Stakeholder engagement based on Scottish & Irish experiences

Phos4You final conference, Essen & online, 22 – 23 September 2021, Tamsyn Kennedy, Scottish Water
Stakeholder Engagement

• Why is it important?
• Purpose:
  – Capture stakeholders’ first thoughts on:
    • Issues
    • Benefits
    • Challenges
  – Opportunity for stakeholders to inform the agenda
  – Develop relationships for future engagement, as appropriate
What about the pandemic?

• Halted individual face to face engagement
• Events were cancelled e.g. Royal Highland Show
• In person opportunities were limited e.g. Scottish Government showcase
• Had to alter activities – created the Questionnaire
• Might get better interactions virtually?
  -wider audience
  -time to consider opinions
  -more opportunities
Engagement Timeline

Launch Event
Stakeholder Definition
Dissemination Events (ongoing)
Interviews
Pilot Tours
Questionnaire
Final Event TBC
Dissemination Events

- 10th International Conference on Biofilm Reactors, Dublin, Ireland, 2017
- 12th European Waste-Water Management Conference, Manchester, UK, 2018
- 16th IWA LED on Water and Wastewater technologies, Edinburgh, Scotland, 2019
- Smart STEM school events (2016, 2017, 2018 and 2019)
- Hyvolution 2020 (EMEC), Paris, France 2020
Interviews

Aim was to build:

• Full picture of current industry / regulatory context from their position
• Potential opportunities now and in the future
• Known barriers and challenges
• What was their demand – production and use
• Emerging trends e.g. policy
• Any other stakeholders we have missed
Located on a live, operational treatment works, Scottish Water’s Waste-Water Development Centre is located at Bo’ness in the central belt of Scotland.

During the Phos4You project it hosted three of the pilot plants – Microalgae, Filtraphos and PULSe.

Engagement in the project was boosted by having them here because:

- Tours by interested parties could be easily arranged
- Development centre is part of European Water Test Network
- Regular information events for the centre included promoting the Phos4You pilots
Questionnaire

- Used Survey Monkey, open for 2 months
- 16 questions with 109 participants: 66% from a rural setting
- Quantitative closed-questions: multiple choice, Likert scale and rating scale
- Qualitative open-ended questions: unprompted responses
- Asked reasons for P recovery, concerns regarding wastewater effluent, P recovery technologies and the future use of P.
- Poor response in Scotland, no report produced

Different experience in Ireland:
- Excellent response with a wide range of stakeholder groups
- Extensive report of results published
Survey Results Highlights

Main Concerns Regarding Wastewater Effluent

- 31% Contamination
- 30% Impact on water quality
- 25% WWTP capacity/technology

Preferred Solution for Urban/Rural P Recovery

- 37% Development of new P recovery technologies
- 22.5% Mandatory nutrient recovery
- 22.5% New legislation/policy

Respondents = 71
Responses = 71

Respondents = 73
Word count = 665
Survey Results Highlights

### Parameters to Consider in the Decision-Making Process When Recovering P from a Rural Wastewater Source

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Most important</th>
<th>Important</th>
<th>Less important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve environmental protection</td>
<td>59%</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>Good water status</td>
<td>56%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>Reduce levels of contaminated water</td>
<td>56%</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>Reduce eutrophication</td>
<td>55%</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>Availability of technology</td>
<td>48%</td>
<td>15%</td>
<td>4%</td>
</tr>
<tr>
<td>P is a finite resource</td>
<td>47%</td>
<td>18%</td>
<td>4%</td>
</tr>
<tr>
<td>Resource conservation</td>
<td>46%</td>
<td>17%</td>
<td>3%</td>
</tr>
<tr>
<td>Closing the nutrient cycle loop</td>
<td>43%</td>
<td>19%</td>
<td>5%</td>
</tr>
<tr>
<td>Contribution to the circular economy</td>
<td>40%</td>
<td>23%</td>
<td>3%</td>
</tr>
<tr>
<td>Compliance with regulations</td>
<td>38%</td>
<td>27%</td>
<td>3%</td>
</tr>
<tr>
<td>Cost</td>
<td>38%</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>Improved national P security</td>
<td>38%</td>
<td>26%</td>
<td>5%</td>
</tr>
</tbody>
</table>

#### Conditions to Consider when using P from Recovered Sources

<table>
<thead>
<tr>
<th>Sources of P</th>
<th>% Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of P from recovered sources</td>
<td>36%</td>
</tr>
<tr>
<td>Price</td>
<td>36%</td>
</tr>
<tr>
<td>Availability of P as a fertiliser/security of supply</td>
<td>29%</td>
</tr>
<tr>
<td>Availability of P to plants/crops</td>
<td>28%</td>
</tr>
<tr>
<td>Heavy Metals</td>
<td>24%</td>
</tr>
<tr>
<td>Biosecurity/origin of the source</td>
<td>22%</td>
</tr>
<tr>
<td>Other contaminants</td>
<td>21%</td>
</tr>
<tr>
<td>Product specification/ease of handling</td>
<td>14%</td>
</tr>
</tbody>
</table>

#### Most important

- 51% Quality of P
- 41% Price
- 40% Availability of supply

Respondents = 70
Responses = 543

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Respondents = 69
Responses = 809

Extremely important:

- 86% Improve environmental protection
- 81% Good water status
- 80% Reduce levels of contaminated water
Survey Conclusion and Recommendations

Conclusions:

- P-recovery Stakeholder Survey was successful
- 109 survey participants from Ireland with 66% identifying as from a rural setting.
- Contamination was their main concerns regarding wastewater effluent.
- Development of new P recovery technologies was their preferred solution for urban/ rural P recovery.
- Quality of P, price and availability were the conditions to consider when using P from recovered sources.
- Improving environmental protection should be considered in the Decision-Making Process When Recovering P from a Rural Wastewater Source.

Recommendations:

- Wastewater industry and fertiliser industry need to develop a recovered P product that is affordable, free from contaminants, is good quality and readily available for the end-user.
- Increased funding and investment
  - Modernise Irish WWTPs
  - Provide increased capacity to treat wastewater
  - Potential for greater P-recovery
- Agricultural advisors can inform the farmers of the many benefits, not just agronomically but also environmentally of using P-recovered from wastewater sources.
What did we learn about the process?

- Variable awareness and sense of urgency in stakeholders must be accounted for
- Plans can be interrupted, have back up ideas
- Timing is important
- Site selection can have engagement benefits
- Raising awareness has wider implications
- Always more to be done!
Next Steps

• Hold a final dissemination event at end of November to present all the project’s findings and display the obtained P products
• Publicise the report summary with Stakeholders, within our organisations and with our working partners
• Monitor of economic and legal situation for changes to Stakeholder opinions
Engagement is a vital part of product development and the process should start much before availability.