

Residuals and Biosolids Community Plan

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1 Executive Summary

The WEF Residuals & Biosolids Community seeks to educate both internal and external audiences on residuals and biosolids best practices, latest technologies, and opportunities for beneficial reuse, through the sharing of insights, experiences, and expertise. The 286-member Community is comprised of utility professionals, consulting engineers, industry vendors, regulators, and others who share a common interest in the treatment and management of residuals and biosolids. Seven focus groups within the larger Community deliver technical presentations, workshops, webinars, social media outreach, conference sessions and publish fact sheets and other materials to support this mission.

The Community collaborates internally with other WEF communities, such as, the Air Quality and Odor Control Community and the Utility Management Community, as well as WEFTEC development committees, WEF Member Associations (MAs), WEF executive leadership and its Board of Trustees. Externally, the Community works closely with national organizations such as the Water Research Foundation (WRF) and the National Association of Clean Water Agencies (NACWA), regional organizations such as the Northeast Biosolids and Residuals Association (NEBRA), and academics to advance its water residuals and biosolids objectives and actively support national endeavors serving member interests.

Within this two-year Community Plan cycle, the RBC Leadership would like to update the RBC Mission Statement and develop outcome-driven metrics to better determine the impact the RBC has on the water and resource recovery sectors while also aligning Community Leadership, member, and external partner efforts relating to the management and best use of residuals and biosolids.

Internally, the RBC Leadership plans to baseline and develop objectives related to diversity, equity, inclusion and belonging (DEIB), expand outreach and engagement to utilities, and continue its outreach to Young Professionals (YPs) through the new YP Focus Group. Externally, the RBC Leadership plans to further engage WEF Member Associations by continuing to host an MA Open House each January, develop additional virtual engagement throughout the year, and create MA Liaison roles in partnership with MA Leadership. Working in concert with WEF's National Director of Biosolids, the RBC intends to broaden its impact to sectors beyond the water and resource recovery sectors. On a high level, this expansion will include, but not be limited to:

- Exploring outreach initiatives that offer social engagement platforms to connect to new audiences.
 - (2022) WEF launched a scaled-up public engagement campaign that aims to connect flushers to their role in creating a circular resource society.
- Expanding connections to organizations with related outcomes to build awareness, cross-promote initiatives, and leverage resources.
 - (2021) WEF became a partner with Ocean Sewage Alliance to bring the voice of utilities to these critical conversations.
- Evolving business market opportunities for biosolids that bolster the services of the National Biosolids Partnership by expanding market options and increasing biosolids awareness.
 - (2022-2023) WEF will re-emerge its National Biosolids Partnership service offerings in 2022 to increase access and visibility for continuing education opportunities and biosolids management process and product certification.
- Elevating the voice of biosolids and the impactful role that it can serve in global initiatives.
 - (2021) WEF has initiated conversations with the biosolids community to position biosolids as a key tool in climate change mitigation.

1.1 Community Objectives and Strategies

The following table highlights Objectives and Strategies that the RBC intends to accomplish in calendar years 2022 and 2023.

Item #	Objective	Strategy	Key Performance Indicator	Lead	Resources Needed
01	Develop outcome-driven metrics to track and enhance RBC impact	<ul style="list-style-type: none"> Research existing metric structures Understand what metrics can be measured, how data is sourced Draft 2022 baseline and determine where to focus efforts 	<ul style="list-style-type: none"> 2022 Baseline published 	Dru	
02	Increase 'active' member participation through increased transparency, communication, and opportunity	<ul style="list-style-type: none"> Create Welcome Package for new members outlining structure and each focus group (FG) Include a form to join focus group LinkedIn participation Define and formalize any informal community roles 	<ul style="list-style-type: none"> Number of members involved in FGs All Community roles formally captured and recruited for 	Karri, Victoria	None
03	Provide value to WEF and RBC members by providing valuable collaboration forums, technical content and learning resources	<ul style="list-style-type: none"> Increase remote member learning via webcasts Invest in curating and utilizing our LinkedIn page Provide/share useful tools and content developed by our regional partners and MAs 	<ul style="list-style-type: none"> 2 Webcasts per year 2 Workshops per conference Seek out and showcase regional collateral to RBC members 	Victoria	WEF Staff support for webcasts
04	Enhance utility participation in community	<ul style="list-style-type: none"> Baseline current utility participation and set goals "Utility Focus" presentation at Specialty conference Explore the National Biosolids Partnership as a utility-to-utility mentoring program Webcast panels 	<ul style="list-style-type: none"> Measure and add 2 utility members each year Report to CLC on barriers utilities face in participating 	Karri, Natalie, Victoria	None
05	Young Professionals	<ul style="list-style-type: none"> Continue to support and develop new YP Focus Group 	<ul style="list-style-type: none"> See Section 3.3 	Sarah	None
06	Establish stronger ties with WEF MAs and their committees with similar scope	<ul style="list-style-type: none"> Further develop MA "Open House" to more frequent touch points Establish MA Liaison role with at least one liaison as a pilot Chair and Maile MA "road trip" 	<ul style="list-style-type: none"> Identify one or more MA Liaisons Meetings with MAs that have Biosolids Committees 	Maile, Dru, Natalie	WEF Staff to identify contacts for MA's and which MAs have BCs

