Biofertiliser Certification Scheme Operators' Forum

Minutes and actions from the meeting on 11th October 2023

Start: 12.00pm

Jane Hall (JH)	Chair
Georgia Phetmanh (GP)	REAL
Emma Laws (EL)	REAL
Megan Muller-Girard (MMG)	REAL (Research Hub)
Jo Chapman	BCS Operators' Representative
Tom Brown	BCS Operators' Representative
Angela Cronje	Earnside Energy

Registration

General chat and informal introductions while waiting for all attendees to join the call.

1. Welcome

EL welcomed everyone, explained the aim of the forum, and outlined the programme for the meeting. EL then handed over to JH for roundtable introductions.

JH queried if there were any issues that operators would like to raise later in the meeting. No items were raised for later discussion.

2. Previous Meeting Minutes

All attendees accepted the previous meeting's minutes—no comments or corrections were raised.

3. Updates on the BCS

Actions from the previous meeting

REAL and operators to consider offering universities something in return to involve them in Hub research projects, e.g., webinars on EoW, potentially in association with CIWM (Ongoing)

Ongoing – MMG explained that webinars to engage with universities are still under consideration. However, the Hub's main focus for webinars has been hosting webinars for Scheme participants to learn and ask questions about project outcomes. MMG notes she will explain in greater detail during the Research Hub updates portion of the meeting.

JH to email Simone Alpin at CIWM to ask if action above would fit in their agenda on EoW (Ongoing)

JH explained that Simone Alpin was not the right person for this, but Anna Willets (also at CIWM) was very up for this as she is doing lots of work with EoW for fuels within her working role so interested in streamlining EoW and EA rules.

JH expressed concern about how difficult it is to go through the EA to achieve EoW and thought this could be wrapped up nicely into a good webinar.

AC agreed that the process for achieving EoW through the EA can be prohibitively difficult and confusing. AC suggested having someone from EA to discuss the process and open the floor to operators at the end to discuss issues faced during the EoW process with the EA. AC noted her own difficulties, having submitted an info request 6 months prior and having had 2 meetings with no actions. AC reiterated support for an opportunity for industry to provide input.

JH asked for any other thoughts on this item.

JC commented that the discussion may depend on the outcome of the QP review as there are additional product streams may be added into the QP, but the details are not yet known. For instance, there may be new digestate-related materials people want to seek end of waste for (e.g., dry digestate, etc. are not currently under the ADQP).

JH suggested that webinar topics could include both general questions (e.g., what the move from a QP to Framework means—will the process remain the same? What is the relevance of a comparator now?) and more specific ones (e.g., what will be in the list of accepted inputs? Will cooking oils be accepted?)

JH said she will shape up some topics and discuss further with Anna Willetts.

JC noted there is also an issue around byproduct status. JC suggested involving a new group of agri-provider operators, as the EA intends to bring manure-based processes under the QP. JC queried if the QP could include digesters taking byproducts and coming out not waste?

JH noted there are some plants taking beet pulp.

JC commented that when the EA provide an opinion on the by-product status of a material, this is based on the specific circumstances of production and supply of that particular material stream and so the decision can't necessarily be generalised to all streams of that material type.

AC stated that she also lobbied really hard but it's maybe unfair in a larger context; the EA don't have to share the final decision letter publicly. AC asked the EA if that's a blanket agreement and got two answers.

JC commented that it's a precedent at least but even with sight of a final decision letter, it is not always clear what the particular circumstances of the production and supply for the material in question was, and so it would be difficult without this additional information to generalise the decision to other supply material streams.

JH noted that it's a misconception that applicants receive a 'permission' or a detailed response from the EA following EoW application. Applicants are more likely to receive a short letter with an opinion.

AC commented that she was unsure people really appreciate the value and benefit of the Resources Framework, noting that without it, the hassle to achieve EoW would be much worse.

JC commented that the challenges associated with the EA process may be a good way to pitch the Scheme to demonstrate why it's worthwhile to undergo certification.

JH suggested she would draft a rough one-hour webinar programme to share, stating she thought it best to crack on at whatever stage rather than waiting, and if it's useful, there could always be a follow-up.

Because the QP is a legal document, it could take ages to finish, whereas permits are meant to be finished in a comparatively short timeframe. However, JH notes it has taken 18 months for a permit because the process is so opaque, and JC notes it has taken 2 years for a permit application – requests for information take ages and time becomes very expensive for permits.

JH noted she would discuss with Anna Willetts (remove Simone Alpin from this action) and expressed that putting together the workshop shouldn't be difficult if clear what they are meant to accomplish.

