

**RFP 24-77622
TECHNICAL PROPOSAL
ATTACHMENT F**

Instructions: Please supply all requested information in the areas shaded yellow and indicate any attachments that have been included to support your responses.

2.4.1 General Requirements and Definitions

- 2.4.1.1 Please list any additional terms and definitions used by your company or industry that you would like the State to consider incorporating in the contract. The State will not accept terms and definitions introduced after award during contract finalization and implementation.

Eunomia is not providing any additional terms or definitions to be considered for incorporation into the contract.

- 2.4.1.2 Please confirm you have carefully reviewed all requirements listed in RFP Section 1.4. Should your company have any exceptions, substitutions, or conditions for the State's consideration, please list them below. The State will not accept exceptions, substitutions, or conditions introduced after award, during contract finalization and implementation.

Eunomia has carefully reviewed all requirements listed in the RFP Section 1.4. We do not have any exceptions, substitutions, or conditions to provide for the state's consideration.

2.4.2 Project Experience and Qualifications

- 2.4.2.1 Please provide a brief history of your organization's experience with delivering services similar in size and scope. Additionally, please describe how that experience is relevant to the services in this RFP.

Following is a brief history of our team's experience with delivering services similar in size and scope.

Eunomia Research & Consulting

Washington State Department of Ecology:

- **Recycling, Reuse, and Source Reduction Target Study:** Eunomia developed performance targets for recycling and source reduction for consumer packaging and paper materials. This work is directly relevant to the RFP as it involves

setting and evaluating performance targets, a key aspect of strategic materials management.

- **Packaging Flows and Costs, EPR Best Practice:** This project involved detailed analysis of plastic packaging waste, identifying recycling operations, and reviewing Extended Producer Responsibility (EPR) schemes. This experience is relevant to implementing and advising on EPR schemes, a crucial component of materials management.
- **Consumer Packaging and Paper Products Study:** This study provided a baseline account of recycling rates and reviewed policy measures to improve recycling. The experience is relevant for establishing and improving recycling programs under a materials management plan.

Colorado Department of Public Health and Environment:

- **EPR Needs Assessment:** The project developed scenarios to estimate future recycling performance and costs under an EPR program, providing a comprehensive view of the recycling landscape which is essential for effective waste management planning.
- **Organics Diversion Study:** Eunomia developed recommendations for organic waste infrastructure and policies, aligning closely with the goals of waste management planning to optimize organic waste diversion.

Other Notable Projects:

- **Extended Producer Responsibility and Container Deposit System Analysis in Washington State** involved complex waste flow modeling and economic analysis, which are directly applicable to waste management system planning.
- **Minnesota Solar Panel Reuse and Recycling Study:** Eunomia developed a tool to estimate the impact of reuse businesses across the state for Reuse Minnesota. We used life cycle analysis and datasets to provide and execute a methodology/tool(s) for measuring the statewide impacts of reuse activities. This, alongside various other studies across different states, shows Eunomia's capability to handle specialized waste streams.

GBB

- **Solid Waste Master Plan for Orange County, North Carolina:** GBB developed a comprehensive plan aimed at achieving zero waste, involving strategic planning, benchmark setting, and program development for waste prevention, collection, and processing. This project showcases GBB's strength in creating long-term waste management strategies, which is highly relevant to the RFP.
- **Strategic Planning for Recycling and Solid Waste System in Baltimore County:** GBB took a multidisciplinary approach to evaluating and improving the county's waste system, showing GBB's capability to integrate current systems with future needs, a necessary skill for the project's requirements.
- **Integrated Waste Management Plan for Wasatch, Utah:** This plan included

public outreach and strategic planning for future waste management needs, reflecting GBB's ability to engage communities and plan for sustainable materials management.

***McFarland PR & Public Affairs Inc.**

McFarland has expansive experience in public outreach, education, and communication, specifically with the State of Indiana and other quasi-government agencies. Specific experience that is applicable to this project includes:

- **Indiana Department of Resources (Division of Water)**
McFarland helped DNR's DOW reach out to multiple stakeholder demographics and collect input on how to improve DOW's processes, engagement and communication. McFarland used that data to help DOW craft a strategic plan to address gaps, and make improvements in their relationship with this broad set of stakeholders.
- **Indiana Office of Technology (IOT) – Local Government Services**
McFarland conducted multiple virtual input sessions to gather insights and viewpoints from a range of local-government officials across Indiana counties. These sessions (conducted virtually) sought to determine what services these agencies needed, and how IOT could best engage with them to discuss and provide those services. McFarland used that data to develop a strategic plan for IOT to implement the improvements and recommendations provided through the discovery process.
- **Purdue University – IT AT Purdue (ITAP)**
McFarland conduct discovery research across a broad swath of Purdue internal stakeholders – ITAP leadership, faculty, students and IT professionals embedded in Purdue divisions and schools. The intension was to gather their insights, concerns and recommendations about ITAP practices and processes, and how best to engage with these stakeholders. These sessions were conducted in person over several weeks (approximately eight weeks, using conference facilities on Purdue's campus). McFarland used the collective input to develop a strategic recommendation plan on how to address the discovery feedback across ITAP divisions.
- **Indiana Family and Social Services Administration – Healthy Indiana Plan 2.0**
While this was a full-scale marketing campaign involving stakeholder research, strategic planning, design, community outreach, media relations and advertising. McFarland helped FSSA begin the journey with collecting input from the target constituent demographic on the HIP 2.0 change in approach, and the marketing materials and message. McFarland conducted three in-person focus groups across the state (Indianapolis, Connersville, Gary). McFarland used this input to help FSSA develop a highly successful advertising campaign, and community outreach strategy. The campaign achieved its operational success target ahead of schedule and under budget.

Overall, the combined experience of Eunomia, GBB, and McFarland covers comprehensive waste management planning, stakeholder engagement, and strategic communications, all of which are crucial for implementing effective materials management plans as outlined in the RFP.

2.4.2.2 Describe your relevant experience with city, county, state, and federal government agencies, especially for developing materials management plans.

Following are examples of relevant projects the team has developed for city, county, state and federal government agencies.

Local Government - City

- **City of Hoboken - Zero Waste Plan (Eunomia):** The City of Hoboken commissioned Eunomia to develop its Zero Waste Plan. The plan evaluated current operations to increase diversion, identified efficiencies, and reduced costs for the City of Hoboken. This work included a waste audit of the residential and commercial sectors, a cost of service evaluation, the development of a long list of recommendations, and refinement into an action plan. Eunomia also assisted the City with stakeholder outreach, including the development of community surveys.
- **City of Indianapolis - Solid Waste Minimization Planning (Eunomia):** The City of Indianapolis commissioned APTIM, with Eunomia as a subconsultant, to review its current solid waste environment and develop a task-driven plan to achieve sound solid waste minimization efforts. Eunomia calculated job creation, economic benefit, and GHG reduction resulting from the current waste management system and potential future alternatives.
- **City of Charlottesville, Virginia - Programs and Services Review and Collection Route Modeling (GBB)** - GBB led a thorough review and optimization of the solid waste management system for the City of Charlottesville, Virginia. Tasked with improving landfill diversion, efficiency, and customer service in a city with a high daytime population, GBB evaluated existing programs, gathered stakeholder feedback, and recommended updates across programs, operations, finances, policies, and customer service. They also emphasized the significant potential for organics diversion, leveraging the city's established drop-off centers. Utilizing FleetRoute™ software, GBB modeled three collection scenarios to optimize routes and improve participation rates for waste, organics, and recycling, providing a strategic blueprint for the city to enhance its environmental management and service efficiency.
- **Solid Waste Disposal Authority of the City of Huntsville, Alabama - Stakeholders and Community Outreach as Part of Launch of Opt-in Curbside Recycling Program (GBB)** - GBB assisted the Solid Waste Disposal Authority of the City of Huntsville (SWDA)'s with an analysis of residential collection services and the

development of strategies/options to improve the waste and recycling management infrastructure. SWDA then tasked the GBB Project Team with leading the planning, procurement, stakeholders and community outreach, public education, and implementation assistance efforts to establish the Recycling Alliance of North Alabama (RANA), a newly formed division of the SWDA, and launch a new and efficient opt-in curbside recycling program.

- **City of Fort Worth, Texas - Comprehensive Solid Waste Management Plan Development (GBB)** - In Fort Worth, Texas, GBB was instrumental in developing a comprehensive 20-year solid waste management plan aimed at enhancing waste management practices across the city. Their engagement, spanning several strategic areas, included data analysis, alternative solutions, public outreach, and strategic recommendations, culminating in a plan that emphasizes increased recycling rates, new processing facilities, and advanced recovery technologies. The plan, which received unanimous City Council approval, outlines significant initiatives such as extending landfill life through diversion programs, establishing a Material Management Program to support commercial recycling efforts, implementing a pilot organic composting program, and enhancing educational and outreach programs. These initiatives are designed to sustainably manage waste in Fort Worth, supporting both environmental and community goals.

Local Government - County

- **Washington State King County - Extended Producer Responsibility and Container Deposit System Cost and Benefit Analysis (Eunomia):** Eunomia modeled the current waste flows for plastics in Washington State as well as the costs of the current collection, processing, and disposal system. Eunomia calculated the costs and benefits of introducing a Deposit Return System (DRS) in Washington State, alongside an analysis of the costs and benefits of introducing an EPR system. The team modelled seven alternative scenarios under different forms of EPR to determine the cost, environmental and social impacts, and benefits. The process included ArcGIS mapping of DRS coverage of return points and determining the costs of each scenario to households and governments.
- **Washington State King County - Assessment of the Impact of EPR on Municipal Rates in Washington (Eunomia)** - Eunomia was commissioned to assess the potential impact on recycling rates of introducing producer responsibility for packaging and paper products for several Washington municipalities including the City of Seattle, Spokane, and Tacoma. The assessment included working with municipalities to understand how services are delivered and the relative capital and operating costs. Eunomia assessed the proportion that could be attributed to the collection and processing of packaging and paper products covered under EPR, which could be deducted from municipal utility rates. As part of this work, we developed the material flows for those materials and assessed the quantities that were generated, recycled, and disposed. The results for the model analysis indicate that implementation of EPR for PPP in Washington has the potential to deliver substantial economic, social, and environmental benefits. The full report

can be read here.

- **Orange County North Carolina - Solid Waste Master Plan Development – Road to Zero Waste (GBB)** - GBB collaborated with Orange County, NC, to develop a comprehensive Solid Waste Master Plan “Road to Zero Waste 2023-2045”. The plan details a path forward with 5-year benchmarks throughout the two decades ahead, along with strategies for prevention, collection, and processing for both residential and commercial entities. With a population of 150,000 residents, including the Towns of Chapel Hill, Carrboro, and Hillsborough, as well as the University of North Carolina-Chapel Hill and the UNC-Healthcare System, Orange County engaged GBB to assess the current efforts and programs and to create a roadmap toward a sustainable, zero-waste future.
- **Baltimore County, Northeast Maryland Waste Disposal Authority - Strategic Planning for Recycling & Solid Waste System (GBB)** - GBB developed a holistic plan building on the firm’s deep understanding of the County’s past that incorporated the current state and realities of the solid waste management system and anticipated the trends, needs, and plans for the future. As a first step, the county created a Solid Waste Work Group -- composed of County leadership, community members and industry representatives – to examine current solid waste collection and disposal policies and practices and make recommendations for implementing innovative industry practices and trash diversion strategies to reduce the overall volume of trash produced in the County. As a final step, the GBB Project Team developed the Final Report alongside the County and NMWDA, which included detailed descriptions of recommendations, schedule for implementation, estimated costs for implementation (both capital and operating), anticipated cost reductions or revenues gained, and anticipated change(s) in recycling and disposal tonnages.
- **Albemarle County, Virginia - Program Review & Development of Recommendations for Enhanced Recycling and Solid Waste Management (GBB)**- Over the years, major developments had urbanized parts of the county which were not effectively served anymore by convenience center drop-offs or the private collection network. Seeking an updated approach to solid waste management that takes into account new challenges they faced, Albemarle County selected GBB to identify a vision -- building from the Sustainable Materials Management strategies and actions set forth in its Climate Action Plan – and develop best practices for access to recycling and diversion programs such as recycling, organics diversion, and convenient collection of garbage. As part of the project, GBB was tasked with evaluating solid waste management systems and comprehensively identify and recommend opportunities to streamline, re-focus, increase curbside service and optimize the service profile for all residents. Cost efficiencies were also evaluated.
- **Calaveras County, California - Comprehensive Review of Integrated Solid Waste Management System (GBB)** - GBB was tasked with a comprehensive evaluation of the solid waste management system in Calaveras County, California. GBB

assessed the operating structure, service quality, costs, and efficiency of the county's system and provided detailed recommendations and strategies for improvements aligned with industry best practices. This included analyzing the operational, organizational, and capital structures and suggesting enhancements. As part of the capital structure review, GBB conducted a Fee Study to assess the existing fee mechanisms, evaluating their adequacy in supporting both current and prospective services while achieving the county's management goals. Additionally, the project involved significant efforts in grant research and writing, focusing on leveraging funding opportunities offered through the Inflation Reduction Act. GBB identified suitable funding sources, outlined objectives for grant proposals, and prepared the necessary documents and partnership agreements to enhance the county's financial resources for its solid waste management initiatives.