07	Foster innovation by pursuit of integrated thermal processes	<ul style="list-style-type: none"> • Support incorporation of innovation content throughout RBC and FG • Work with RISE Focus Groups on RBC related topics 	<ul style="list-style-type: none"> • 1 workshop /webinar/factsheet on innovative topic 	RISE WEF Staff Lead, Natalie, Dru	
08	Diversity, Equity, Inclusion and Belonging	<ul style="list-style-type: none"> • Work with WEF Leadership and develop aligning DEIB Plan 	<ul style="list-style-type: none"> • RBC DEIB Plan 	Natalie	

2 Community Summary

The WEF Residuals & Biosolids Community seeks to educate both internal and external audiences on residuals and biosolids best practices, latest technologies, and opportunities for beneficial reuse, through the sharing of insights, experiences, and expertise. The 286-member Community is comprised of consulting engineers, utility professionals, attorneys, regulators, and others who share a common interest in the treatment and management of residuals and biosolids. Seven focus groups within the larger Community deliver technical presentations, workshops, webinars, social media outreach, conference sessions and publish fact sheets and other materials in support of its mission.

The makeup and organization is provided on WEF.org at the [Residuals and Biosolids Community](#) page. The page lists RBC Focus Groups, which lead the development of products from the RBC and include:

- Young Professionals Focus Group
- ABBA (Association of Biosolids and By-products Associations) Focus Group
- Bioenergy Technology Focus Group
- Greenhouse Gas Focus Group
- Biosolids Products Use and Communication Focus Group
- Specialty Conference Focus Group
- Solids Separation Focus Group
- National Biosolids Partnership Focus Group

To become a member of the RBC, please join through WEFUnity at <https://community.wef.org/>

Additional information for the Residuals and Biosolids Community is provided in Chapter 20 within the [WEF Community Manual](#). This document includes a summary of the leadership positions within the RBC and the succession planning and approach.

The RBC is a member of the Resource Recovery Community of Practice (CoP) which is represented on the Committee Leadership Council (CLC) Steering Committee by its Director.

3 Service Group Analysis and Opportunities

3.1 Service Group Needs

The RBC provides support to our members and non-members consisting of the following:

- New RBC members and Members who may want to be more active (Lead: Victoria)
- Underserved/underutilized member utilities (Lead: Karri)
- Utilities outside the WEF structure (Lead: Karri)
- Underserved/underutilized young professional (YP) members (Lead: Sarah)
- Member Associations (Lead: Maile, Natalie and Dru)
- Regional Biosolids Groups (Lead: Maile)

In addition, RBC Leadership would like to baseline and set objectives on diversity, equity, inclusion and belonging (DEIB). As an initial step, the RBC will reach out to WEF Leadership to learn about and align RBC efforts with those of the larger WEF organization. Vice Chair Natalie Sierra will lead this effort.

3.2 Utilities within our sector

The RBC serves municipal, industrial, vendor and consulting organizations with services and products that offer increased learning, cross-regional planning, biosolids advocacy, exploring emerging technology, utility programmatic improvements, technical and strategic collaboration, utility member experience and professional growth. To that effort, the RBC Leadership would like to better identify, engage and develop utility members into leadership roles at all Community levels through the following activities:

- Identify and track utility representation across the RBC membership roster and its leadership org chart (Lead: Victoria)
- Leverage MA partnership initiatives listed in Section 3.4 to both better serve and directly recruit new utility members (Leads: Karri & Natalie)
- Encourage utility involvement in the RBSC through “Utility Focus” presentations at meetings and inclusion of at least one utility member in the community leadership

3.3 Young Professionals

The RBC stood up a new Focus Group in 2020 for Young Professionals, with a Chair and Vice Chair. The RBC YP Focus Group mission is to facilitate the exchange of ideas & knowledge in a multi-generational space by engaging students and young professionals to promote effective collaboration, develop original technical content, and network across WEF’s other YP communities. The Focus Group has developed 2022/2023 objectives in alignment with RBC goals:

- YP Happy Hour and other events at Residuals and Biosolids Conference (RBC)
- WhatsApp group for YP Focus Group for event and conference coordination and gathering
- Teams Channel for YP Focus Group for enhanced community communications and collaboration
- Monthly Meeting Technical Presentation for continuing technical education in biosolids
- YP liaison for other RBC focus groups for increased informational exchange of RBC initiatives
- Provide a minimum of two mentorship opportunities per year for knowledge exchange
- Perform two YP engagement drives per year to increase YP engagement in the RBC and to raise awareness in students of the field of biosolids

3.4 Member Associations

In 2021, the RBC held its inaugural “Member Association Open House,” a virtual event attended by dozens of MA leaders. Through break-out sessions, participants conveyed local challenges and brainstormed opportunities for the RBC to better engage with MAs and their local Chapters. Below are actionable suggestions. Actions in **bold italics** have been incorporated into this Community Plan; others are for future reference and potential action.

- ***Facilitate the inclusion of states without Biosolids Committees into nearby states with Biosolids Committees*** (Lead: Natalie)
- ***Offer more virtual meeting opportunities for RBC leadership to connect with MAs*** (Lead: Dru)
- Centralize WEF website to coordinate information, events, etc. (WEF is currently exploring this)
- ***Develop MA Liaison roles for each MA with an existing Biosolids Committee*** (Lead: Karri)
- ***Invite MA Biosolids Committee leadership to ABBA calls to increase knowledge sharing*** (Lead: Ryan)
- ***Make the RB organizational chart and Leadership contact information more widely known and available*** (Lead: Karri)
- Publish newsletter or similar summarizing hot topics/upcoming events/resources (WEF is currently exploring this).

4 Collaboration

4.1 Internal Partners

The RBC seeks to collaborate with other WEF entities through technical presentations, publications, workshops, social media outreach, and webinars, targeting the following internal partners:

- WEF Communities where topics relate to residuals and biosolids
 - Integrated Planning Task Force—through the appointment of an RBC Liaison
 - Odor and Air Quality Community – for practices to both reduce residuals/biosolids odors and treat odorous exhausts.
 - Municipal Resources and Recovery Design Community – for practices that impact biosolids generation/quality and advance overall resource recovery efforts
 - Any community that focuses on combustion, power generation using biosolids, or renewable energy
 - Plant O&M – for process practices that impact residuals and biosolids
 - Research & Innovation Community – for examples of current or developing research/technologies associated with residuals and biosolids.
 - Public Communication & Outreach Community – for methods and tools to communicate with the public on residual and biosolids
 - Utility Management Community—for content and initiatives relating to effective management and governance
- WEFTEC Biosolids Symposium – to optimize coordination between RBC activities and WEFTEC presentations
- WEFTEC Program Committee – to promote, support, and assist with the development of strong WEFTEC workshops on residuals and biosolids topics
- WEF staff – support for RBC activities including meeting logistics, the bi-annual conference, publications, webinars, and the benchmarking survey setup
- WEF Member Associations – to explore what technical knowledge and experience relative to residuals and biosolids exists within WEF’s Member Associations and to share knowledge and experience between WEF and the Member Associations
- National Biosolids Partnership (NBP) - is a not-for-profit alliance formed in 1997 with the National Association of Clean Water Agencies (NACWA), Water Environment Federation (WEF), and U.S. Environmental Protection Agency (EPA) to advance environmentally sound and accepted biosolids management practices, serve as the information clearinghouse on effective biosolids practices and technical assistance, and offer an EMS-based certification program that requires participating organizations to go beyond regulatory requirements.

4.2 External Partners

RBC members engage in active knowledge transfer and support for others working to advance the science of residuals and biosolids. These groups include:

- Regional biosolids associations, such as Northeast Biosolids & Residuals Association (NEBRA), the Mid-Atlantic Biosolids Association (MABA), Northwest Biosolids in addition to state-focused organizations such as California Association of Sanitation Agencies (CASA) and the Virginia Biosolids Council (VBC).
- Academics, who are routinely asked to present relevant work on/at RBC forums and who often serve as reviewers for RBC publications. The United States Department of Agriculture’s W-4170 Research Committee hosts many of the researchers evaluating biosolids end use and were instrumental in developing the EPA’s Part 503 Biosolids Rule.
- International Water Association, a co-sponsor of some RBC Specialty conferences
- National Association of Clean Water Agencies
- Water Research Foundation
- Environmental Protection Agency’s Biosolids Program

In conjunction, broadening our reach to organizations where we can align efforts to create a unified voice around common objectives such as climate mitigation. These groups include:

- Ocean Sewage Alliance
- Toilet Board Coalition
- FLUSH
- European Federation for Agricultural Recycling (EFAR)
- Food and Agriculture Organization of the United Nations - Global Soil Partnership

4.3 Industry Risks and Risk Mitigation

Today, industry risks primarily revolve around limitations on residuals and biosolids outlets, driven by public concerns regarding odors, trace organic compounds and other concerns. As we strive to expand biosolids outlets, ensuring that biosolids generators, regulators and the public understand the relative risks and benefits associated with biosolids use is critical. The RBC membership has a deep and wide knowledge of these issues and is therefore well qualified to mitigate risks by providing the technical support needed by all stakeholders to further their understanding of biosolids.

The WEF Biosolids Program strives to elevate biosolids as a solution by evolving our approach to communications and market development. Communications that focus on building engagement opportunities with our communities to cultivate connections and broaden awareness around the important work that we do. Marketing efforts that focus on biosolids as a valuable product in jumpstarting a circular resource society.

Objectives directly focused on this include:

- Flusher engagement campaign to serve as a platform for behavior change by broadening awareness of resource recovery and building support for biosolids use (i.e., product stewardship, humanization, circular resource society).
- Elevating biosolids as a tool in climate change mitigation through dialogue within WEF and with outside organizations with a common cause (i.e., soil depletion, renewable nutrients, clean water).
- Approaching biosolids as a business model to explore untapped markets and product certification opportunities.

5 Programs and Services: Overview of Implementation

5.1 Community Activities and Products

The RBC focus groups noted above are the source of all publications from the community and, as such, lead the implementation of all community deliverables, including:

- Fact Sheets
- The Residuals and Biosolids Specialty Conference
- Conference workshops
- Webcasts
- Podcasts
- LinkedIn content
- Short-videos/clips for social media distribution

5.2 Community Services

The RBC traditionally provided the following services to support its mission:

- Factsheets and other publications
- Development of the technical program for the RBC Specialty Conference
- Support and coordination for WEFTEC biosolids-related workshops
- Technical guidance for WEF-generated resources
- Through its liaison to the National Biosolids Partnership (NBP), support for improvements in biosolids quality and outreach

In response to the recent pandemic, PFAS issues, and the expansion of social media in work-life, the RBC has begun to re-examine and broaden its influence with and in support of its members. Additional RBC services under development or newly offered are as follows:

- A virtual component of the Residuals and Biosolids Specialty Conference (Lead: Lynne Moss)

- The RBC LinkedIn page (curated by Victoria)
- Restructuring and improving the NBP (Lead: Maile)
- Additional webinars to maintain an ongoing dialogue with members (Lead/Coordinator: Victoria)
- National Biosolids Leadership monthly meetings with other regional and national entities such as NACWA, EPA, WRF, NEBRA and CASA (Lead: Maile)
- Broader and more tangible connections with Member Associations (covered in other sections of this Plan)

5.3 MA Involvement / Interaction

RBC partnership and collaboration with WEF Member Associations is critical to providing relevant and meaningful services to its membership. Current partnership efforts with MAs include:

- Residuals and Biosolids Specialty Conference: The Specialty Conference is held as a joint conference with an MA host (Lead: Lynne)
- Direct notification to MA biosolids committee chairs regarding new RBC offerings via e-mail
- Providing updates from RBC on National and International biosolids initiatives
- ABBA Focus Group meetings, as this group specifically includes MA Biosolids Committee members as well as regional biosolids associations
- RBC member participation in MA Biosolids Committees - Many RBC members participate in their local MA's Biosolids Committee and/or support residuals and biosolids initiatives of other MA's by presenting at local conferences and workshops.

To better serve its membership, and to accomplish its goal of bringing more utilities into the Community, the RBC is undertaking the following proactive steps to better engage with MAs:

- Hosting a virtual "Open House" annually in January with MA leadership with the following objectives (Lead: Dru and Maile):
 - Hear directly from MA Leaders about regional priorities and challenges that could be impacted on a national scale
 - Showcase accomplishments and current projects from each RBC Focus Group
 - Increase networking opportunities
 - Create a feedback loop for MA engagement
- Creating new MA Liaison roles to further increase knowledge sharing and active collaboration (Lead: Karri)
 - A description has been drafted and at least one MA Lead has stepped forward to pilot this new effort
- Offering additional RBC/MA meetings on a semi-annual or quarterly level to maintain engagement throughout the year and share progress on commitments made during or as a result of the January MA Open House (Lead: Maile and Dru)
- Exploring how best to engage and involve local Chapters within MAs (in progress) Lead: Karri and Natalie)