REAL to feed back to operators with more detail on the EA's QP revision timeframe by email before the next forum

Actioned (via BCS newsletter) – EL explained this action related to a query raised in the last Forum regarding the feasibility of the EA's end-of-year implementation deadline for the QP revision. More info on the QP timeframe to come later in the meeting.

JC to include operator issue re screening in updates given at the next TAC meeting

Actioned—JC commented she would share an update on this during the allotted time in the meeting.

REAL to mention to CBs during conference call that operator issue re screening will be raised at the upcoming TAC meeting with a focus on questioning the rationale behind the interpretations of significant change and the initial validation testing regime, and further discuss their interpretations of significant change

Actioned—the CBs shared their views. GP reiterated that JC would share more later in the meeting.

REAL to consider operators' feedback on compostables in general and for the liners/bags initiative

GP explained this was in relation to a previous Forum discussion on compostables for REAL to consider operators' feedback.

GP thanked attendees of the last forum for their feedback and explained she'd shared these comments with colleagues at REAL and the compostables industry WG (led by a trade association representing the compostables industry). GP shared that the final design had been mocked-up but discussions are still ongoing. GP explained that there would be a meeting the following week that may determine the direction of this work and that REAL may be able to share further updates in future.

GP noted that this discussion is mainly for the benefit of compost producers, but found the feedback useful, nonetheless.

REAL to ask CBs if they would find REAL collating feedback on their behalf useful

Actioned – The CBs confirmed that they would find collated feedback useful. REAL will therefore be doing this next year. This will be discussed further in AOB at the end of the meeting.

REAL to consider sharing operator feedback on APHA study with APHA

Actioned – GP explained that REAL shared feedback from last meeting with APHA on the recruitment letter REAL circulated on APHA's behalf. APHA has re-worked the letter accordingly to make the title more approachable, to clarify the project is research not inspection, and to state benefits to operators. REAL provided comments on revised version before circulating to BCS at end of August. APHA confirmed they didn't hear from any new operators so would like to collect more feedback, as an AOB.

RBP and VFA analysis update

EL explained that this was raised last year as AC and JC both mentioned cases where their sites passed on VFA pre-screen but RBP either failed or close to failed (in one case, this was due to a lab error). So REAL took an action to investigate the relationship between RBP and VFA to determine if labs should use large discrepancies between VFA and RBP results to QC their work. Tom Aspray, Technical advisor to the schemes investigated this. Tom found no clear relationship between VFA and RBP outcomes – individual operators might notice a relationship, but this will be on a case-by-case basis and shouldn't be treated as a reliable indicator. Rather, as concluded in WRAP 2013 report, VFA is an indicator of process stability not final product stability.

AC queried whether there is then any point in VFA screening.

GP noted that the 2010 WRAP report recommended it and it was included in PAS in 2010-2011.

AC queried whether this could be considered when the standard was next revised. GP confirmed.

JC highlighted the added cost of VFA screening for producers and reiterated it would be useful to consider during the next PAS review.

Any questions on the summary paper

EL introduced the summary paper covering Scheme developments sent to attendees prior to the forum. No questions were raised on the Summary Paper.

4. Update on the ADQP revision

EL shared a notable update since the forum in May: The EA has agreed to publish an interim resources framework using evidence already available and plans to implement the interim framework by the end of the year. REAL are not aware whether this means the framework will go for consultation by end of year or the final version be implemented in full. This interim framework allows additional time to complete the risk assessment needed to revise the QPs. Currently, the EA Task and Finish Group are working on the interim framework, focussing on plastic limits and a digestate-related issue.

JC queried if EL has any information about manure based digestates.

EL commented that the EA have made it clear they want manure-based digestates brought under the framework in some way but have left it up to industry to determine how it should be done.

JC expressed that she was unhappy for it to brought back to the industry after a year and lots of money spent on this work already.

EL commented that she expects the REA is trying to make this argument on behalf of industry.

JC commented that it still feels like this work is in early stages and queried the end-of-year deadline.

EL replied that the trade bodies have been saying this to the EA, but the EA confirms the work will be concluded by end of year.

JC reiterated her dismay as the process has been ongoing for several years, and the decisions taken may be rushed decision before the end of the year.

EL noted that REA and ADBA would likely be representing this perspective at the QP meetings. In the meantime, REAL is trying to figure out how to create the standard with whatever guidance is given.

JC stated that she understood REAL's position.

