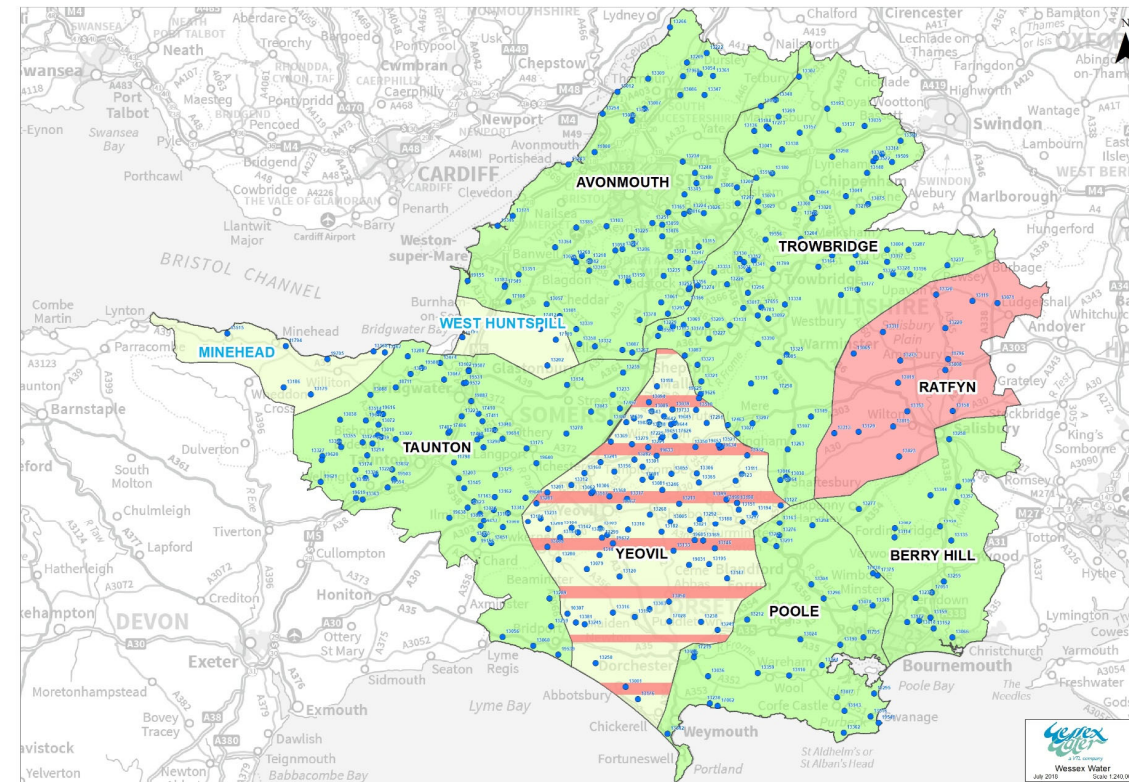
- 9x STCs
  - 2x Advanced Anaerobic Digestion (APD) – both operating with Gas to Grid plants
  - 3x Conventional AD
  - 4x Dewatering / Liming sites
- 
- 61 kTDS sludge treated in FY22
  - 90% treated via AD
  - 100% disposed to agricultural land
  - 28.5 GWh of renewable energy generated

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At Severn Trent, we have committed to our Triple Carbon Pledge which this scheme has a huge part to play in delivering



100% RENEWABLE ENERGY


All of the energy we consume will come from renewable sources.

The scheme we want to deliver in the South will need to maximise the renewable energy that we generate from the waste.



NET ZERO EMISSIONS

We know that our Bioresources operation has a large Carbon footprint. We are seeking new ways to treat the waste that can reduce our CO2 emissions.