- **Kent County, Michigan - Operational Efficiency Study and Future Strategic Planning (GBB)** - GBB conducted a comprehensive efficiency study for Kent County's solid waste management, including organizational reviews, operational assessments at facilities like landfills and the Waste-to-Energy plant, and financial analyses. They evaluated current operations, staffing, and waste processing efficiencies, and suggested operational improvements and cost-saving measures to enhance overall system efficiency and increase the county's revenues.
- **Kent County, Michigan - Master Plan Development for Sustainable Business Park (GBB)** - Kent County, Michigan, aiming to divert 90% of its waste from landfills by 2030, commissioned GBB to develop a master plan for a Sustainable Business Park on 250 acres. This park is intended to minimize landfill waste and attract businesses that can transform waste into usable products. The plan, which was approved in October 2018, involves various partners and envisions facilities that will recover, reuse, and recycle materials, and convert non-recyclable materials to extract their energy value.
- **Kent County, Michigan - Waste Characterization Study (GBB)** - In 2022, GBB conducted a detailed Waste Characterization Study to understand the composition of municipal solid waste in Kent County. This study, which sorted waste into fifty categories, revealed significant volumes of divertible materials, supporting the feasibility of the Sustainable Business Park by showing that 75% of the county's waste could potentially be processed and diverted from landfills.

State Government

- **Washington Government - Recycling, Reuse, and Source Reduction Target Study and Community Input Process (Eunomia)**: In 2023, the Washington State Legislature directed the Washington Department of Ecology (Ecology), via the Engrossed Substitute Senate Bill 5187, Section 302 (20), to contract for a study to (1) develop recycling, reuse, and source reduction performance target rates for consumer packaging and paper materials; and (2) conduct a community input process to gather input from Washington residents about their views and

opinions on the state's recycling system. This study addressed consumer packaging material, and specifically, rigid and flexible plastic, paper, aluminum, steel, and glass. Ecology awarded this contract to a team led by Eunomia Research & Consulting, Inc. The targets study comprised two parts: (1) a summary of recycling, reuse, and source reduction target rates set by jurisdictions, primarily in the US, Canada, and Europe, including information about measurement methods and justifications for the target rates; and (2) findings from modeling the impact of four policy scenarios on recommended target recycling and reuse rates for the near-term, 2032, and beyond.

- **Washington Government - Packaging Flows and Costs, Research into EPR Best Practice, Review of Mechanical and Chemical Recyclers in the US (Eunomia)** - As a subcontractor to Cascadia, Eunomia conducted analysis to assess the quantities of commercial and residential plastics by polymer type that were generated, disposed and recycled considering loss rates; secondary research to identify mechanical and chemical recycling operations from pilot; stage to full scale operation across the US; and review of European EPR schemes and recommendations on best practice to inform policy recommendations. To assess the current plastic packaging management system conditions, costs, and outcomes, the study team used data provided by Ecology, supplemented by additional research. This work produced a series of reports. As part of this assessment, the team researched and compiled data on plastic packaging waste generation, disposal, and management in Washington. The reports describe these findings as well as the infrastructure necessary for a plastic packaging management system that meets the intent of the Legislature's goals under Chapter 70A.520 RCW.
- **Washington Government - Consumer Packaging and Paper Products Study Recycling Rate Assessment and Recommendations (Eunomia)** - Eunomia was commissioned by the Washington Department of Ecology to develop a detailed and comprehensive current baseline account of all consumer packaging and paper products within the state of Washington as well as recycling rates for these materials. As part of this project, Eunomia also identified a subset of problematic materials and performed a landscape review of policy measures that could address them, including EPR, DRS, bans, labelling requirements, postconsumer recycled content requirements, and reuse programs. The report presents a comprehensive current baseline account of all consumer packaging and paper products within the state of Washington as well as estimated recycling rates for these materials. It also reviews problematic materials and proposed policy measures to address them.
- **Colorado Government - EPR Needs Assessment (Eunomia):** Colorado was one of the first states in the U.S. to pass extended producer responsibility for packaging and paper products. The designated producer responsibility organization (PRO) CAA selected Eunomia and HDR to conduct the states EPR needs assessment. The objective of this project was to develop three scenarios to estimate the future recycling performance and cost under the EPR program. Before passing EPR,

waste and recycling data was segmented and limited across Colorado. Therefore, this assessment required a comprehensive research and analysis process across the value chain including residential and non-residential waste generation and recycling access, collection frequencies and practices, MRF performance, technology, and capacity, and recycling end markets. In total over 100,000 data points were gathered across the state. The research process involved 90+ Tours/interviews with service provider and end markets, 130 completed surveys from municipalities representing 60% of the population, and many hours of secondary research. This data was used to create a sophisticated scenario modelling tool to adjust potential implementation methods for the EPR program to understand its impact on recycling performance and cos. For example, the impact of collecting recyclables weekly vs every other week. Throughout this project, the team attended 18 meetings with the state advisory board getting constant feedback from local stakeholders. On April 17, 2024 the Colorado Joint Budget Committee approved (on a 5-1 vote) the “medium” scenario developed as part of the needs assessment which will be used as a foundation for developing the program plan. This shows that Eunomia’s comprehensive work has the strength to pass through legislative processes.

- **Colorado Government - Organic Waste Infrastructure Study (Eunomia):** Eunomia is currently supporting the state of Colorado to assess organic waste management infrastructure and assess potential future infrastructure development needs under scenarios with increased organics landfill diversion rates.
- **Ontario Government - Recovering Value from Waste Study (Eunomia):** Eunomia was commissioned by the Ministry of the Environment, Conservation and Parks (MECP) to undertake a study to understand if and how the advanced recycling industry can help Ontario meet its waste diversion goals. This project included an industry profile of advanced recycling across the globe and an economic feasibility analysis and modelling of how advanced recycling can fit alongside Ontario's existing recycling system.
- **Oregon Government - Needs Assessment for Local Government Recycling Expansion (Eunomia)** - Eunomia conducted a needs assessment of Oregon’s Local Governments and their Service Providers as part of implementing the state’s Recycling Modernization Act. The project included helping the Agency design and implement a notification, outreach and survey strategy to Local Governments around the state; designing and hosting a needs assessment survey to collect information from Local Governments or their Service Providers about their plans to expand recycling opportunities; designing and implementing outreach meetings; and distributing the survey, collecting responses, and drafting and finalizing a report.
- **Minnesota Government - Solar Panel Reuse and Recycling Study (Eunomia):** Eunomia developed a tool to estimate the impact of reuse businesses across the state for Reuse Minnesota. We used life cycle analysis and datasets to provide

and execute a methodology/tool(s) for measuring the statewide impacts of reuse activities. This, alongside various other studies across different states, shows Eunomia's capability to handle specialized waste streams.

- **Alberta Government - Economic Value of Alberta's Recycling Programs (Eunomia):** The Recycling Council of Alberta commissioned Eunomia to quantify the economic value of Alberta's recycling programs and develop strategic performance measures and indicators for Alberta's beverage container recycling program (BCRP). The first initiative evaluated and enhanced the economic impact of Alberta's recycling efforts by identifying opportunities for expanding effective waste diversion and recycling programs. The second initiative optimized the BCRP by reviewing and improving its performance measures and indicators, strengthening the program's efficiency and effectiveness compared to other provinces. This project provided crucial data to investors and helped Alberta enhance its recycling performance and economic contributions.
- **Alberta Government - Plastics Circular Economy Feedstock Study (Eunomia):** Alberta is expressing a desire to transition to a circular plastics economy whereby the residual value in plastic waste is monetized through mechanical, material, and advanced chemicals recycling. This study aimed to support the development of a plastic circular economy through the resin identification, quantification, and flow of plastic feedstock available for recycling, and determination of the quality of plastic feedstock materials. Andrea acted as project director for this project.
- **British Columbia Government - Enhancing Consumer Access to Recycling Services Under EPR (Eunomia)-** The Ministry of Environment and Climate Change Strategy contracted Eunomia to develop a framework to evaluate and enhance consumer access to recycling services for materials managed through the EPR system in British Columbia (B.C.). Established under B.C.'s Recycling Regulation, EPR plans are required to provide for reasonable and free consumer access to collection facilities and services. The framework will include a recommended hierarchy of service level requirements to optimize consumer access to collection services, a user-friendly tool to direct EPR agencies in developing required consumer accessibility commitments, and objective criteria for ministry staff to evaluate accessibility commitments in EPR plans. Through implementation of the framework, the primary intended outcome is better provincewide access to recycling services.
- **Wasatch Integrated Waste Management District, Utah - Development of Integrated Waste Management Plan (GBB)-** The Wasatch Integrated Waste Management District tasked GBB, a long-time trusted advisor, with preparing a new Solid Waste Management Plan. The assignment included supporting the District in engaging citizens in a high-level outreach effort; taking a strategic view of solid waste management for the next several years; researching, collecting, analyzing, and drawing upon salient information from key District documents; developing and modeling alternatives and scenarios; and developing a new updated, enhanced Plan. This plan presents the existing system, provides

guidance, and sets forth goals of increasing the diversion of Wasatch's material streams from its landfill, improving its solid waste infrastructure, expanding disposal alternatives, and evaluating current services and opportunities to ensure that all residents have safe, efficient, and effective access to waste collection and/or drop-off opportunities during the Plan time period of 2023-2032, and beyond. While this is a ten-year plan, the projections covered in the analysis projects twenty years into the future, to account for when the landfill will reach its full capacity.

- **Central Virginia Waste Management Authority - Recycling Programs Review / Analysis (GBB)** - For the thirteen localities (290,000 households) covered by the Central Virginia Waste Management Authority (CVWMA), GBB provided a review of the residential recycling program, including planning and operations, and worked collaboratively with CVWMA to develop best practices for recycling and waste management. The ultimate objectives of the assignment were to:
 - Evaluate current planning and programs against the state goals and ambitions of the solid waste management plan;
 - Develop an assessment of:
 - who in the CVWMA localities is “in the gap” with regards to access to or information about recycling;
 - what materials that are available to be reduced, recovered, or recycled but are currently disposed of as solid waste;
 - how the opportunities to close these “gaps” can be balanced with the economic limitations in the localities and across the region;
 - Create a scope or “menu” of services for CVWMA to offer the member localities, consisting of four components: core services; contract management; containers; comprehensive services
 - Describe how the programs and services help and empower people to mitigate or improve their environmental impacts.
 - Identify how the programs and participation in them might financially impact the member localities.

Federal government

- **United States Environmental Protection Agency - Developing a National Battery EPR Framework (Eunomia)** - Eunomia, as a subcontractor to ERG, is supporting EPA to develop a national framework for battery EPR as required under the Bipartisan Infrastructure Law. This work involves a landscape review of state and international battery and other EPR programs and leveraging company expertise on EPR in the European Union to build out a recommended framework for battery EPR in the US. The framework will be workshopped with and informed by a technical stakeholder workgroup beginning in late 2024 and finalized and sent to Congress by the end of 2025.
- **Direct federal government experience (Eunomia).** The Project Direction, Andrea Schnitzer, has worked for the US Environmental Protection Agency (EPA) directly and as a consultant for 18 years. For six of these years. she worked in and

supported the Office of Resource Conservation Recovery which focuses on materials management. During this time she performed and managed development of national-level figures on municipal solid waste generation and management which included dozens of material categories and was published annually as the EPA's *Advancing Sustainable Materials Management: Facts and Figures Report*. This report is used by many state and local governments throughout the nation, is frequently referenced by the press, and supports development of materials management strategies and targets. She also supported development of the National Recycling Strategy, published in 2021, as well as the Draft National Strategy for Reducing Food Loss and Waste, and the Draft National Strategy to Prevent Plastic Pollution. This expertise covers a range of material types and management pathways and informs the Eunomia Team's strategy.

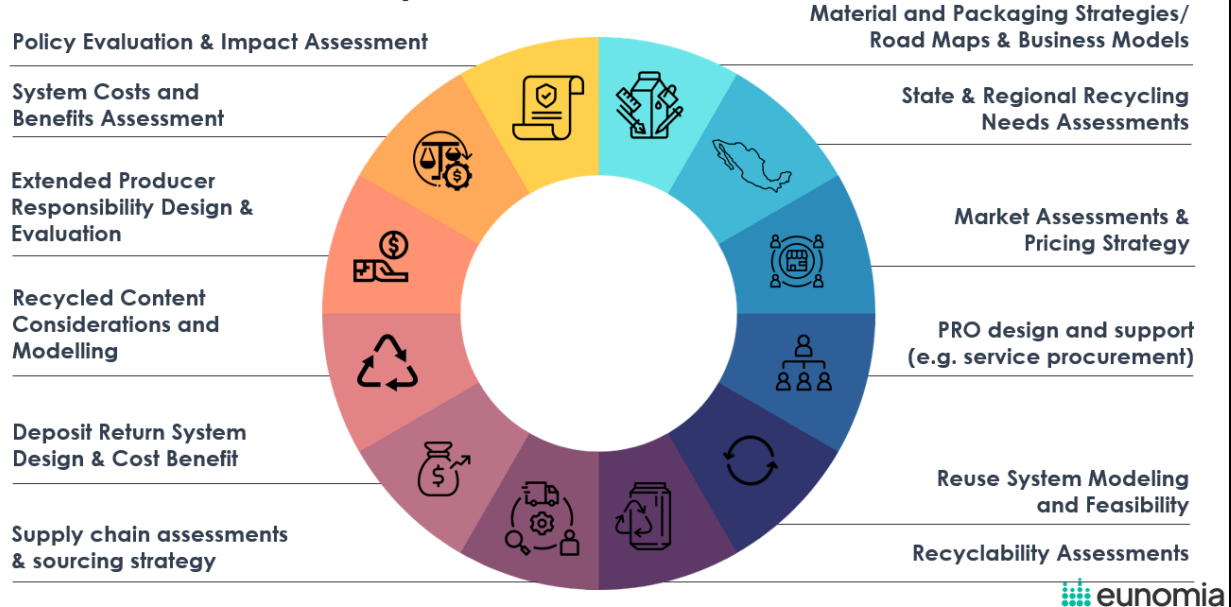
2.4.2.3 Please describe in detail your company's proposed materials management planning team's structure including names and contact information, where possible, and services each individual or group will perform. Additionally, please provide resumes of all key team members planned to be part of the engagement, including their involvement on similar engagements. Please identify how the team will be organized, demonstrating that sufficient resources exist to conduct the services being requested in this RFP.