AC commented that the revision must be kept simple and suggested keeping the same standard with the RBP test, noting that with manure based digestates, plastics shouldn't be an issue and odour would be dealt with via an RBP test. If regulators are concerned about spreading rate, including it within existing the standard should not be difficult, but the issue will be about the cost for operator. For plants digesting chicken manure (i.e., where there are concerns about biosecurity following pasteurisation) the pathogen test and RBP test are the two main things. AC notes this was done in Wales as NRW was concerned about spreading so sites ran pathogen tests after pasteurisation. AC further comments that sites that have money to spend have been looking at investing in pasteurisers regardless of whether or not they have to meet end of waste.

JC wondered whether a Research Hub proposal could be put together on this topic (e.g., for sites that aren't pasteurising). JC referenced a WRAP paper that explored which pathogens are killed at mesophilic temperatures and expressed that it would be helpful to know the direction of travel with regard to pasteurisation.

AC commented that this is where the issue of animal health comes into the picture. For anyone allowed to spread directly, there's a risk of pathogen and disease spread. This issue ties in with the APHA project on animal health, which points a bigger question. AC wondered whether the discussion is being skipped over by the EA stating that all wastes must be pasteurised.

JC suggested that the APHA project may not be reaching the right operators as BCS doesn't include manure. Some manure-based AD plants may not even be aware of the changes coming into place (i.e., the regulatory position statement for manure-based digestates withdrawn in favour of end-of-waste requirements).

JH commented that it's difficult to find a consultation page on this change even if one was looking for it, so she imagined it would be especially difficult if not looking out for these changes. JH also suggested that NFU should be involved in discussions regarding these changes. EL confirmed NFU is involved with the QP TF&G.

JH stated that NFU would be the best group to communicate these changes to affected sites. JC agrees.

JC queried whether REAL is consulting the right people, noting that manure-based plants are not linked into manure developments because they aren't on BCS.

JH commented that she was a consultant for some people who had no clue about these developments.

AC commented that for sites in a small cooperative setup (closed system), it would be disproportionate to require pasteurisation. It might be more reasonable for larger-scale operators exporting digestates.

JC commented that the APHA research proposal could be helpful to understand what is coming for manure-based operators if an end of waste framework and standards were implemented. JC suggested that the project might get more operator uptake if people understood how they'd be facilitating that work. APHA/REAL may just need to spell out the benefit to operators more clearly—perhaps the NFU could help with disseminating that.

EL commented that NFU are involved with harnessing that kind of dissemination and expressed uncertainty regarding how REAL should get involved.

JH highlighted that her main concern with bringing manure-based digestates under the ADQP was that sites may decide to spread raw manure rather than bothering to digest it.

AC commented that sites would likely still digest the material for the biogas, but wondered why an onerous pasteurisation step would be required if not required for manure applied directly.

JC queried whether, as the EA had gone back to industry to feed into the revision, there was anything operators could do directly or would the trade bodies be managing this on behalf of industry.

EL explained that the trade bodies were active in the discussions on behalf of industry, but REAL is also seeking industry's views to feed into the discussion. This could also become part of the TAC agenda moving forward, but this is currently under discussion.

Plastics Proposal Discussion

Update on meeting with REAL and Operators Reps

TB explained that the EA are looking to simplify how the plastic limits are linked to N content. Currently, the limit for digestate is determined by a sliding scale, which is different to how its managed for compost under the CQP (flat limit). TB explained REAL met with the BCS reps to take industry's views on how best to set the limit for digestate. TB stated he likes the sliding scale as is, as N is the limiting factor.

JC observed that this was a similar scenario to the issue of manure based digestates in that the EA have come back to operators for opinions as consultees/stakeholders. JC noted that she and TB were asked to comment but want to take views of others in the industry—AC's views will be important as she represents many sites. AC disclaimed that her views are not representative of the whole industry.

EL explained that REAL have done analysis of PCs to feed into the QP revision. Additionally, REAL would like to pose seven questions for discussion in relation to this topic to take operators' views.

Questions on plastic limits

Question 1: The EA would like to simplify the N linked scale for plastic thresholds. Can you suggest ways that this might be achieved?

AC expressed that that the N-scale works well and attributed the idea to Biogen, who came up with the scale to accommodate different spreading rates. AD operators are smart people who place digestates and know how to manage nutrients. All the scale does is allow operators to compare like for like whereas before, they were comparing different units. Then, Excel does the calculation to yield a pass or fail result based on inputs. AC noted that a sliding scale is also used for PTEs and operators are used to it. AC reiterates that it works well for operators if regulators can't figure it out that's their problem.