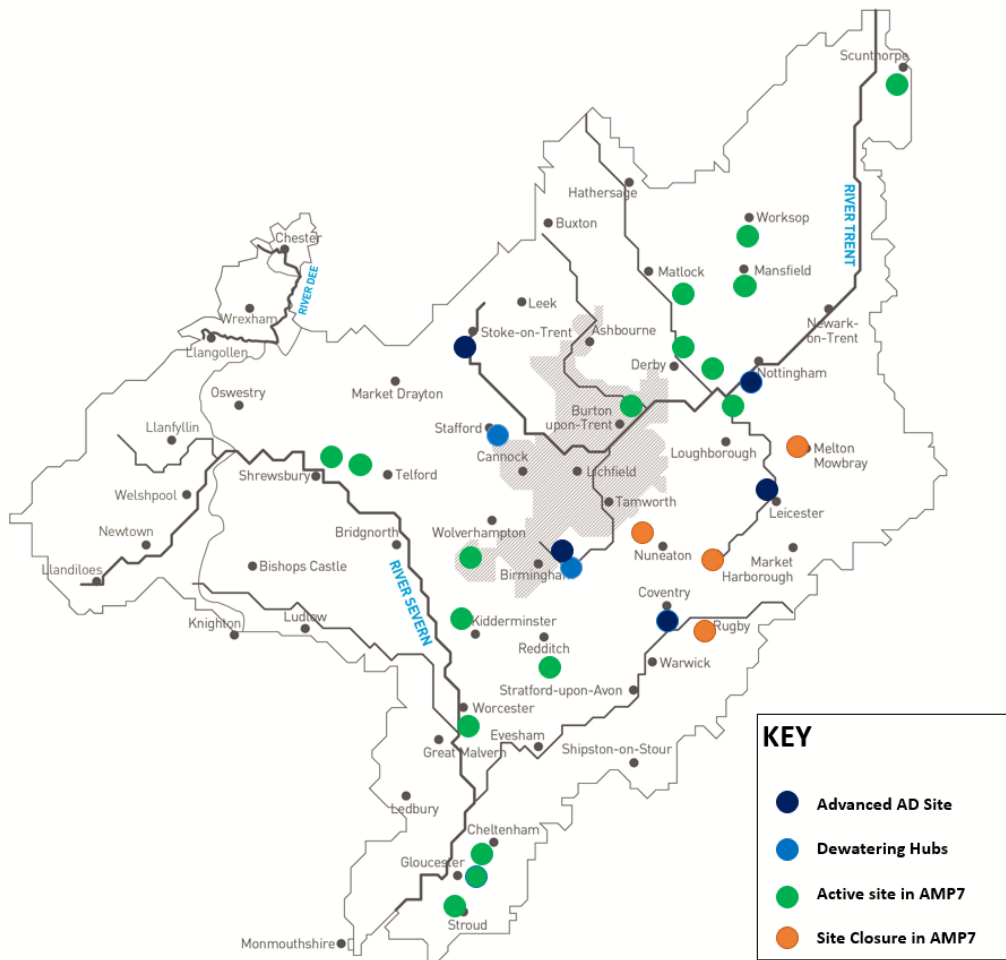


100% ELECTRIC VEHICLES

Whilst not an obvious factor, we are committed to switching our fleet onto alternative fuels. Reducing mileage, changing vehicle types and the types of fuel we use are all key parts of the company strategy



# We already operate a large number of AD assets and want to develop our capability further



- Severn Trent Water has:
  - 5 Advanced Digestion Hubs (4xTHP & 1xAPD)
  - 17 Standard AD sites (and 4 sites marked for closure this AMP).
- We processed 266 kTDS of sludge through these plants in FY22
- We produced:
  - 180 GWh of Biomethane and;
  - 166 GWh of Renewable Electricity
- Most of the power is sold into our sites to maximise benefit to our customers. We are now a net exporter of Renewable gas
- Our Ambition is to find partners who can help us to grow these numbers and maximise the value from waste

# What are we looking for?

- Both companies have a need for additional future treatment capacity in the area from Gloucester/Cheltenham down to Bristol/Bath
  - The initial requirement would be for treatment capacity for c. **10,000t DS/yr** by 2030.
  - Depending on the proposal, there is scope for this to be increased up to **25,000t DS/yr**
- We would like to diversify our biosolids disposal route away from spreading dewatered sludge to agricultural land in its current format.
- We are also keen to maximise the resource recovery potential offered by the benefits of sludge and ultimately support us achieving our net zero ambitions.