Team Overview

Eunomia Research & Consulting, Inc. leads the team, which includes two subcontractors, GBB and McFarland PR & Public Affairs, Inc., harnessing a holistic approach that leverages each organization's unique strengths. This partnership ensures a seamless integration of policy expertise, practical implementation, and community engagement, which is vital for the comprehensive development of the Materials Management Plan.

Eunomia Research & Consulting, Inc. will spearhead the project, overseeing all key deliverables and client communications and leading Plan development and modeling. Eunomia is a waste and resource management consultancy with over 20 years of experience supporting local and regional governments to design, implement, and evaluate effective waste and recycling services that are aligned to the waste hierarchy and the principles of a circular economy, while at the same time considering climate impact, equity, and environmental justice. Eunomia's team of over 140 consultants includes economists, policy experts, and life cycle assessors. It also includes individuals with in-depth operational experience in developing and delivering services and programs that reduce waste resource use and increase recycling, reuse, and refurbishment. Founded in the UK in 2001 and expanding to the US in 2017, our North American office collaborates with a diverse range of public and private sector clients across the US and Canada.

Our Circular Economy Services



As an independent sustainability and waste and resource management consultancy, Eunomia is driven by a genuine passion to make a positive change for the clients we serve and the communities in which they operate. Since our inception, we have been at the forefront of the sustainability sector, helping non-profits and leading entities in the public and private sectors, both in the UK and internationally, to adopt more sustainable practices. We advise local, state, and federal government in the US and have been a longtime advisor to the European Commission. Our consultants are deeply knowledgeable and skilled, offering clear, innovative, and actionable advice tailored to each client's needs. We pride ourselves on our personal approach to client service, establishing strong, honest relationships through regular communication and adaptability to changing objectives. As a recognized leader in the consultancy field, Eunomia stands for robust, impartial, and pragmatic solutions that drive positive, practical outcomes. Eunomia Research & Consulting Inc. serves as the North American branch of our parent company, Eunomia Research & Consulting Ltd.

GBB (Gershman, Brickner & Bratton, Inc.) is international solid waste management consulting firm and will support project research and inform the detailed planning and implementation strategies necessary for the practical aspects of waste management systems. Since 1980, GBB has been on the front lines planning and implementing integrated waste management programs designed to provide cost-effective services, protect the environment, and sustain natural resources. Having worked in almost every state since 1980 (including Indiana) and outside the United States, GBB is very familiar with the challenges that businesses and communities face and the innovative solutions implemented as they increasingly try to find solutions to manage the repetitive tide of solid waste effectively. Over the years, GBB has worked with public- and private-sector organizations throughout the country and abroad to craft practical, customized, technically sound solutions for complex

solid waste management challenges.

McFarland PR & Public Affairs, Inc., founded in 2012 and based in Indiana, has considerable experience working with the State of Indiana and has provided successful full-service campaign delivery (research, strategic planning, creative, implementation management and measurement) for many initiatives over the years to state agencies including the Healthy Indiana Plan 2.0 (FSSA), the YES registry (IDOL) and the IOT Local Government Services (IOT) statewide campaigns. McFarland has also provided research services for the Indiana Department of Child Services, the Auditor of State, the Indiana Department of Transportation and the Indiana Office of Technology. McFarland is a quantity-purchase agreement vendor for the State of Indiana for marketing, public relations and advertising, and is a certified WBE with the State of Indiana. Their extensive experience in Indiana and longevity in working with State of Indiana agencies provide a strong platform for engaging with local stakeholders, and understanding state processes and procedures, is essential for the project's successful adoption and implementation. McFarland's expertise in strategic discovery, planning and outreach/engagement is critical in fostering community support, addressing public concerns, and ensuring transparent and effective communication throughout the project lifecycle.

Together, we are equipped to handle the complexities of the materials management plan development for the Indiana Department of Environmental Management (IDEM). Regular biweekly project management calls among Eunomia, GBB, and McFarland ensure alignment and efficient progress while also facilitating adaptive management practices to respond swiftly to any project dynamics.

Key personnel, role, contact information

Following is a list of key personnel who will contribute to this project. They represent technical lead, modelers, subject matter experts, advisors, and project managers and provide expertise related to waste flow modeling, waste management processes, local/state/government materials management policy and planning, and stakeholder engagement.

Eunomia Research & Consulting, Inc.

- Andrea Schnitzer, Project Director, andrea.schnitzer@eunomia-inc.com
- Caitlin Harrington-Smith, Project Manager, caitlin.harrington-smith@eunomia-inc.com
- Sarah Edwards, Advisor, sarah.edwards@eunomia-inc.com
- John Carhart, Lead Modeler, john.carhart@eunomia-inc.com
- Raphaella Heath, Researcher, Raphaella.heath@eunomia-inc.com
- Kaitlin Reese, Modeler and Researcher, kaitlin.reese@eunomia-inc.com
- Rich Grousset, Reuse expert, rich.grousset@eunomia-inc.com
- Andy Grant, Mechanical recycling expert, andy.grant@eunomia-inc.com
- Simon Hann, Chemical recycling expert, simon.hann@eunomia-inc.com
- Ann Ballinger, Organics and GHG emissions lead, ann.ballinger@eunomia-inc.com

GBB

- Chris Lund, GBB Project Director, CLund@gbbinc.com
- Brad Kelley - Lead for facility/processing planning, design, and analysis
BKelley@gbbinc.com
- Eugenia Manwelyan - Lead for solid waste and materials management planning,
EManwelyan@gbbinc.com
- Steven Schilling, Project Manager and Integrated Materials Management Systems Expert, SSchilling@gbbinc.com
- Ashlea Smith - Researcher, Asmith@gbbinc.com

McFarland PR & Public Affairs, Inc

- Stephanie McFarland, Account Manager and Lead, stephanie@mcfarlandpr.com
- Tom F. Hirschauer, Advisor, tom@tfhirschauer.com
- Frederick J. Bingle, Advisor, fbingle@binglerg.com

2.4.3 IC 13-21-1 State Solid Waste Management Plan

- 2.4.3.1 Please acknowledge your understanding of the requirements and priorities set forth in Indiana Code 13-21-1, State Solid Waste Management Plan (1990). Additionally, please confirm that your proposed development of the Plan will be in alignment with the requirements and priorities set forth in Indiana Code, where applicable and feasible.

The provisions in Indiana Code Sections 13-21-1-1 to 13-21-1-4 address solid waste management planning in the state and are brief. They reflect required provisions, goals, and criteria of the state solid waste management plan (which are also listed below in section 2.4.3.2); the process for revising the plan; and requirements for assessment of solid waste management districts every 5 years (starting in 2015) accompanied by a report on findings. Notably, 13-21-1(3) is not feasible to include in the Plan because the criteria are already established and codified in state regulations. Instead, the Plan would identify current criteria for siting, construction, operation, closing, and monitoring of final disposal facilities.

We understand the Plan should prioritize source reduction, emphasize alternatives to final disposal like recycling and composting, and establish criteria for siting and operating waste disposal facilities. In development of the Plan, we will prioritize strategies that reduce waste generation at the source and explore innovative solutions for maximizing recycling and composting opportunities throughout Indiana. We will also consider the existing waste management infrastructure and ensure our Plan is feasible and complements the existing framework established by Indiana Code 13-21-1.

- 2.4.3.2 As outlined in the Scope of Work, Indiana Code 13-21-1 State Solid Waste Management Plan (1990) provides for solid waste management in Indiana for twenty (20) years following the adoption of the state Plan. Please describe how your company plans to consider the following criteria, where applicable and feasible, during development of the new Plan.
- (1) The establishment of voluntary statewide goals for source reduction.
 - (2) The establishment of criteria for alternatives to final disposal, including the following:
 - a. Recycling.
 - b. Composting
 - c. The availability of markets.
 - (3) The establishment of general criteria for the siting, construction, operation, closing, and monitoring of final disposal facilities.
 - (4) Criteria and other elements to be considered in the adoption of district solid waste management plans.

The Eunomia team understands the importance of Indiana Code 13-21-1 in guiding the state's solid waste management strategy. Our combined expertise positions us to develop a comprehensive Sustainable Materials Management Plan (SMMP) that considers all specified criteria.

1. Voluntary Statewide Goals for Source Reduction

We will review data for all in scope materials to develop a baseline describing current waste generation and how that may grow under a “business as usual” scenario. We will also review waste generation by material type in other states to assess performance in Indiana. This information will provide a benchmark against which we can evaluate performance by material. We will prioritize goal setting based on characteristics of in scope materials including total tonnage generated and a high-level assessment of potential environmental impact (focusing on greenhouse gas emissions, if agreed upon with IDEM). We will also engage with an advisory group (noted in Section 2.4.6) to inform this goal setting process and to understand which types of materials may be easier or harder to target for source reduction, and the reasons why. As part of our working with Washington Department of Ecology, we sought to set state-wide source reduction goals as well as recycling and reuse goals. As part of this research we found that while it is possible to consider what measures could be used to support source reduction, it is very difficult to measure it. This is a challenge that California is also facing following setting its source reduction goal and reflects research we performed for Washington State. Additionally, we found very little justification for selection of source reduction targets in the literature – in the US and the European Union - suggesting methodology for source reduction target setting is still in its infancy.

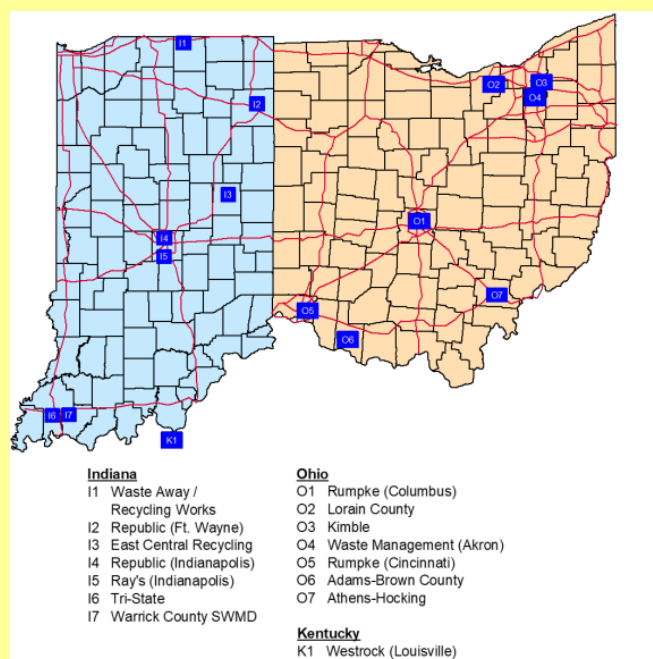
The result of this exercise will be an outline of recommendations for source reduction by material type as well as a qualitative assessment of these actions and their impact on source reduction by material type over time. These recommended actions will be

reserved and may feed into the Plan (see Section 2.4.6). Specific goals will be informed both by the review of material generation in other states as well as by stakeholder input regarding feasibility of source reduction.

2. Alternatives to Final Disposal

We will research and develop a long list of potential measures that could be put in place to divert waste from landfill and incineration and move the management of waste up the waste hierarchy. This will be developed based on research of other states, counties and cities as well as draw on our teams existing knowledge. We will also develop a set of criteria to feed a decision tree that will inform selection of alternatives to landfill disposal for all in scope materials based on location of material generation (most likely focused at the county level). This will inform the 20-year modeling we do to assess waste generation and management and the impact of strategies that move the state toward its recycling, composting, and other climate action plan goals. These criteria will include material type, options within the waste management hierarchy (with preference toward sending a material to its highest and best use), potential impact on diversion based on data from other states that have implemented the alternative, ease of implementation, existence of necessary infrastructure including location to where waste is generated and capacity of existing processing facilities, and other factors such as distance to processing or other type of management facility to reduce impact of transport. We will leverage this information to identify potential infrastructure gaps as the waste diversion rate increases over time. Understanding these gaps will help drive the recommended actions required to meet overarching goals (as described further in Section 2.4.6).