5.4 Community Member Engagement

The RBC Leadership recognize that nothing happens without intentional, volunteer-driven effort by its members who actively serve in leadership, specialty conference, member support, and product development roles. Therefore, a primary focus of the RBC Chair and Vice-chairs is engaging members from the moment they apply to the Community. Existing efforts include:

- Personal welcome correspondence from the Chair to new members
- Encouraging members to serve on a focus group and broadcasting upcoming vacancies
- Focus Group Leadership informally gaging the percentage of "active" members and encouraging new members to participate in projects often with seasoned members
- A thoughtfully designed recruitment and appointment process for Focus Group Vice Chairs and other key leadership roles that is widely communicated, fair and transparent

New initiatives include:

- Continuing the effort begun in 2021 in making the RBC Leadership recruitment and selection process more transparent and communicative
- Development of a welcome packet for new members that breaks down WEF's volunteer structure, from the Board of Trustees to Focus Group Task Force Leads, and details the RBC's mission, the names and contact information of current leadership, communication channels, ways to take advantage of resources, and next steps to become active members (Lead: Karri)
- Working with WEF staff to assess and improve member diversity, equity, inclusion and belonging (Lead: Natalie)

6 Marketing Plan

All externally focused efforts will be coordinated through WEF's Communication Director, to ensure that messages and content align with WEF's Strategic Plan.

6.1 Market Opportunities

The RBC develops materials and provides services for the following markets:

- Wastewater and biosolids professionals (including both utility staff, consultants, and vendors)
- Academia
- General public
- Regulators
- Students
- Other entities with potential influence on biosolids management opportunities and challenges such as NGOs from the Organic sector, the Ocean Sewage Alliance, and The Toilet Board (Lead: Maile)

For internal markets (WEF members), e-mail notifications, publishing on WEFUnity, the MA Open House, and webinars are used to advertise and promote community products. External efforts are led by WEF's National Biosolids Director in concert with and actively supported by the RBC. These efforts are often a co-benefit of the mission of the National Biosolids Director to influence and broaden the acceptance of biosolids and residuals products such as soil amendments, biogas, heat and nutrients.

6.2 Alternative Format for Current Products

In light of the recent pandemic and WEF's response to shift to offer virtual options for many events, the RBC will continue to expand opportunities for virtual engagement in addition to the in-person specialty conference and WEFTEC offerings. The RBC now offers these virtual options for its current offerings:

- Promotion of RBC materials on the RBC's LinkedIn page
- Additional webcasts
- Virtual components to its Specialty Conference
- Short video presentations and/or podcasts from experts for posting on YouTube
- Increased written social media presence (tweets, blogs, etc.)

7 Resource Needs

7.1 Financial Resources

The RBC has on-going needs that are likely within the routine staff support and budget of WEF including MOP Publications, Fact Sheets, webcasts, the Specialty Conference, webinar, and other deliverables.

The RBC may seek additional support for:

- Rapid responses (including research) to address emerging areas of concern.
- Recognition/Awards: Community leadership wants to establish an award or fund an existing award when outside funding is unavailable to acknowledge leadership or excellence within the community.

7.2 Staffing Resources

The WEF RBC is fortunate to benefit from the support of a National Biosolids Director and Water Science & Engineering Center (WS&EC) Manager .

- The WEF Director of Sustainable Biosolids Programs is responsible for serving as a central coordinator and network leader for sustainable biosolids programs. Working in concert with Water Environment Federation (WEF) members, Regional Biosolids Organizations (RBO), partnering organizations, and local stakeholders to identify issues and resources necessary to elevate the voice for biosolids as a solution. Finding synergies across organizations (direct and indirect) to create a unified voice around a common cause such as growing a circular economy. The Director facilitates the national and international biosolids leadership calls, that includes evolving WEF's offerings related to the National Biosolids Partnership. In coordination with the RBC, opportunities are identified to align Director initiatives with committee projects.
- The WEF **Manager of Water Science & Engineering Center (WS&EC)** is responsible for providing administrative support to the RBC and its focus groups through the scheduling and circulation of meetings invitations, establishing meeting agendas, and recording meeting minutes. The Manager tracks and records the status of all projects and initiatives across the RBC via Teams List. This position also assists in the sharing of biosolids related resources, such as events, programs, literature, and news, through WEF's central communications platform WEFUnity and LinkedIn. During the time of transition for RBC and Focus Group Leadership, the Manager facilitates and collects applications and acts as a point of contact for applicants and the Selection Committee. Moreover, this individual is a point of contact to all members of the RBC and assists with inquiries that may require collaboration with cross-functional teams in order to position services and support strategic goals.