JC agreed but queried if there was a change (which seems likely), what would the best outcome be?

AC noted that all her plants work with additional quality criteria based on farmer preference, for instance working to the 8% limit that SEPA works to, using the sliding scale.

AC noted that some processes are outliers, with particularly high or low N-content but most fall in the middle. AC queried if it would be possible to run a bell graph and set the limit based on the majority. AC noted that this would limit the quantity of low-N material spread to land but commented that there's already a limit to spread no more than 50 tonnes per hectare in any single application.

TB suggested that the banding could be replaced with a straight ratio unless this would be more complicated to interpret.

AC reiterated that she and her sites like the sliding scale as it covers all AD processes.

JC noted that the only change she would make is a simpler scale that groups sites into fewer bands (but commented that this wasn't necessary).

Question 2: If lower thresholds are adopted (e.g. to match Scottish levels) would this be a problem?

AC stated that her sites' customers are not happy to with the higher limit and prefer compliance with the Scottish limit or less, so her sites are already achieving lower limits.

JC queried whether it would be more difficult to achieve the Scottish limit for SF.

AC replied that she thought SF could go through PAS100 and noted that her sites generally don't deal with SF as the material is too full of plastic. The sites use screening as a critical control point for removing plastics from SL, so plastic ends up in screens with SF.

TB noted that Tom Aspray suggested that SF producers will have a harder time achieving tighter limits.

JC noted that REAL may want to consult with those sites specifically (far fewer SF sites).

Question 3: If there were a way of testing at the labs for compostable material that would be permitted would this help operators to comply?

AC stated that this could potentially help operators comply. AC notes that some compostable plastics definitely do come through the process, however operators don't have data on the proportion of compostable to fossil plastics coming through the process because they haven't been able to measure this separately. If it were possible to distinguish the materials and not include compostable PCs in the plastic limits, this would drive more packaging into plants (rather than separating). In particular, it might help SF producers but for now don't know as there's no data available.

TB noted that the EA have not said that compostable plastics to land would be acceptable.

AC stated that some sites are trialling new techniques. For instance, some sites are sending separated off-spec solids (fibre) to plants where they separate out plastics and granular fibre, with granular fibre going on to composting.

Question 4: Is it realistic that operators could achieve SEPA limits in 2-3 years?

AC reiterated that the sites she works with already achieve SEPA limits, as she finds the agriculture market demands it. In fact, the English sites she represents specify in their written requirements that they work to the SEPA standard for plastic.

JC commented that the SEPA limits are both realistic and now an expectation.

AC said that the main driver is the market, noting that her sites hadn't been documenting additional criteria before but are now including it in their paperwork.

EL commented that this seems similar to the driver for tighter limits in Scotland.

TB noted that this was discussed in the meeting between REAL and operators Reps. TB stated he thought 2-3 years was realistic given some people would need to upgrade equipment (e.g., screens).

AC commented that the screen was not such an issue in her experience, but more an issue of good process management.

JC noted it's also about revalidation as discussed at the TAC, and commented this would be raised for discussion later in the Forum. JC further commented that in order to change a screen to accommodate new thresholds, operators will need to consider costings, funding and logistics such as season during which any changes occur which determine storage and spreading factors to be managed. Some operators might need a bit of lead-time to get things in order.

Question 5: Would you set plastic thresholds lower than the current SEPA level?

AC said no, she would recommend keeping it in line with the SEPA limit but not go any tighter, noting that every odd sample comes close to the limit.

Question 6: How would you need to adjust to meet lower thresholds?

AC stated that sites would need a suitable screen (0.75-1ml). AC commented that a few plants do well at separating out plastics from SL but still a portion of digestate solid material is also held back by the screen as well as the plastic. Digestate fibre along with small pieces of plastics can still pass through even a 0.75mm screen.

JC commented she had operator running a mostly crop fed process for SF, SL and WD. They have had to be particular about inputs because of screening issues, but that has been working and they now can pass on all three fractions.

AC noted that for most sites, centrifuging would be overkill because this really takes everything out—good when discharging to effluent but not necessary in most cases. AC reiterates a 1mm screen will be good for most, noting Severn Trent uses 2ml screens.

JC commented a centrifuge step probably would not figure in if going back to drawing board for ways to achieve compliance. JC wondered about ways to remove material from digesters using flotation but noted these are novel technology, unlikely to be available to most sites.

Question 7: How long would you need to make the adjustments?

EL noted this point had already been discussed previously so would move on.