Figure 1: Single Stream MRFS in Indiana and Neighboring states of Ohio and Kentucky



Source: City of Indianapolis Waste Minimization Study

End markets will be one of the criteria as end markets are crucial to driving demand in the circular economy for recovered and recycled material. Criteria for end markets include availability of collection mechanisms, purity of waste stream, economic feasibility for processing and demand for the end product. To assess these criteria, we will analyze the existing and potential markets for recycled materials and compost in Indiana and the surrounding region. We have experience of identifying and evaluating end markets following the work we did in Colorado as part of the development of the needs assessment under the states forthcoming Extended Producer Responsibility program for packaging and paper products. We will first work with IDEM and the solid waste management districts to understand what information they have on end markets. We will then identify a suite of processors and composters (between 8 and 12) to interview further about end markets to get an understanding of their throughput and health. We will also assess challenges to end market development and identify recommendations for encouraging end market development. Recommendations from this research will also be integrated with the strategy (as described further in Section 2.4.6). Challenges faced by end markets often include: Access to quality material; ability to site new facilities; fluctuating material prices etc. As part of the interviews we will drill down into the specific pressures in Indiana. We know from our work developing the waste minimization study for City of Indianapolis in 2021 and from talking to organizations such as Circular Indiana that there are companies such as Reflective Industries that are using post-consumer glass to make new glass containers and fiber glass and Knauf that also makes insulation. Indiana is also home to a Pratt Industries 100% recycled paper mill in Valparaiso, Indiana. In order to develop end markets for materials for which there are none we may consider recommending the development of a statewide end market development organization that states like Pennsylvania, Washington.

3. General Criteria for Final Disposal Facilities

Siting of final disposal facilities is always a controversial matter. Our team has experience in siting facilities both from the facility side and the governmental review side and will leverage that experience for the tasks below.

- *Evaluation of existing landfills:* We will provide a list of best management practices for operation, closure, and long-term monitoring based on best practices pulled from IDEM and the US EPA. We will also include criteria assessing facility locations (tied to siting criteria, below) and remaining life span by reviewing available annual reports.
- *New facility siting criteria:* We will establish criteria for the responsible siting of new landfills, considering environmental and social impacts. These criteria will be transparent and provide regional collaboration to ensure satisfactory outcomes for communities while providing for their final disposal needs. Considerations include distance to other waste management infrastructure, local waste generation and flow of materials to various management pathways, and environmental justice considerations, among other criteria.
- *Innovative technology use:* Criteria for facilities will be forward looking and

require incorporation of technologies like landfill gas capture and utilization, enhanced environmental controls, leachate and PFAS treatment, and promote use of best available technology and best management practices to ensure safe and responsible disposal. These criteria also include assessment of material diversion at landfill to support a more circular economy in Indiana. Eunomia has extensive experience of identifying and evaluating the role of innovative technologies most recently related to chemical or advanced recycling technologies such as pyrolysis, gasification, and purification. Our work with Association of Plastics Recyclers where we assessed how pyrolysis could play a role in recycling flexible film and packaging as well as our work with Ontario mapping their waste streams with different chemical recycling technologies will be useful for the development of the plan for Indiana.

4. Criteria for District Solid Waste Management Plans

We will work closely with IDEM and the solid waste management districts to:

- *Develop a framework for district plans:* We will create a flexible framework that allows districts to tailor their plans to local needs and circumstances while doing so through the lens of circular economy as well as the ability of the state to reach 50% diversion. Components of the framework include consideration of goal setting in alignment with the state Plan's priority materials and overall recycling and greenhouse gas emissions reduction goals; environmental justice considerations; inclusion of consideration of natural disaster debris management; evaluation of collection infrastructure development criteria; and regional and end market development, among other components.
- *Promote best practices:* We will identify best practices for waste reduction, recycling, composting, and landfill management for district plans to consider. These best practices will have associated costs and benefits (economic and social) developed to provide enough information for consideration by districts and will align with the integrated waste management hierarchy discussed in Section 2.4.8. We will also provide reference to organizations provide technical support and best practices including the US Composting Council, the Solid Waste Management Association of North America (SWANA), Circular Indiana and others.
- *Encourage data uniformity and sharing:* recommend uniform data collection and reporting that aligns with the needs for the Plan. This will help the districts and states understand the variability in regional waste generation and management and support meaningful input to the state-level 5-year update to the Plan.

By incorporating these criteria and leveraging our combined expertise, Eunomia and GBB will deliver a robust SMMP that positions Indiana as a leader in sustainable materials management. We are confident that this plan will not only meet the requirements of Indiana Code 13-21-1 but also create a more sustainable future for the state.

2.4.4 State and Federal Regulations

- 2.4.4.1 As outlined in the Scope of Work, the Plan should align with all state and federal regulations regarding solid waste management. Please acknowledge and confirm your understanding of state solid waste regulations and federal RCRA regulations contained in title 40 of the Code of Federal Regulations (CFR) parts 239-282.

Overview. The Resource Conservation and Recovery Act (RCRA) regulations are contained in title 40 of the Code of Federal Regulations, parts 239 through 282. RCRA establishes the framework for a national system of solid waste management. RCRA Subtitle D is dedicated to non-hazardous solid waste requirements and Subtitle C focuses on hazardous solid waste. Regulations established under Subtitle D ban open dumping of waste and set minimum federal criteria for the operation of municipal waste and industrial waste landfills, including design criteria, location restrictions, financial assurance, corrective action (cleanup), and closure requirement.

Regarding the comparison of state versus federal roles. The federal government, primarily through the Environmental Protection Agency (EPA), establishes the overarching regulations and standards outlined in 40 CFR parts 239-282, while states are responsible for implementation.

- Federal regulations set minimum standards that all states must meet, but states can choose to implement more stringent regulations if they wish. The EPA provides oversight, enforcement, and assistance to ensure compliance with federal environmental laws and regulations. Most relevant to this project, Title 40 CFR part 256 provides guidelines for development and implementation of solid waste management plan and sets minimum requirements for approval of state plans. It also outlines plan scope, plan submission, adoption and revision, and plan approval, among other requirements. We will reference this rule to ensure that the resulting strategic plan meets federal requirements.
- States have the authority to implement and enforce environmental regulations within their borders and can develop their own regulations and standards that are at least as stringent as federal requirements. Some states may have additional requirements or standards tailored to their specific environmental concerns and priorities. States also play a role in permitting, monitoring, and enforcing compliance with environmental regulations, often working in partnership with federal agencies. While the federal government sets the framework for environmental protection through 40 CFR parts 239-282, states have considerable flexibility in implementing and enforcing these regulations within their jurisdictions, often tailoring them to address local environmental challenges and priorities.

There are several sections of Indiana Code related to solid waste under Section 13 including Article 19 (Solid Waste and Hazardous Waste Management –

purpose, powers and duties related to waste management), Article 20 (Solid Waste Management – includes facility permitting and reporting, collection and transportation requirements, facility registration, inspection), and Article 21 (Solid Waste Management Districts – includes requirements related to solid waste management plan development).

Local government agencies (e.g., cities, towns, counties, zoning commissions) have authority to adopt ordinances and issue permits that are more stringent or specific than state requirements. IDEM does not have the authority to oversee or enforce local laws and regulations. Citizens must comply with local laws and regulations in addition to state and federal laws and rules.

- 2.4.4.2 Funding for the project is provided through the U.S. Environmental Protection Agency (EPA) grant. Describe how your company will collect data while meeting the federal requirements of the Paper Reduction Act (44 U.S.C. 3501 et seq).

One key requirement of the Paperwork Reduction Act (PRA) is to limit outreach, using the same questions/soliciting the same information, to no more than nine organizations or individuals. As a past EPA employee and EPA consultant, the Project Director is very familiar with the PRA and will follow guidance provided by the government at <https://pra.digital.gov>. We will abide by the PRA using the following strategies to collect data:

- Conduct data gathering from IDEM and via a literature review to leverage existing information from past relevant efforts that have generated and/or gathered data from relevant stakeholders.
- Develop an outreach strategy for data collection. Using the team and state expertise, develop a long list of potential contacts to strategically identify those who are most likely to provide useful information given that outreach is limited by the PRA.
- Coordinate with industry trade groups and similar organizations that represent an industry and can provide perspective based on their membership or role in an industry.
- Request data from Federal employees who can provide this as part of their duties without triggering the PRA.
- Solicit open-ended requests for comments or feedback.
- Gather information from the public via discussions and questions at a public hearing, meeting, or online equivalent.

2.4.5 Waste Management Hierarchy and Wasted Food Scale

- 2.4.5.1 Please describe your company's plan to provide an integrated approach to solid waste management for municipal solid waste generated and imported into Indiana.

An integrated approach to solid waste management involves understanding how in-scope materials move through the value chain and how they can be put to their highest and best use along the waste management hierarchy. External factors contributing to the success of materials management must also be considered and include policy, education, funding, and end markets. Key issues of an integrated approach that are important to understand and articulate include the following:

- **Vision:** This relates to today's issues, challenges, and opportunities and how the state strategy will address them to build a future where there is increased landfill diversion and reduced greenhouse gas emissions associated with waste and materials management. This includes acknowledgement of the role of end markets and the need for equitable and inclusive coverage of access to waste management solutions.
- **Goals and targets:** Goals and targets help orient implementation of the strategic plan. They provide guidance to local governments who can then determine how best to make progress toward those goals based on behavior, resources, policy, infrastructure, and other waste generation and management characteristics in their own communities. Goals and targets need to be set based on a qualitative assessment of what different actions and measures could achieve, for example the contribution of mandatory organics collection on the capture of organic waste and diversion from disposal. Eunomia will carry out a detailed analysis of the impact of different measures and actions to enable effective goal and target setting (see Section 2.4.6).
- **Source reduction/waste minimization:** While this project is for development of a strategy for materials management, it is important to emphasize that reduction at the source is the first and best action that can be taken to reduce resource use and divert material from landfills. We will first define source reduction and then consider the different actions that could be supported that may result in source reduction. Source reduction programs could include helping restaurants better manage stock. Eunomia worked with ReFed to produce food waste reduction guides for the hospitality and retail sectors (<https://eunomia.eco/reports/restaurant-food-waste-action-guide/>).
- **Manufacture and design:** There may be relevant policy levers that can be used to support circularity. These include requiring new products to contain a percentage of recycled material. Other product design features (which may be encouraged by the state) can support recyclability and end of life management.
- **Reuse and refurbishment.** Assess opportunities for integration of reuse and refurbishment into the plan, to be implemented at the local level (unless otherwise mandated by the state). These practices extend the life of materials, reduce consumption of newly manufactured, virgin, and raw materials, and reduce annual waste generation. Our team has recently been supporting Perpetual, a 501c3 organization that partners with cities, reuse service providers and other stakeholders in the development of grant applications under the EPA's

Climate Pollution Reduction Grant to support the implementation of reuse.

- **Collection:** This involves assessing opportunities and strategies for more efficient collection systems and systems that reduce contamination of material streams that will be sent for processing (e.g., recycling, composting). This encompasses operations by private waste management companies, solid waste management districts, and cities and towns that service drop-offs, curbside and commercial collection.
- **Recycling, Composting, Anaerobic Digestion (AD):** Assess baseline and potential future needs for these management methods as landfill diversion increases and also considering how to reduce contamination to increase process yields and economic value. Assessment of this part of the value chain will include understanding the role of transfer facilities for various materials, and the extent of material recovery and compost and AD facilities and opportunities to further leverage these facilities.
- **Waste-to-Energy and Landfill:** Recognizing the role these management pathways play for certain materials and assessing the benefit of landfill diversion to increasing the life span of landfills, and understand what materials are likely to end up here given existing/available EOL management treatment processes.
- **Public Awareness and Education:** The strategy should acknowledge the types of audiences and types of education and public awareness that are needed to help reduce waste generation as well as better manage it to meet the state's Climate Action Plan and other goals.
- **Policy and Regulation:** There needs to be a brief review of the policy and regulation that drives both development of the strategy as well as influences its content. For example, this could cover policies addressing source reduction, source separation, processing, and end markets. This affects future waste generation and management projections and can be updated every five years when the plan is reviewed.
- **Funding opportunities:** This relates to infrastructure development, education and outreach, and other requirements to build a more circular system for materials management. Funding opportunities would include state, federal, and other resources.
- **End markets:** While not the main focus of a materials management plan, materials cannot be diverted from landfill if there are no markets that will accept them. A strategy plan should acknowledge this and indicate how/if the state is planning to support development and growth of end markets for certain materials diverted from landfill.
- **Measurement and evaluation:** It is important for state-level reporting that all local governments use the same metrics to assess progress toward goals. It's also important that the data be available to generate such metrics so that the state can measure progress over time. As part of the plan we will set out suitable, effective yet simple metrics that can be used to track program and the data that will be needed to make the calculations. We will consider who currently holds

the data and in what form and include details of how the data quality could be improved, if necessary to enable accurate calculations to be made while minimizing administrative burden. As part of the work we carryout to produce the 50 States of Recycling report, we review how data is collected and reporting in all 50 states so will be able to apply our knowledge of best practice to a measurement and evaluation framework for Indiana.

- 2.4.5.2 Please describe in detail any potential challenges, concerns, or issues you see in integrating the Waste Management Hierarchy and the Wasted Food Scale requirements into the comprehensive materials management strategy for the state.