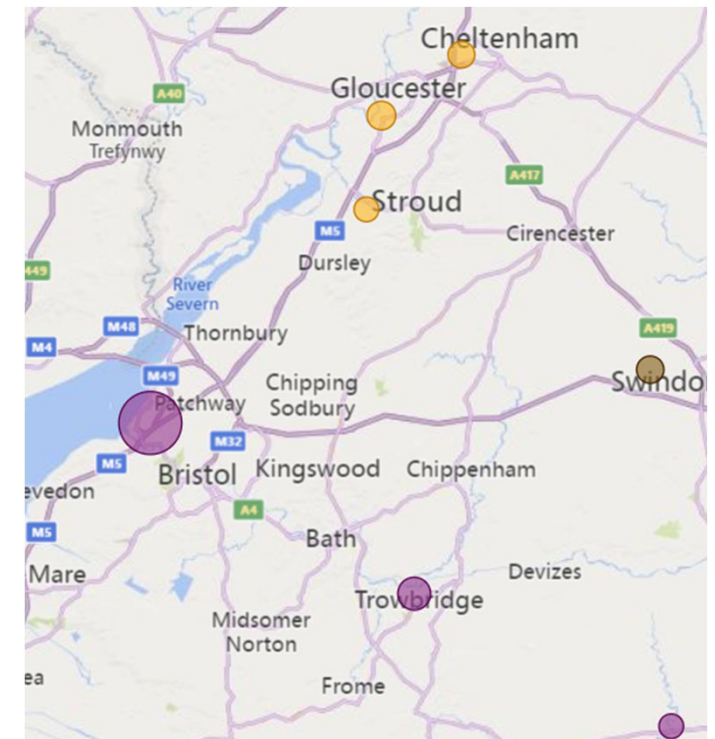
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# What are we looking for?

- Enquiry is deliberately high level at this stage – keen to understand potential opportunities that are available in a way that is not too time consuming for the market
- We are open to any proposals, with some examples given below;
  - 3<sup>rd</sup> party DBFO plant to treat and/or dispose of sewage sludge; feedstock can be provided as liquid or cake (ie 3% to 25% DS, and potentially higher with additional investment)
  - Full or partial treatment technology solutions for installation on STW / WSX site(s) to align with stated objectives
- We are seeking ideas that will move us forward from the conventional way of operating and challenge our existing approach for PR24.

# Enquiry Timescales

- 10<sup>th</sup> June - Enquiry published
- 29<sup>th</sup> June – Webinar
- 8<sup>th</sup> July – Initial query submission deadline
- 15<sup>th</sup> July – Query responses issued
- 29<sup>th</sup> July – Submission Deadline
- August / September – submission reviews/queries/feedback
- October – agreement of areas for further progression

# Submission criteria

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As per the challenge page, we are looking for:

- **Current and past experience in this area**

The regulatory burden still sits with Wessex Water and Severn Trent even if a third party provides a service. Therefore, we require potential partners to have expertise in this area and currently provide related services. We are happy to consider proposals that include new technologies, but the solution provider must have a track record of successful delivery and align with our objectives.

- **Certainty of delivery**

Whilst we are not necessarily looking for partners who have a pre-built solution, the submission must be deemed to be technically viable and deliverable by 2030 at the scale required. This will include themes such as likelihood of identifying suitable sites for location of any treatment/processing centres.

- **Resilience, flexibility and longevity**

Proposals that offer flexibility for additional loads in the future will be viewed more favourably, as will those that provide resilience against changing environmental regulations, particularly those affecting sludge disposal to land. As noted previously, we are keen to diversify our disposal route so encourage proposals that aid this.

- **Regulatory compliance**

Proposals must comply with relevant environmental and health and safety regulations. Potential partners should be able to demonstrate industry-leading H&S working practices and where applicable have an exemplary record of compliance with regards environmental regulation.

- **Sustainability & wider benefits**

Proposals that create value (either directly to Severn Trent and Wessex Water, or indirectly to their customers and the environment) will be reviewed more favourably. This includes proposals that align with our Net Zero 2030 goals, and/or offer 'circular economy' solutions that maximise the resource potential of sludge.



# Submission Review

- Any company seeking to partake should expect to pass our standard criteria around financial security, safety, environment and ethical practices; this information is available on our company websites.
- At this point in the process, we are unsure as to how the work will be contracted and so it is not possible for us to set down firm criteria.
- The aim of any submission in the first instance is to show how you could help ST or WW further develop our service to our customers and the environment.
- Our focus is on delivering new sludge treatment capacity in a way that promotes the circular economy.
- Because there are a wide variety of ways this can be achieved (energy generation, resource recovery, final material disposal) we will focus on the offers that best align with our objectives.
- We will be seeking partners who are in this for the long term and are keen to leave a legacy.
- This is not a formal tender – high level costing information is acceptable.

# Questions & Answers

Review of questions submitted via Teams Chat.

Submit any further questions to the  
[regionalbioresources@wessexwater.co.uk](mailto:regionalbioresources@wessexwater.co.uk) email address.

All questions and answers will be collated and circulated after the webinar.



# Other considerations

- Wider opportunities in other areas – both companies can be contacted directly
- National Bioresources Strategy
  - CIWEM-led project across industry and key stakeholders
  - Online survey open to all – help shape the long-term strategy
- Bid Assessment Framework consultations – please let us know if you are interested in being involved