EL explained that the next meeting of TF&G would be next Thursday and encouraged operators to come back with any feedback on PC limits etc. before then.

AC commented that when retrofitting screens, the biggest stumbling block (besides the odour) is that screens need to be part of control system. AC suggested that sites might need to look at local control panels to simplify adding these in (as would be done with pasteurisers). AC noted she didn't think this would be difficult as the system is usually designed with the plant.

JC stated she'd asked around and an operator was keen on differentiating between compostable vs non-compostable plastics, assuming it's okay for compostable plastics spread to land. But if this was not a given it might not be as useful.

5. Feedback from the last Technical advisory Committee

JC summarised the discussion around screens. At the last forum, JC raised an issue take to the TAC for discussion: an operator had wanted to change to a smaller screen at the end of the process to remove plastics and improve digestate quality. Initially, the operator spoke to their CB and was told it would be a significant change and they would have to revalidate at a high cost to the site. The site investigated offsite waste storage and deployments. Then reconsidered, making the case that the change was not significant as they were only changing one thing, the site was otherwise already compliant, and this change could only improve the quality of the digestate.

The item was taken to the TAC for discussion and the CBs confirmed they viewed it as a significant change so revalidation would be required. The question was then raised how sites revalidate if only changing a screen as samples would be needed after a full HRT apart or the test would not be relevant because the site would be changing a screen once the digestion process was already complete. The screen is situated just before the digestate storage step at a point where the digestion process has already been completed. Therefore, any change in the screen should not affect certain parameters e.g. RBP. Could portion of production to be tested be specifically designed for this process and proportionate to the change? The CBs replied that this would not be permitted, and the procedure must follow the SOP, and most SOPs require a full HRT for initial validation.

JC expressed that the operator was unhappy and did not feel this was proportionate, nor did they understand the held interpretation of clauses (defining portion of production, etc). The operator believed there could be some flexibility as long as the change was well documented. The operator again raised the issue at the operators' forum to be taken to the TAC and wrote a supporting paper outlining the technical details. The operator suggested a trial and was told this would not be accepted.

JC also commented that many operators will want to reduce their screen size, so the outcome of the decision will not just impact one operator but will apply to many, and barriers should not be put in place to a change that would be environmentally beneficial.

JC explained she took the issue again to the most recent TAC. However, the CBs' perspective remained unchanged. JC understood there would be an addition made to REAL's position on technical requirements to make this clear to operators.

JC commented that the operator still doesn't understand the rationale and JC agreed that it seems there should be room for discretion around this particular scenario. One TAC member suggested that the root cause of the issue was insufficient storage for positive release, which sparked discussion at the TAC. JC commented that she found this suggestion alarming, noting that many AD sites—including Shropshire—do not have 6 months' storage capacity (perhaps on an arable farm, but not onsite).

AC stated she felt they were looking for excuses.

JC felt that REAL nor the CBs did not fully clarify why they'd come to that decision—the discussion at the TAC did not make it any clearer for JC to feedback to the operator that raised the issue.

JC then opened the floor for discussion.

TB commented that his site had found a way around this issue, using an alternative solution to validate an additional screen separately. TB kept the old screen in place while validating the new one, then screened a small batch with the new screen. This approach was agreed with the certifying body.

JC commented that one could validate another product.

AC asked if this would involve temporary pipework going through small batch and separate storage?

JC noted that sites would need to have the engineering facility to take this route. Some sites would have the option to do so, but not all. One operator asked if this would be acceptable, and it has been confirmed this would be accepted.

AC queried whether the site had to validate for only that parameter or test for the full suite?

JC replied that for the small batch new product route, the site has to validate for all parameters. And for the original scenario proposed by the operator, JC has discussed with the CBs that when a site fails on PCs, the site only has to revalidate for that one parameter. But when revalidating after a change, the site must revalidate on all parameters. TB confirms, even RBP.

JC noted that the operator proposed that they just revalidate on one parameter after relevant change; GP confirmed that this discussion took place.

AC stated she found this outcome overly arduous. JC agreed but noted the TAC did not. JC felt unsure that there was full scope to discuss this at the TAC. AC reiterated that the requirements were totally disproportionate to the change proposed.

GP noted that, following on from feedback in relation to REAL's position document, REAL have agreed that there should be more information included to justify the position/requirements. GP confirms this will be included in the document in future. In relation to the TAC discussion, GP expressed that the operator and JC conveyed the case really well, particularly through the detailed information shared in advance and in the paper circulated after. REAL are now discussing feedback to determine whether there's space at the TAC for operators' views on commercial issues.