The EPA Waste Management Hierarchy and the Wasted Food Scale can be integrated to create an umbrella hierarchy that provides guidance for the most- to least-preferred management pathways for all types of materials. We envision their integration more like a flow chart or decision tree that includes material type as a consideration since not all waste management pathways are relevant to all materials. What is not part of the current hierarchies is consideration of parameters that affect diversion impact (e.g., distance to facility); that consideration will be integrated in the modeling we do to assess current infrastructure and potential future/needed infrastructure based on material generated and diverted. This is because diversion benefits can be negated if, for example, equivalent or greater emissions are generated in the transport of the material to the processing facility. The hierarchies will be used as primary guidance; we may challenge this guidance when assessing future waste management recommendations if there are geographic or other considerations that would change the high-level benefits calculation.

Currently, the EPA waste management hierarchy diagram for non-hazardous wastes does not reflect reuse or refurbishment and does not address different types of recycling (i.e., mechanical versus chemical). EPA notes on their website that they are currently reviewing the waste hierarchy to determine if possible changes should be made; we will be in contact with EPA throughout the project to ensure we are aware of any changes to the hierarchy that occur during the project period so we can work with IDEM to determine how to integrate this national guidance.

Otherwise, we do not see any major challenges, concerns, or issues with integrating these hierarchies to support the State's materials management strategy. However, the hierarchy should be reviewed every 5 years when the state identifies any new solid wastes, new contaminants, and new recyclable materials to determine if it needs to be expanded to cover the evolving landscape.

2.4.6 Plan Duration

- 2.4.6.1 As outlined in the Scope of Work, the Plan should be a twenty (20) year plan and

should include a recommended mechanism for an assessment and amendment of every five (5) years to best meet Plan's goals. Please provide a detailed description of your approach to develop the Plan.

Indiana's waste and recycling infrastructure for municipal solid waste collected approximately 9.4 million tons of material in 2021 according to the Indiana Priority Climate Action Plan published in March 2024.¹ Per this report, "approximately 75% of this waste was directed to landfills and 21% was diverted to recycling. This recycling rate falls below the national rate of 32%, according to the U.S. EPA, and also falls short of Indiana's goal of achieving a 50% recycling rate." Additionally, the Climate Action Plan states that while the waste management sector contributed to roughly 2% of the state's total direct greenhouse gas emissions in 2021, methane (generated from landfilled organic matter) accounted for about 87% of these emissions. Source reduction coupled with a strategic plan for waste diversion from landfills will help achieve both the recycling objective as well as reduce greenhouse gas emissions by directing organic matter away from landfills.

Eunomia and its subcontractors will take the following approach to develop and provide a statewide plan that identifies the current waste management issues, advances pre- and post-consumer materials management, and decreases the disposal of valuable materials throughout the state that will align with goals set forth in the state's climate action plan. It forms a loose outline for the proposed contents of the Plan and will begin by outlining guiding principles, priorities, and high-level strategies that IDEM supports to advance the goals and actions of the Plan (e.g., source reduction, climate change mitigation, economic development, shift to upstream considerations and not just end-of-life focus) and its vision for the next 20 years of materials management.

- **Phase 1 - Research, Data Gathering and Model Development:** The purpose of this phase will be to understand current waste management practices and performance in Indiana as well as research appropriate actions and measures through review of programs in other states, cities and counties.
- **Phase 2 - Assessment of Current System and Business-as-Usual Scenario**
System: The purpose of this phase will be to model the current system both in terms of performance but also the location and capacity of existing infrastructure and then model out to 2045 the impact of population and generation growth for different materials so as to understand waste flows and infrastructure requirements and pressures under a "do nothing" or "business-as-usual".
- **Phase 3 - Identification, assessment, evaluation and prioritization of options:** The purpose of this phase is to assess the impact of materials in each of the generating sectors (residential, commercial/institutional/industrial, construction and demolition) with respect to weight, volume, environmental and social

¹ IDEM, 2024. [Indiana Priority Climate Action Plan](#).

impact, among other metrics. The long list of measures will be developed from research of programs and policies in place in Indiana and other states. The long list of measures and programs will then be shortlisted using criteria that consider factors such as: ease of implementation, timescales for implementation, infrastructure needs, responsible organization etc. Consultation with key stakeholders will be a critical part of this process as we recognize that the plan should serve as a guide to material management in the state and aid local governments as they develop local materials management plans. Assessing economic development opportunities will also form a part of the shortlisting process.

- **Phase 4 - Determination of goals, targets and measurement methods.** As part of this phase we will model the likely impact of each of the shortlisted measures on waste diversion. This will enable us to set considered goals and material specific targets that are supported by actions. As part of this will also consider the materials and actions of focus for the first five years of the plan as well as the longer-term measures.
- **Phase 5 - Development of materials management plan and material roadmaps:** The final phase will be developing the materials management plan that will enable the state to transition from a recycling disposal focus to a plan that focusses on reducing the environmental impacts of material choice on the environmental and natural resources by identifying waste reduction opportunities, establishing convenience and inclusive access to recycling, organics management and other diversion options and also contributes to economic development and the establishment of stable local end markets.

Following is a more detailed overview of our approach to Plan development:

Plan Development Kick Off Meeting

We will start the process with a plan development kick off meeting we propose this meeting covers broadly the following:

- Project delivery which includes a detailed discussion about plan development, timeline, and activities; progress meetings; and, project risks and issues.
- Plan scope, structure and data needs. This includes:
 - Understanding what material categories are to be included and why.
 - Discussing structure of the Plan so that we organize our efforts efficiently.
 - Start to discuss data sources and availability necessary for us to model the current material system both in terms of material flows as well as facility capacities.
 - Start to discuss the key stakeholders and the stakeholder engagement process and timeline.
 - Circular economy considerations. Eunomia is a leader in circular economy business models, policies and programs. During the kickoff meeting, we

would like to discuss how the circular economy should be integrated and considered from upstream and downstream waste prevention and management perspective as well as from an economic development perspective.

- Initiate development of a stakeholder advisory group. We would work with IDEM to invite a range of stakeholders to participate in an advisory group that would be used to help address data gaps and inform the future list of actions provided in the Plan. The stakeholders could be recommended by IDEM – based in part on participants in the statewide Recycling Roundtable Discussions – and would represent stakeholders from across the materials management value chain. We may also recommend forming multiple advisory groups based on stakeholder type – for example, an advisory group of solid waste management district members could be very valuable for capturing information about local materials management activity, including collection and infrastructure issues.

Phase 1 - Research, Data Gathering and Model Development

Our team will start the plan development process by first carrying out research to gather data on current material flows, waste management practices and recycling and waste infrastructure locations and capacity as well as the location and capacity of end markets both in Indiana and neighboring states. This will be required so that we can carry out the current state analysis. Eunomia has previous experience working with Indiana waste management reports and published data. As part of the 50 States of Recycling report Eunomia developed a state-by-state comparative recycling rate for common packaging materials (the detail for Indiana is included as an attachment to the technical proposal). As part of the first and second iteration of this report, Eunomia accessed and analyzed reports such as the 2020 Indiana Recycling Market Development Program, Recycling Activity Reporting Guidance, 2018 Recycling Activity Summary, and IDEM 2021 Recycling Index Report, among others. We will leverage this expertise and build on it through literature review and collaboration with IDEM to identify and/or develop information for all in scope materials. Following is our detailed approach to developing data for baseline waste generation and management.

Task 1.1: Identify waste streams in scope and current materials management approaches.

Following the project kick off meeting our team will develop a full list of materials that are in scope for this Plan and associated with residential, industrial, commercial, and institutional sectors. Material categories will be confirmed at the kickoff meeting and are likely to include municipal solid waste (MSW) and non-municipal solid wastes that include construction and demolition debris, foundry waste, coal combustion residues, organics (including yard and food waste, scrap tires, lead-acid batteries, household hazardous waste (HHW), and out-of-date or obsolete electronics. It will also include pre-and post-consumer recyclables, organics, tires, wood, and other materials traditionally considered trash and landfilled.

Task 1.2: Assess current waste management collection and infrastructure including identification of end markets in Indiana and where relevant neighboring states

Using available data including facility information provided by the IDEM, GBB will develop a database of existing waste processing and disposal infrastructure. The database will include their location, the operator, their operational treatment capacities and actual waste throughput for residual waste. This will require review of state data found in the 2021 Indiana Recycling Infrastructure and Economic Study and, depending on data gaps, permitting data from the Solid Waste Management Districts. Where there are information gaps GBB will reach out to specific facilities to try and fill these gaps. Any discussion with facilities will aim to gather data not only on current capacity but also future growth possibilities. We will review data for landfills, waste-to-energy facilities, composting, anaerobic digestion, material recovery facilities, wastewater treatment plans, mechanical recycling and advanced recycling facilities. We will discuss with IDEM scope of facilities to be included in the study as well as any facility size minimums, and identify potential information gaps arising from permitting or reporting waivers or otherwise.

This task will also involve understanding collection practices by sector and material type, including information about accessibility. We will leverage expertise from IDEM and the solid waste management districts to build a picture of the flow of materials by sector from collection through to end-of-life management. This study will help us identify opportunities to improve the system to increase material circularity and feed into the strategies reflected in the Plan.

Task 1.3: Development of master material model and database

Similarly to what we did for the Washington Department of Ecology as well as the City of Hoboken, we will build a model that will enable us to map material flows from the point of generation to either the disposal facility, materials recycling facility and or end market. The model will also include the infrastructure database which will include information on the capacity of each facility. This will be necessary in determining what type of additional infrastructure may be required to enable Indiana to reach 50% diversion.

Task 1.4: Research material specific programs, policies and measures to support 50% Diversion

At the same time as our team gathering information and data on what is currently taking place in respect to materials management and disposal in Indiana, we will also be researching best practices from other states, counties and cities. As part of previous work we have researched relevant issues in the US and elsewhere including:

- Organics waste management in California and Colorado, and organics policies at the state and local levels assessing cost, benefits, and feasibility of policies that include food donation liability protections, tax incentives and requirements for food rescue, organics landfill disposal ban, recycling mandates, procurement requirements, zoning and permitting, among other policies.

- Waste reduction and circular economy programs in: Austin, Chicago, San Francisco, Seattle, Hoboken, Toronto, and the European Union (EU).
- Recycling in all 50 states via a report for Ball Corporation on common packaging materials.
- EPR packaging policies in Colorado, Washington, Canadian provinces, and the EU, and support for development of a national EPR framework for batteries.

For all of the waste generating sectors and materials in scope we will develop a database of programs, policies, grant programs etc. that could be considered in Indiana as measures to deliver source reduction, move the management of waste up the waste hierarchy, support a circular economy and in doing so provide economic prosperity and reduced environmental and social impact. For each measure we will include what the intended outcome of the measure was as well as how it was being measured and the impact from a waste diversion perspective. This information will help inform the long list of potential measures that Indiana could include in the program plan as well as service to benchmark performance.

Phase 2 - Assessment of Current System and Business as Usual Scenario System

Task 2.1: Current System Modelling

Our modelling team will review and qualify the data and information gathered from Indiana on how waste is currently managed now in Indiana to model the current system performance and impacts and benefits. This modelling exercise will enable us to calculate and present to IDEM:

- **Waste generation and composition:** This will reflect the amount of waste generated annually for each waste stream. Waste generation data will be leveraged from IDEM's 2022 Recycling Index report² for MSW waste generation and composition and IDEM's Quarterly Solid Waste Reporting Data for other waste streams³. To fill data gaps, we will conduct a literature review to identify existing studies that may be leveraged. This includes reviewing data collected by the state as well as studies like Purdue's 2012 MSW Characterization Study assessing the composition of the state's MSW at landfills. We will also connect with the county Solid Waste Management Districts regarding the measurement and tracking requirements and data they maintain.
- **Waste management pathway:** We will develop an understanding of the current state of post-consumer materials management in the state. We will identify treatment methods by material type as informed by the integrated waste management hierarchy, discussed above. We will leverage the IDEM 2022 Recycling Index Report, the IDEM Recycling Infrastructure and Economic Impact Study, IDEM Solid Waste and Recycling Data reporting Program, and information from the Household Hazardous Waste Task Force, among other state resources, to compile data on flows through various waste management pathways by

² IDEM, 2023. [2022 Recycling Index Report](#)

³ IDEM, 2023. [Quarterly Tonnage Reports](#)

material. We will also seek to understand any reuse strategies currently implemented in the state to form a baseline for this type of strategy going forward. This study will also include review of generation and beneficial use of coal combustion residues (CCR), landfilling associated with Indiana's 14 permitted CCR landfills, and generation and use of foundry wastes in structural fill, among other end uses, and end of life management.

- **Addressing Data Gaps.** Where data are unavailable, reasonable assumptions will be made based on industry standards or expert judgement, with input from the State, industry trade groups, and other experts. We will attempt to validate all assumptions as best as possible by comparing data to that from other states and studies. These assumptions and data gaps will be clearly described so the state can consider how to address them going forward.

We will produce a Sankey diagram that shows what materials flow where as well as specific material flows that, where possible, will show what facilities are accepting what materials from what counties.

As part of the current state modelling, we will also calculate at a high level of the environmental and economic benefits, this will be necessary to enable us to compare the impact of future programs and policies, that will form part of the materials management plan, against the current system as well as the "business-as-usual" or "do nothing" scenario.

Task 2.2: Business-as-Usual/ Do Nothing Scenario Modelling

As part of this phase we will need to project out to 2045 the quantity of different materials based on a number of factors. We will utilize population forecast figures from Stats Indiana Population Projections⁴ to project household, waste, recycling and organic waste generation over the 20-year period of the plan on both a state and regional level. For commercial and industrial waste, as well as C&D waste, we will rely on employment growth and industry growth figures to forecast waste generation. This approach allows us to align waste generation with economic activity, reflecting the correlation between business expansion and waste generation. Additionally, we will leverage historical growth data and insights from trade groups to refine our estimates, particularly for waste streams where growth rates are harder to estimate. To validate the results from the forecasting exercise, we will explore information from other states with similar demographics. Looking at both historic data as well as considering the changes that may occur in the future for example in respect to the types of waste that will be generated we will model the waste generation by sector and material out to 2045 assuming that there are no changes in programs and policies in the state. It is important to model a business-as-usual scenario as it will be against this that we will model a future system that achieves 50% diversion.

Infrastructure capacity forecasting will be based on information provided by the state on facilities that are expected to close during the plan period and facilities that have

⁴ STATSIndiana. [Indiana Population Projections.](#)

received planning permission and are expected to become operational during the plan period. Forecasting will also be based on the expected change in waste generation over time and assumptions regarding how different types of waste may be diverted from landfill, and to what types of facilities based on both material type and facility capacity. By analyzing the gap between waste generation and capacity, we will identify potential infrastructure needs.

We will take a regional approach to modelling the current and future business as usual state. The specific regions will be agreed with IDEM at the start of the process.

Phase 3 - Identification, assessment, evaluation and prioritization of options

Task 3.1: Strengths, Weaknesses, Opportunities and Threats (SWOT) and gap analysis

Using the information from both of the previous phases we will carry out a SWOT analysis as well as a gap analysis. Carrying out both of these analyses will enable us to, understand both the internal and external factors that will impact the success of future initiatives, programs and policies as well as identify the areas for which most action is required. From this exercise we will:

- Understanding programs and policies are working and why, this will help us understand if and how they could be expanded to other counties or municipalities in Indian
- Consider what obstacles exist to possible future programs and policies and what would need to be done by who to unlock the potential of these programs and policies
- Understand for each sector and material where there is a need for the greatest focus when consider the goals of the plan which are both 50% diversion but also wider environmental, social and economic benefits

Task 3.2: Development of long list of measures and evaluation criteria

Once we have visibility from the SWOT and gap analysis, we will draw on the research of programs and policies within Indiana as well as externally to create a database that will include a long list of measures that could be used to address different materials in each generating sector. Measures are likely to include programs, policies, ordinance, bans, grants etc. We will order the measures according to what level of the waste hierarchy that they apply to, so we can easily identify those that will provide source reduction outcomes versus those that may require the development of new infrastructure for example.

Once we have developed the longlist database, we will also develop a suite of qualitative and where possible quantitative evaluation criteria with a red, amber, green scoring mechanism. Criteria could include but not be limited to:

- Ease of implementation: Example green rating would be that the state has autonomy to implement without any approvals.
- Infrastructure needs: Example of green rating would be that no additional

infrastructure is required.

- Likely contribution to 50% goal: Example of green rating would be that the measure focusses on material that is a large part of the waste stream and has proven outcomes.
- Economic benefit: Example of green rating would be, likely to create new jobs in new areas.

Criteria would enable each measures to be assessed against economic, environmental and social impacts as well as take into consideration political will and timescales to implement.

Throughout this process we will work with IDEM to provide complete transparency on the process we are taking. The Eunomia team will carry out the initial evaluation before finalizing the evaluation at one or two workshop sessions with IDEM

Task 3.3: Workshop to prioritize materials and short list measures

Following Eunomia's initial assessment and material prioritization process detailed above, we propose to hold one or two workshops with IDEM to review and adjust our initial assessments. Prior to the workshop we will issue the initial analysis and provide some guiding questions that will be covered as part of the workshop. The purpose of the workshops/s will be to ensure that we have:

- Identified all possible measures by sector and material
- We have developed a robust set of evaluation criteria in which to shortlist measures and prioritize materials and actions for the duration of the plan but specifically the first 5-years.
- Agree on the shortlisted measures and materials but sector that our team can then model the impact in respect to achieving a 50% diversion rate as well as contributing to wider economic, environmental and social goals.

The identified actions will address policy and program solutions from across the waste management hierarchy and include source reduction, reuse, refurbishment, and recycling and composting and anaerobic digestion requirements as well as consideration of funding mechanisms and needs for infrastructure development, and support for end market development, among other solutions. They may leverage best practices, known funding opportunities, education and outreach, policy, and other types of solutions. For each action we will identify the responsible party and whether this is a short-term (within 5 years) or longer term action.

The workshop could be carried out only with IDEM staff or could include a wider small stakeholder group that could include, for example, counties. We will agree with IDEM at the start of the process who should be part of the workshop.

Task 3.4 Consultation

Prior to any measures being included in the material management plan and material

specific roadmaps it will be critical to consult on the shortlisted measures by material and sector to gather general feedback as well as specific insights on for example feasibility. We will leverage the stakeholder advisory group to do this. All feedback will be collated, reviewed and, where relevant, incorporated into a final shortlisted suite of measures by material and sector which will then be subject to wider input per the public and stakeholder engagement plan.

Phase 4 - Determination of goals, targets and measurement methods.

Task 4.1 Determining the overarching goals

We are assuming that the overarching goals of the plan are in part already set and will include the 50% diversion goal as well as goals set out in the state's Climate Action Plan. We will work with IDEM to identify other potential overarching goals that could be linked to delivering economic and social benefits in the state.

Task 4.2 Determining Targets and Measurement Methods

In order to set material and sector specific targets we will model the impact of each of the shortlisted measures on their ability to contribute to the overarching goals:

- Contribution to diversion goal over what period of time
- GHG reduction potential
- Economic development potential
- Social benefits

As a whole and for each sector and material we will effectively be able to produce a waterfall diagram that will show the impact of each measure on reaching the overarching goals over what period of time. This modelling process will enable our team with IDEM to set informed material specific targets by sector and material. The modelling of impact of specific measures will draw on data and information gathered through the review of other state, city and county programs so effectively the model take a conservative approach to best practice measures so any target proposed is considered achievable.

In developing the targets we will need to ensure that progress against them can be measured. As part of phase 1 we will have gathered significant information as to how data is currently available, who is producing it when and the granularity and reliability of the data. We will also have gathered information on how other states and counties outside of Indiana are gathering data and measuring against their plan and program goals.

All material and sector specific targets will not only have targets for 2045 but also 5 – year incremental targets so that progress towards the overarching 2045 goals is incremental. Incremental targets take into consideration the reality of factors such as the time it takes to change policy, implement programs and develop key infrastructure.

For each target that is developed we will set out:

- What data is needed to assess progress against the target
- The calculation method for measuring progress
- The process for gathering the data if there is no process in place
- Improvements in the current data gathering process that might be needed

In 2019, Indiana's recycling rate was calculated at 19%, accounting for residential, commercial and industrial recycling from MSW. However, not all recyclable materials are reported to IDEM, especially since commercial and industrial sectors are not mandated to report their recycling data. Additionally, some recyclables are directly shipped to end-users, bypassing regional MRFs, excluding them from the state's official statistics.⁵ This likely results in actual recycling rates being higher than reported, indicating a need for improved tracking and reporting mechanisms. We will assess existing methodologies for calculating recycling rates and provide recommendations for the best measurement for tracking progress towards the state recycling goal of 50%. Ideally this would align with best practices that the US EPA has been working on as an update to the 1997 *Measuring Recycling: A Guide for State and Local Governments*. However, if they have not updated this resource, we will review options based on current IDEM practices as well as those from other states and the federal government, assess their utility and feasibility, and recommend option(s). A large part of this assessment will involve determining what should go into the denominator, documenting how the numbers are measured, and assessing the availability of the input data, feasibility of calculating the numbers annually, and assessing the meaningfulness of the output.

We will create a Microsoft Excel-based dashboard that will display results of all the material-specific and overall recycling rate calculations that come out of this project. The file will document how each metric is calculated and can be adapted over time as new materials and recycling opportunities are added, and more data become available

The draft suite of goals, targets and measurements methods will be shared and agreed with IDEM before being developed into the final plan and material specific roadmaps which will be consulted on.

Phase 5 - Development of materials management plan and material roadmaps

Phase 5 is where we pull together all of the research, analysis and workshop outcomes into a single materials management plan with target-based material and/or sector specific roadmaps.

Phase 5.1: Develop draft, materials management plan and roadmaps

The materials management plan will broadly:

- Set out the overarching goal of the plan
- Detail current state including:

⁵ IDEM, 2021. [Indiana Recycling Infrastructure & Economic Study](#)

- How the state is currently performing against the goals
- Provide an overview of existing infrastructure
- Present the outcomes of the SWOT and gap analysis so as to highlight some of the challenges but also opportunities for the state
- Present at a high-level the roadmap to achieving the program goals
- Introduce the material specific roadmaps and the contribution of each to the overarching goal including key dates as a program plan.
- Include chapters that provide:
 - A detailed breakdown of evidence-based measures, actions, owners (e.g. state departments, counties etc.) delivery dates and funding needs that will be needed to deliver the roadmap and achieve the overarching goals by material.
 - The mechanism for measuring and monitoring progress
 - An evaluation of risk. We will consider what some of the challenges could be in delivering the actions and measures and what mitigation could be put in place. We will also consider the impact that delays in implementing measures could have on the ability to reach the overarching goals by 2045.
 - Detail how the state roadmaps can be incorporated into county roadmaps.
 - A detailed month by month 5-year action plan.
- Detail the 5 – year plan update process. We will outline a proposed process for updating the Plan. This will include an overview of how to update the waste generation and management information, identifying new priority materials, assessing the results, considerations for adjusting targets, and development of new actions to meet existing or revised goals. Section 2.4.8.2 describes our approach to addressing new solid wastes, new contaminants, and new recyclable materials that need to be monitored and addressed which should be considered every five years, as well.

Conceptually, the overarching roadmap will organize the suite of actions into themed groups to facilitate more efficient management and progress tracking. We will also note crosscutting actions that affect multiple materials. This could include:

- **Opportunities for market development of recyclable and compostable materials.** We have carried out market development studies for a number of clients. We start by conducting some initial desktop research and then speak with trade groups and industry experts at the state and national levels to discuss existing and potential end markets and level of demand for recycled content/organics end products. To the extent possible, we look for key state players who work within the state landscape to inform questions about end market development. We will leverage our recent organics expertise working with Colorado to assess market development opportunities related to compost, mulch, and digestate; we will also leverage our work on the 50 States of

Recycling report to assess opportunities for various types of packaging material including glass, aluminum, and plastic. We anticipate developing an overview describing opportunities, their level of development, and opportunities for growth. This may look like a red-amber-green chart highlighting opportunities without seeking to quantify them, particularly as some markets are more developed than others and there is lack of data availability for some markets. As part of this effort we will also identify barriers to market development and provide recommendations for how this could be addressed.

- **Funding mechanisms.** We will include a section on funding mechanisms and include information about the funding type, source, value, and funding focus. This will include state and federal sources as well as opportunities provided by other entities. We will work with IDEM to understand existing government resources and research opportunities advertised through key trade groups (e.g., US Composting Council, The Recycling Partnership, etc.). We have developed a similar review for the State of Colorado, specific to funding for organics infrastructure development, with the goal of supporting organic processing infrastructure expansion as organic waste diversion increases over time. We will develop recommendations based on our review which will feed into the Plan.
- **Education and outreach goals.** We will review best practices and behavior impact studies from key organizations including ReFED, BioCycle, NRDC, and The Recycling Partnership, among other organizations, and also review information from other states on behavior change and materials management to inform goal setting for Indiana. We will discuss establishing a mix of output and outcome-based goals for the state given that behavior change can take years to occur.

The above is an overview of key components of the Plan development process. Other pieces may be discussed elsewhere in this document (e.g., an outline of how we will integrate guidance for local governments is provided in Section 2.4.7.3, and stakeholder engagement is discussed further in Section 2.4.9).

Once our team has completed the draft plan, it will be reviewed by IDEM. After receiving a single set of comments will make the necessary changes before it is subject to public consultation.

Task 5.2 - Produce final plan and roadmaps

After the public consultation process is complete, we will review the feedback with IDEM and agree to any final changes before producing a final document that can then be sent to the designer for final production.

2.4.7 Key Plan Components

2.4.7.1 As outlined in the Scope of Work, please describe how your company will ensure all key plan components will be included in the Plan.

Within the first month of the project, we will develop a long list of plan components and hold a high-level discussion with IDEM to talk about these components. We will build this longlist based in part on the list of key plan components in the Scope of Work as well as by reviewing recently published state materials management plans, such as those from Washington, Oregon, and New York, among others. Through discussion with IDEM, the longlist will be organized and streamlined such that it will begin to form the detailed outline for the strategic plan. In this way, we will ensure the key plan components are addressed from the beginning and incorporated in the resulting Plan. Section 2.4.6 provides one starting point for development of the outline which will become further organized, refined, and detailed within the first several months of the project.