GP reiterated that in relation to this position, REAL will look to add justification in the document itself.

JC commented that this would be useful. During discussions at the TAC, JC had made reference to the fact that operators usually set the validation sample period between samples as one hydraulic retention time and this is stated in the SOP. The certification body queried where the hydraulic retention time benchmark came from and seemed to suggest that this was not specified in the standard. JC stated that it is her understanding that most operators would set the sampling period as one hydraulic retention time to ensure that different batches were being tested for each validation sample.

AC expressed that for a new product, there is nothing in the standard that specifies the screen size for SL (e.g., only considered SL if screened at 1ml, etc.). To require someone to do full revalidation for a change in screen size is ridiculous. AC noted that she had seen sites producing WD, despite going

through separation. AC commented that operators define the product, not the standard. The solution to create a new product feels wrong because it's not a new product—you'd still be testing for SL.

TB explained the CBs are saying it's a change to a Critical Control Point (CCP).

AC expressed that the operator should only be required to test for parameters relevant to that CCP – this has nothing to do with retention time. The changing of the screen would not affect all critical control points in the process, only the one relevant to the prevention of physical contamination. Testing could be carried out quickly for physical contamination without the need to wait the full hydraulic retention time through the AD plant and without unnecessary testing of the residual biogas potential which wouldn't be affected by the screen change.

JC noted that the operator in question is very experienced/knowledgeable and had done PAS110 training.

AC expressed that this was not an attempt to compromise the standard but to improve the operation. AC commented that OF&G has different approaches, noting that AC and JP had received different responses. GP asked if AC could provide some additional information on this point. AC confirmed.

AC reiterated that adding a smaller screen size not a significant change at all so much as an update to the site's documentation.

TB suggested it could be updated in the standard.

JC commented that more plastic will go to land as a result of this. JC reiterated this is an opportunity as operators are wanting to be on board with improving quality, but it appears there is nothing more to do at this stage. AC stressed that operators would feel hard done by as a result of this decision.

6. Research Hub Updates and Ideas Session

MMG provided updates on the Research Hub: The Research Library now contains 300+ articles on composting and AD. For the project entitled, *Evaluating Potential Improvements & Alternatives to the RBP Test*, the completed report is under review by the PMT. For the project entitled, *Evaluate possible alternative area-based methods of assessment for plastics*, work is under progress by contractor Solidsense and expected to be completed in 2024. For the project, *How the benefits of applying compost and digestate to soils can be accounted for under the Greenhouse Gas Protocol*, work is under progress by contractor AECOM and expected to be completed by the end of year. Additionally, there is an upcoming workshop series in mid-November to present the initial results of the project and take Scheme participants' comments/questions to feed into the final report.

MMG then reminded attendees about the Hub's process for selecting projects in four broad steps: 1. Call for Proposals, 2. Scheme Participant Survey, 3. Proposal Evaluation, 4., Project Announcement and Tender Process.

MMG then moved to the 'idea session,' encouraging attendees to share any ideas they might have for Research Hub projects.

AC reiterated the idea to research the necessity of pasteurisation steps, raised earlier in the meeting.

AC suggested that for farm setups looking to supply their fibre to alternative markets, it would be useful to characterise digestate fibre for bagged use, for retail (e.g., do the inputs include manures). AC commented that this could help from a practical standpoint.

MMG noted that the Research Hub project selected for 2023 (Risk Assessment to support the Quality Protocol Revision), includes a second phase of work that would look into the risks associated with digestate use in horticulture and soft landscapes.

JC suggested a project to explore the effect of digestate screen size on quality of digestate—is there evidence to suggest that reducing the screen size would make a significant difference to the final digestate quality aside from a positive impact on plastic content (e.g., any notable difference in other parameters such as dry matter).

AC commented that in her experience, swapping a 1ml screen for a 0.75ml screen does not negatively impact the process—it's a belts and braces approach.

JC reiterated it might be helpful to have research that demonstrates this. That research project might also help define future work.

AC commented that this sort of study would provide a baseline dataset (1ml screen) and from there it would be interesting to see the outcomes of screening to different sizes and with different types of technology. Further, given that switching to tighter screens will result in more solid material caught on screens, AC wondered about other options for managing screens. For instance, would the material have to go to landfill/energy from waste or could it be processed further?

AC noted that composters might not accept the screened fibre due to plastic content. So, if further processing was required, what would this include? Would it be commercially viable? AC notes the potential of this work to improve quality of fibre coming from screens if the piece on further processing could be explored. AC also suggested a project could look at the proportion of fossil vs compostable plastics in the fibre fraction retained on the screen—what could this mean for further processing?

JC raised a final suggestion for a research project on biochar on behalf of another operator. JC noted that—citing a paper—the EA and an operator had differing interpretations regarding the use of biochar. The operator viewed that biochar should be permitted, but the EA doesn't agree that biochar is an acceptable input. JC wondered if there might be scope to explore this difference of opinion.

TB queried whether the site was classifying the biochar as waste? JC stated that, no, biochar is an additive rather than a waste.

AC commented that it can be considered an additive or waste/product.

JC viewed it as an additive as it enhances the AD process.

AC stated that she was first approached about biochar at the research level. The industry will have to wait for the EA's position, which asks questions about other additives. AC notes that under PAS, the industry would risk assess biochar. Where does this all fit in?

JH agreed with the EA's position on waste-derived biochar as some have heavy metals and there is a danger of introducing these into the food chain. It depends on the source of biochar. For instance, biochar derived from forestry thinnings would be fine.

AC commented that at first, the onus was on producers to risk assess biochar as part of HACCP, which would open door for non-waste derived biochar. If industry wants to introduce waste-derived biochar, there must be a QP, which would have to specify end-use market for it (if AD not a typical end use).

JC commented that if heavy metals were the issue, this would come up in PAS110. JC wonders if this is part of a bigger question about additives and suggests it may require further discussion.

AC suggested that, alternatively, the EA could provide input on why biochar is not acceptable and then the industry could work around that.

7. Issues raised with BCS Operators' Representative

JC and TB had no new issues to raise since the previous forum.

8. An opportunity to discuss other issues raised by operators (5 mins)

AC raised an issue related to the QP for biogas (less so than the ADQP and digestate). AC had recently been approached about a technology for upgrading CO_2 from biogas for potential food-grade use (e.g., carbonation). However, operators/investors don't seem to understand that upgraded CO_2 cannot be used in the food industry as there is no QP for upgraded CO_2 from waste-derived biogas. Therefore, the gas would still be a waste, which the food industry will not use unless its reached EoW.

JH shared the EA Regulatory Position Statement (RPS) in the chat.

JC stated that the EA position does not make clear if upgraded CO_2 is considered to have achieved EoW status. JC commented she thought this would be considered as part of the biomethane QP, but the EA haven't started the QP review as far as she was aware. JC commented that she is aware of a producer of food grade CO2 in Scotland where SEPA have agreed that the material reaches end of waste. The process of reaching this agreement was quick and efficient. The EA should not put up a barrier, but the CO_2 would need to meet EIGA standard and include a food-grade HACCP.

AC commented that if there were pathogens in the biogas, it would be stuck in the CO_2 fraction, not the biomethane.

JC noted that the standard is clear in terms of operators needing to demonstrate compliance. Operators could prepare end of waste self-assessment if required, however it's not clear from the RPS as to whether this is needed or not.

JH understood the intention of the RPS is to cover use.

JC reiterated that the RPS is not clear enough. For instance, an operator can produce upgraded CO_2 without varying their permit, but could it be sold to Britvic to be bottled in a fizzy drink?

JH commented that the draft version of the RPS is more detailed. JH stated she understood it does not actually change the waste status but allows you to legally distribute it to food industry. The issue is that food industry people don't want waste.

JC reiterated this could be considered in the biomethane QP but it's unclear if the review has started.

JH noted (with a caveat that her comments should not be taken as advice) that where operators have specifically asked for EoW CO2 in an industrial setting, the EA would be hard-pressed to take legal action against operators where the output is relatively safe/comparable to the comparator. Operators will have to make the ultimate decision—whether the food industry will accept waste-status CO_2 is a different question.

AC commented that there is clearly market for waste-derived CO_2 if it met a standard.

JH summarised that if operators went through EoW process, the EA would be hard pressed to enforce. In terms of a standard, adding this into the biomethane QP seems the best place for this.

9. AOBs

Scheme Participants Survey

EL reminded participants to fill out the Schemes and Research Hub 2023 Survey.

APHA Project

GP explained that this AOB follows on from earlier discussion. REAL hoped to gather further feedback to share with APHA on the more recent invitation sent to BCS participants to contribute to the project. APHA has retitled the project to 'Benefits of waste treatment on reducing antimicrobial resistant organisms in farm waste' and is looking for sites to participate that fall into one of the seven types of sites shortlisted in the letter. GP noted that TB and JC's sites don't fit the criteria so not relevant to them but queried if AC worked with any sites fitting the criteria (e.g., mesophilic temperature of 35C with continuous input of material, uncovered lagoons, acidification, etc.).