2.4.7.2 The state has a goal to reach a fifty percent (50%) recycling rate. How will your company approach including planning components that will identify barriers and setting achievable goals with benchmarks to reach the state's goal?

We will conduct specific activities in the planning process to ensure that the final plan is tailored to Indiana, recognizes and addresses potential barriers, as well as sets ambitious yet achievable benchmarks so Indiana can meet its materials management and climate action plan goals. These include:

- *Stakeholder Engagement:* The public comment period will allow us to gather feedback on goals and the process for updating them, as well as identify potential barriers and challenges. We will also leverage the stakeholder advisory group to provide this input as we develop key components of the Plan.
- *Data Analysis and Comparisons:* Eunomia is very experienced in managing and analyzing data from 100's of data sources. We understand waste and recycling data and can easily qualify and sense check what we receive so that any information used for modelling is robust and justifiable. We will analyze existing data on waste composition and recycling rates across the state and compare against data from other states to support setting reasonable benchmarks to achieve the state's goals.
- *Policy and Regulatory Review:* We will review existing Indiana policies and regulations related to waste management and recycling. This will identify potential gaps or inconsistencies that hinder achieving the 50% goal. It will also highlight best practices or options that are taking place in some counties that could be applied to other counties as well as best practices that could be scaled and generate greater economies of scale. We will also leverage our expertise working on circular economy policy outside the state to consider benchmarks

and policies for integration with the analysis.

- *Process for future Plan update:* We will also provide a proposed process for updating the Plan. This will include an overview of how to update the waste generation and management information, assess the results, considerations for adjusting targets, and development of new actions to meet existing or revised goals. This includes a process for addressing new solid wastes, new contaminants, and new recyclable materials that need to be monitored and addressed.

2.4.7.3 Please describe your company's approach to incorporate guidance for local government planning into the development of the state Plan.

We understand that successful implementation of the state's Plan hinges on strong local government buy-in and action. Here's how we'll ensure the plan incorporates guidance for local planning:

Data-Driven Approach: We will leverage data developed under Section 2.4.6 at the county level on waste generation, collection systems, and existing infrastructure to provide a basis of understanding for the local government guidance. This information will provide an understanding of key population centers as well as the extent of urban and rural areas as well as collection and hauling services and coverage.

Regional Collaboration: Through our research, interviews, and public outreach, we will gather information about specific challenges faced by local communities, existing local initiatives and best practices, and local priorities for infrastructure development and market development. The modeling that we do will also help identify current and potential future gaps in infrastructure, and we can then provide guidance around opportunities for enhancing infrastructure capacity include considerations for how/where to build new facilities, funding opportunities, opportunities to leverage or amend policy,

Tailored Recommendations: The Plan will include a section dedicated to regional planning, providing:

- Model ordinances and policies that can be adapted by local governments for waste reduction and diversion.
- Guidance on how to integrate the Strategic Plan and state climate action plan with local planning efforts (e.g., comprehensive plans).
- Information on siting new facilities (e.g., material recovery and compost facilities, anaerobic digesters, etc.), including considerations for new infrastructure development, considering zoning regulations and permitting requirements, proximity to waste generation sources and transportation networks as well as existing processing facilities, availability of utilities and

infrastructure, and environmental and social impact considerations

- Guidance about planning for natural disaster debris management, as informed by existing EPA guidance.
- Funding opportunities and technical assistance resources available to local governments.
- Other useful resources including calculators, materials/strategies on education and outreach related to waste diversion, key industry and non-profit organizations with resources to support waste diversion and infrastructure development, and other publicly available information.

This collaborative approach will ensure the SMMP is not a top-down directive but a flexible framework that empowers local governments with the necessary tools and guidance to tailor materials management strategies to their specific needs and resources.

- 2.4.7.4 Please provide your company's approach to gathering data to inform planning goals and priorities. Include collection methods, data sources, and any quality assurance/quality control measures of data. Additionally, please acknowledge your company's ability to adhere to the U.S. EPA's data quality assurance protocols.

Qualitative and quantitative data and information gathering will occur throughout this project and will inform modeling, goal setting, and development of proposed strategies to be discussed with IDEM. Following are examples of how collection methods, data sources, and a strategy for quality assurance/quality control.

- **Example collection methods:** At the start of this project we will develop a longlist of data requirements for each component of the strategy development (as outlined in Section 2.4.6) and identify possible data sources for each element. We will then discuss data availability and gaps with IDEM to develop a strategy for collecting relevant information and/or identifying appropriate assumptions. We will need to identify data to inform the modeling as well as other qualitative aspects of the planning process including levers that impact waste diversion including education and outreach strategies and end market development, among others. Collection methods will abide by the PRA (as discussed in Section 2.4.4.2) and include desktop research, leveraging information from past team studies and efforts, interviews, and input from stakeholder engagement efforts.
- **Example data sources:** We will leverage many data sources. This includes information from published resources as well as from interviews of key stakeholders along the value chain. Key information sources include datasets published by IDEM as well as information from Eunomia's 50 States of Recycling Report and other relevant research for states and provinces in North America. Additionally, we will review relevant information Biocycle, ILSR, US Composting Council, US EPA, The Recycling Partnership (TRP), Indiana Recycling Market

Development Program, Indiana chapter of the Solid Waste Association of North America (SWANA), the Natural Resources Defense Council (NRDC), state solid waste management districts, and other industry and trade groups and non-profit and academic organizations.

- **Data quality assessment/quality control measures:** Eunomia acknowledges our ability to adhere to EPA data quality assurance protocols. In many projects, we have implemented an approach from EPA's assessment for life cycle inventory data⁶, whereby we have adapted data quality assessment criteria (e.g., location, timeliness, reliability and wider application) and scored all data to provide the reader both a broad a granular understanding of overall data quality. We will work with IDEM to understand its expectations for the deliverables and supporting materials to ensure we provide meaningful information to support the Plan.

2.4.7.5 Please confirm your understanding of the collaborative approach to this project and describe your plan to be a collaborative partner with IDEM in all aspects of this project.

We work very collaboratively with our clients and view IDEM as a key information resource and decision-maker and critical to delivering an informed and useful materials management plan. Following are the ways in which we plan to collaboratively engage with IDEM which include, but are not limited to:

- **Setting up standing project management meetings** with the client as a first step to provide a forum in which collaboration can always occur (though collaboration can occur informally and via email and other routes).
- **Discussing what data IDEM has available** as well as asking questions to determine what other information IDEM may be able to provide. This could include information related to waste imports, key stakeholder contacts, key state agency contacts, regulation that is currently or could in the future affect waste management, characteristics of waste management in the state, and other relevant issues.
- **Setting up an overarching IDEM review process** tied to key components of the work aligned with key deliverables and milestone dates. This review process includes providing opportunities for interim input and feedback so that there are no surprises during review of draft and final deliverables.
- **Engaging with IDEM to discuss baseline and future state waste generation and management modeling**, including inputs to and checks on assumptions.
- **Engaging with IDEM in the stakeholder engagement process** to ensure it generates feedback that is representative of all stakeholders. We will also collaborate with IDEM on the public outreach strategy to help maximize public

⁶ Edelen, A. and W. Ingwersen. Guidance on Data Quality Assessment for Life Cycle Inventory Data. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-16/096, 2016.

feedback.

- **Holding workshops with IDEM** to dedicate chunks of time to focus on challenging issues and come to consensus on next steps and recommendations.

2.4.8 Materials Management Strategy

- 2.4.8.1 Please describe in detail how your company plans to address material management strategies to cover multiple material categories that includes municipal solid waste (MSW) and non-municipal solid wastes outlined in the Scope of Work.

The goals and supporting action items for Indiana that will be laid out in the Plan are part of a larger national and world vision for a sustainable future where the value of resources is maintained within a circular economy. The Plan will aim to achieve this vision through identification of a suite of measures to be implemented over the near (5 years) and longer term (20 years) planning period. We will work with IDEM to develop the longlist of actions which will have positive climate impacts, though there may be other priority impacts that IDEM wishes to pursue. Example focus areas for actions in other states include waste reduction and reuse, recycling and recycling market development and resiliency, infrastructure development, organic waste landfill diversion, and product stewardship and other materials management programs. These are high-level categories that bridge many types of materials and are rooted in promoting a circular economy. If IDEM does not already have a vision and associated focus areas, we will facilitate a workshop with key staff to brainstorm focus areas (which may be material specific or relate to crosscutting issues involving funding, education, and policy) and think through how to prioritize them.

The output of that workshop will be a vision and set of focus areas that are mapped to material categories and address MSW and other wastes outlined in the Scope of Work. The focus areas can be viewed as levers through which the State can build a circular economy for the in scope materials. We will build on these focus areas, working with IDEM to develop a suite of goals for each which form a roadmap for achieving the overarching goal of achieving a 50% recycling rate. There may be multiple goals under each focus area, and multiple actions under each goal. Under each goal we will include action items and associated time frames, implementation leads, and stakeholders involved. Successful implementation of identified goals may depend on either legislative or programmatic action, or both, and this will also be reflected in the roadmap. The New York State Solid Waste Management Plan, published in 2023, provides an example of the type of roadmap we envision creating for the state of Indiana.⁷

⁷ New York State Department of Environmental Conservation, 2023. New York State Solid Waste Management Plan. [finalsswmp2023.pdf \(ny.gov\)](#)

We will work with IDEM to determine the best way to engage stakeholders in this process of developing the roadmap. This may include gathering feedback on the actions to assess feasibility, timeline, responsible entities and potential short- and long-term impact on key stakeholders.

2.4.8.2 Please describe your company's approach to identifying new solid wastes, new contaminants, and new recyclable materials that need to be monitored and addressed.

It is important that when the Plan is reviewed every five years there is consideration of new solid wastes, contaminants, and recyclable materials that need to be integrated with the plan so their impact can be considered in target setting and assessing progress toward goals.

We will work with IDEM to develop a process for this work. The goal is to develop a repeatable methodology that can be evolved over time, components of which include:

- **Industry and technology monitoring.** We will identify sources for continuous monitoring of emerging trends. This includes: new product development and material usage (e.g., nanomaterials, bioplastics), manufacturing processes that generate novel waste streams; advancement of recycling technologies that can handle previously unrecyclable materials; identifying potential environmental health risks associated with new contaminants, developing best practices for managing emerging waste streams safely and efficiently, and other strategies
- **Establish a dedicated workgroup.** We will develop a list of contacts and recommend establishing a permanent workgroup for stakeholders to inform this issue. This would include industry representatives who can provide insights into upcoming product innovations; environmental groups who can share concerns about potential contaminants; recycling facilities that may encounter new recyclable materials; trade groups representing waste haulers, processors, and others; and solid waste management districts, among others.
- **Monitor state and federal law for relevant rulemaking and policy.** Relevant federal policy could relate to changes to definition universal waste, for example. Changes in state law could relate to a variety of issues associated with material use, composition, or end of life management.
- **Assess data availability for new solid wastes, contaminants, and recyclable materials.** The 2021 Indiana Recycling Infrastructure and Economic Study recommended updates to IDEM data collection systems. It will be important to assess both what data are available and how those data can be collected over time so that information about new wastes, contaminants, and recyclable materials can be consistently tracked and integrated into the strategic Plan.

The information we identify will be integrated in the 5-year Plan update. We will recommend appropriate management strategies for newly identified wastes and

contaminants including potential for source reduction and reuse, and safe disposal methods if recycling is not feasible.

2.4.9 Public Outreach and Stakeholder Engagement

- 2.4.9.1 Please explain any plans or ideas to coordinate with a diverse stakeholder group of government, regional solid waste management districts, the solid waste management industry, the recycling sector, community and environment organizations, businesses/generators, and other stakeholders.

While the audience for the formal public notice and outreach period is intended to be the general public, we acknowledge this inherently includes key stakeholders from across the materials generation and management value chain. To ensure we capture feedback from key stakeholders, we will develop a Public Outreach and Stakeholder Engagement Plan that identifies these entities. They will be cross listed by their association with specific materials and value chain point or other supporting role or interest (e.g., education, funding) to ensure we address the breadth of stakeholder interests and roles. We will do this in coordination with IDEM and as informed by stakeholder advisory group. This exercise will also help us target key stakeholders to ensure they're aware of the public notice period and IDEM's desire for their feedback.

The purpose of the outreach and engagement will be to present key aspects of the Plan about which to solicit feedback. We will develop the agenda in collaboration with IDEM which may include presentation of overarching goals and integration of circularity into state planning, selection of priority materials, current state of Indiana material generation and management and 20 year projection, strategy actions and timeline, process for Plan update, and consideration of environmental justice issues. We present several options for public engagement depending on statute requirements and IDEM preference.

Beyond publishing formal notice of the engagement events, we will also work with IDEM, trade groups, and other networked leaders to communicate to key stakeholders including government, regional solid waste management districts, the solid waste management industry, the recycling sector, community and environment organizations, businesses/generators, and others. We will do this through traditional as well as digital media.