AC did not think so. Willen Biogas may have met certain criteria but the site is thermophilic.

JC suggested contacting Rebecca Taylor as she has a portfolio of on-farm plants that aren't PAS110-compliant and not animal health approved so the project could be more approachable. Lucy from Marches Biogas may also be worth contacting.

JH also suggested contacting Jenny from Future Biogas, who works with several non-PAS110 sites that may be crop or manure-fed. JH queried whether the sites must be PAS110 compliant to participate.

GP explained that PAS110 is not a requirement to participate, but APHA has been reaching out to non-certified producers themselves and through the REA.

JC commented that operators might be willing to help on the basis it can help with manure-based digestate developments. Becky Wheeler (Future Biogas) usually comes to meetings and has several sites that might fit the criteria. JC suggests approaching operators individually rather than by a broad letter.

AC noted she is aware of a non-PAS site taking 50% slurry and 50% chicken manure 50/50%. GP confirmed that she believed this would fit the criteria for the study.

GP shared the re-worked letter from APHA in the chat. GP reiterated that no operators contacted APHA so REAL are seeking feedback regarding why operators were not interested in participating in this study.

AC sought clarity that the project would look at whether/how the AD process breaks down antibiotics to prevent them circulating further through the food chain. GP confirmed this was correct.

AC noted that the dairy industry did similar research in the US looking into antibiotic resistance in cow slurry and found that there was one specific antibiotic not broken down without affecting biology in the AD plant. However, the antibiotic did not persist through in the substrate as an active ingredient.

GP noted that APHA has not yet started the project as they were hoping for more participation. GP reiterated that if any operators had any feedback to share later, please do so for REAL to pass to APHA.

GP additionally queried whether attendees think APHA's involvement in the TAC would be useful.

AC stated they would need to be involved in terms of the slurry/manure-based digestate issue in the QP revision. AC also expressed that she felt there are two regulations running in parallel that don't concur.

TB stated he thought there should be one HACCP plan. AC commented that she always does two separate ones.

JC viewed their relevance as quite specific to this issue, noting that many discussions won't relate to them. JC suggested involving APHA only as and when there are specific and relevant issues.

AC commented that it would be useful to have the top guy (Michael Elliot) involved for these things. AC also noted that the previous guy at APHA was very responsive to questions regarding animal health and commented there may be some animal health officers that we'd benefit from having input on things like pasteurisation.

JC agreed it would be useful to have their input on this particular item when there is more info to share from the QP revision and suggested it might be best to do so through a separate meeting to the TAC.

CB Feedback

EL explained that REAL is looking to collect any feedback on CBs this year (not so much anything historical) and requested that attendees share any comments offline.

As a final comment, JH noted that the draft RPS on CO2 upgrading included 'and use' rather than just storage and treatment, which helps put things into context (though it's unclear why this was dropped in the final version). JH notes she will share draft version with attendees following the meeting.

End: 2:30pm

Actions:

- JH to draft webinar agenda (potentially including content on products not covered by QP), discuss with Anna Willetts at CIWM, and share with MMG to consider for Research Hub Webinars for universities
- REAL and operators to send JH any further ideas for EoW webinar with CIWM
- REAL to provide update on CMCS compostables labelling/design initiative at the next forum
- REAL to record VFAs technical issue for PAS 110 review (should VFA analysis be mandatory?)
- EL to share operator comments on ADQP revision (manure based digestate and plastic limits) with colleagues to feed into QP revision work
- GP to come back to JC with update on discussions around TAC-related feedback being held by REAL
- REAL to record operator feedback on the issues surrounding changing screens for next review of PAS 110
- AC to share details with GP on historical case of screen size change and related paperwork change

- Operators to further consider research project proposals relating to the need for pasteurisation steps, characterising fibre to be bagged for horticulture (not fully covered in Valorisation Report), the impact of changing screening on other digestate quality parameters, outlets for waste material removed from screens, processing options to remove plastics from sf digestates, a test method to distinguish fossil from for compostable plastics and biochar/other additives for Call for Proposals in Jan '24

- GP to share further feedback with APHA on response to waste management study and consider contacting operators directly with portfolio of non-PAS 110 certified manure-fed AD plants

- Operators to share any comments or suggestions on APHA's reworked letter with GP for GP to share with APHA

- REAL to consider feedback from operators re APHA's involvement in the schemes/QP revisions