OPTION 1 -- Leverage Solid Waste Management Districts

If allowable by Indiana statute, IDEM can 1) present the plan to the solid-waste districts in virtual meetings (three date/time options), and 2) leverage the solid-waste district bodies across the state to present the plan in their local open-door public meetings and empower them to inform the public where to find the plan (IDEM website) and how to provide public comment by the deadline. The Eunomia team can support IDEM in this

approach by providing the following assistance:

- **Public-meeting support**
 - Develop/assist with public-notice copy (per IDEM preference)
 - Develop and distribute email-blast invite to solid waste management district leadership/contacts
 - Coordinate the virtual meetings, including registration and hosting (if IDEM prefers); include detailed agenda to support event operations and logistics and conduct dry run prior to event
 - Develop and provide presentation materials and talking points for IDEM virtual meetings, content to be agreed with IDEM
 - Follow up each meeting with an abbreviated digital public-communication kit for districts to help them amplify the key messages, circulate materials, and encourage public input during the comment period
- **Public-comment support**
 - Provide copy and design/creative and materials (Plan, presentation recording from virtual event with SWMDs) for IDEM website to support public comment period
 - Craft (and distribute if IDEM prefers) news release to inform Indiana media about plan and comment period
 - Provide social-media art/posts for IDEM and relevant other state-agencies to include in their social-media streams/channels
 - Work with IDEM to review public comments and generate a summary document noting respondent organizations and topics. We have supported federal public comment periods for EPA regulatory development and will transfer expertise developed there to categories comments and capture key messages that will be compiled in a summary document. We assume that IDEM will provide any necessary response to comments and make that information public.

OPTION 2 -- IDEM meetings

If Option 1 is not allowable by state statute, Eunomia proposes holding a streamed in-person plan presentation meeting in Indianapolis for all SWMD representatives and holding a streamed in-person public meeting in Indianapolis. The Eunomia team will support IDEM in this approach by providing the following assistance:

- **Public-meeting support**
 - Develop and distribute email-blast invite to solid-waste district leadership/contacts to the Indianapolis meeting
 - Coordinate the in-person SWMD meeting in Indianapolis and can help secure a no-cost location if desired (e.g., Indiana Government Center South)
 - Develop and provide presentation for IDEM to share during all meetings

- Follow up the SWMD members meeting with an abbreviated digital public-communication kit
- Develop/assist with public notice copy for streaming in-person public meeting (per IDEM preference)
- Coordinate the public meeting, including registration hosting/facilitation (if IDEM prefers)
- Public-comment support would be the same as presented in Option 1.

2.4.9.2 Please describe what methods will be used to analyze current service availability as well as areas that need expansion.

We will have gathered information about current collection service availability as part of the work conducted under Section 2.4.6 which will be used to model waste management 20 years in the future. We will gather information about access from IDEM and the solid waste management districts, as well as any other information collected in reports and surveys conducted by organizations such as The Recycling Partnership, Biocycle, and other such organizations.

We will also assess infrastructure availability at the county level, compare with current and anticipated waste flows, and determine infrastructure needed to hit diversion targets every five years through 2045. This includes assessing recycling, composting, anaerobic digestion, landfill, and other infrastructure. This work will be conducted using GIS and based on a set of decision criteria to determine where waste should flow, by material type, in line with the waste management hierarchy. Based on this analysis, we will be able to identify potential infrastructure gaps and needs.

2.4.9.3 Please describe your company's experience with, and plans for, developing, coordinating, and implementing an extensive and thorough stakeholder engagement campaign to fully inform the planning process.

Our subcontractor, McFarland PR & Public Affairs, has conducted similar outreach input for other Indiana state agencies, including DNR, IOT and FSSA. As stakeholders are identified in collaboration with IDEM, our team will use a variety of communication channels and relationship leverage to bring the stakeholders to the table to gather their input and feedback. Those approaches can include:

- Web communication – leverage stakeholder-relevant digital space on IDEM website to create awareness and interest in the planning process.
- Direct email outreach – create/distribute notification to generate initial awareness and interest in the planning process among the various stakeholder groups.
 - Include state legislators, county commissions, mayors, councils, chambers of commerce and associations in the awareness notification.

- Social-media – leverage IDEM and other relevant state-agencies’ social-media channels to promote awareness about the planning process (directing to the IDEM website).
- Virtual input-session invite – create stakeholder-specific invite for email-blast distribution to recruit for virtual input sessions.
- Leverage influence --
 - Work with IDEM to encourage state legislators to invite their relevant district stakeholders to actively participate in the planning process (i.e. attend input sessions, etc.)
 - Likewise, leverage influence of county commissions, council members, mayors, etc., to encourage/invite their relevant stakeholders to participate in the planning process.
 - Similarly, leverage the influence of state and local chambers of commerce to encourage relevant stakeholders from the business community to participate.
 - Also leverage IDEM’s relationships with key associations that hold relationships with the relevant stakeholders.
- Media relations – issue news releases and editorials (when appropriate per IDEM) to raise awareness about the planning process, and how input will be gathered (directing interested parties to the IDEM website).
- Conduct virtual sessions – using recording and transcription to capture input/feedback/recommendations.
- Follow up – provide an initial report to all stakeholders who participated in the input sessions, indicating the level of engagement, the level of needed information gathered, and next steps.

2.4.9.4 Describe how you developed communication materials and methods for public outreach for other programs and provide examples. What are the methods that will be recommended for this Plan?

Below are two examples of how our subcontractor, McFarland, has coordinated and supported discovery engagement for plan development:

- **Indiana Department of Natural Resources (DNR) (Division of Water (DOW))**
McFarland helped DNR’s DOW reach out to multiple stakeholder demographics and collect input on how to improve DOW’s processes, engagement and communication. McFarland developed digital invitations for DNR to distribute to their own lists, as well as to relevant associations with which DNR has relationships. McFarland set up a complex online survey to collect input, and later conducted multiple virtual focus groups to gain deeper insight and clarity. McFarland set up an AI-driven registration site for focus-group recruitment, which automatically distributed a calendar invite and virtual-meeting link to each registrant – as well as an auto reminder and follow-up thank you to each

participant. McFarland compiled the data into a presentation design and presented it to DNR, with a narrative report following.

- **Indiana Office of Technology – Local Government Services**

McFarland conducted multiple virtual input sessions to gather insights and viewpoints from a range of local-government officials across Indiana counties. These sessions (conducted virtually) sought to determine what services these agencies needed, and how IOT could best engage with them to discuss and provide those services. McFarland created the invite and IOT issued to its lists and association partners. McFarland used its AI-driven registration site to manage the recruitment process. Upon completing of the virtual focus-groups, McFarland used that data to develop a strategic plan for IOT to implement the improvements and recommendations provided through the discovery process. McFarland also used the input to develop a branded suite of materials IOT could use for outreach to its target stakeholders.

- **Indiana Family and Social Services Administration – Healthy Indiana Plan 2.0**

This was a full-scale marketing campaign involving stakeholder research, strategic planning, design, community outreach, media relations and advertising. McFarland helped FSSA begin the journey with collecting input from the target constituent demographic on the HIP 2.0 change in approach, and the marketing materials and message. McFarland conducted three in-person focus groups across the state (Indianapolis, Connersville, Gary). McFarland used this input to help FSSA develop a highly successful advertising campaign, and community outreach strategy. The campaign achieved its operational success target ahead of schedule and under budget.

Methods for this plan are outlined in Section 2.4.9.3 as a proposed list of essential tactics. McFarland would also recommend an abbreviated digital kit of communication materials that state legislators, other relevant state agencies, local elected officials and associations can use to promote the planning process to key stakeholders in their communities.

2.4.9.5 Please describe your company's success and/or challenges in coordinating public outreach via multiple mediums. These could include, but are not limited to:

- Public or specific communications
- Townhall type public events
- Virtual Town Hall events
- Regional Visits/Events
- Public Hearings

Our subcontract vendor, McFarland, has implemented each of these forum opportunities, with varying approaches based on client preference. For example, public hearings and townhall events can be held in school facilities, such as gymnasiums,

auditoriums and cafeterias – and with proper security if needed. This is generally and easily accomplished by leveraging the State agency’s connections with the local community and, in this case, could be achieved by working with the solid waste management districts, for example. Virtual townhall events are also fairly easy to implement with today’s video-conferencing technology. McFarland also uses a professional virtual-events director when budget allows and need presents.

Taking into account the budget for this project, and the prominence of virtual meeting trends, we recommend implementing virtual input sessions, primarily, to collect input and feedback from across the state. This will also allow the Eunomia team to leverage the accompanying technology to easily and cost-effectively capture comments for analysis.

Following are examples of challenges associated with coordinating public outreach via multiple mediums and how we proactively address common issues.

- *Integrated communications plan.* It is important to remember that no matter the medium, the goal is to provide the draft Plan to the public and give them an opportunity to give feedback. That means we need an integrated communications plan that can be amplified by key stakeholders but which facilitates increasing public awareness in various ways.
- *Deploying messaging through multiple channels.* To limit tailoring communications messages to multiple mediums, we start from the beginning by developing strategies that can be deployed across multiple mediums with limited adjustment required. This keeps the budget in check and the messaging consistent.
- *Hybrid meetings.* These can take a lot of time to plan so that in-person and virtual participants feel full engaged and heard. We have developed a template run-of-show including common logistical needs that we can implement for this project. Much of the logistical thinking is already completed and we will plug in needs for IDEM to efficiently develop a tailored hybrid engagement process.

2.4.9.6 Please describe your company’s experience and ability to develop communication materials including, but not limited to:

- Flyers
- Mailers
- Email content
- Social media content
- Public notices
- Marketing materials

What other methods or materials may be suggested? Provide examples of previous communication materials.

McFarland has a full brand-design team that has produced all of these types of materials for a variety of clients over the past 12 years. For illustration, McFarland recently helped FSSA launch the PathWays for Aging campaign, which included a \$4.7 million statewide media buy and a full suite of branded collateral including retail signage, transportation signage, outdoor boards, print/TV/radio ads, social-media art, flyers, branded email-blasts/presentations/brochures, and an extensive website. McFarland also created a digital communication kit that industry stakeholders and other contract partners could use to help promote the PathWays program, similar to the concept we're proposing to share with the SWMD and others to support public outreach for this project.

The [website](#) on the state's CMS platform provides a range of the materials that McFarland generated as well as the [toolkit](#).

- 2.4.9.7 Please provide a proposed timeline indicating when each phase of the public engagement process will be completed, including important milestones. Please include details such as meeting cadence, attendees, information provided during meetings, etc.

Following is a proposed timeline for key activities associated with public engagement. The meetings will be supported by providing a summary slide deck and talking points addressing the value and purpose of a materials management plan and 20 year strategy and identifying key issues that will be presented on and for which the state is soliciting feedback. These will be identified in collaboration with IDEM as discussed previously. Meeting cadence and attendees was discussed previously.

- Month 3 -- Develop detailed public-engagement plan including outreach strategy and target audiences
- Month 4 -- Begin developing outreach messaging and materials
- Month 5 -- Finalize outreach messages and materials
- Month 6 -- Launch initial awareness phase of the discovery public-engagement plan
- Month 7 -- Activate invitations, influencer outreach, and participant-registration coordination of discovery public-engagement
- Month 8 -- Continue participant-registration coordination
- Month 9 --Support public-notice activation and public-meeting coordination (in-person and/or remove - see proposed options above)
- Month 10 -- Support public-comment coordination and activation
- Month 11 -- Finalize public-comment period, review comments and develop summary; develop any copy needed for public facing communication
- Month 12 -- Assist with any mass stakeholder follow-up on final plan.

2.4.10 Timeline

2.4.10.1 Please describe your company's ability to develop the Plan within one (1) year contract term. Provide samples or links to previous work, if available.

Eunomia frequently supports state and local government to respond to legislatively mandated requirements for research and analysis, and we have never missed a deadline. All of this work is completed in less than one year. We do this by appointing experienced project directors who work closely with project managers to coordinate multiple teams within the company that are focused on modeling, policy, strategy, and who provide other expertise needed to drive the project forward. We hold weekly internal project meetings where we not only share progress updates but also discuss challenges and solutions as well as staff resourcing needs so that we quickly adapt to new needs or project developments.

Following are examples of past projects that require similar levels of research, analysis, and outreach that we have completed within 12 months; we have provided these and other relevant work products in Attachment J.

- **Washington Recycling, Reuse, and Source Reduction Target Study and Community Input Process, 2023.** In 2023, the Washington State Legislature directed the Washington Department of Ecology (Ecology), via the Engrossed Substitute Senate Bill 5187, Section 302 (20), to contract for a study to (1) develop recycling, reuse, and source reduction performance target rates for consumer packaging and paper materials; and (2) conduct a community input process to gather input from Washington residents about their views and opinions on the state's recycling system. This study addressed consumer packaging material, and specifically, rigid and flexible plastic, paper, aluminum, steel, and glass. Ecology awarded this contract to a team led by Eunomia Research & Consulting, Inc. The targets study comprised two parts: (1) a summary of recycling, reuse, and source reduction target rates set by jurisdictions, primarily in the US, Canada, and Europe, including information about measurement methods and justifications for the target rates; and (2) findings from modeling the impact of four policy scenarios on recommended target recycling and reuse rates for the near-term, 2032, and beyond.
- **50 States of Recycling, 2021 and 2023.** This project provided the first ever state-by-state, like-for-like comparison of municipal packaging recycling rates in the US. The report presents recycling rates for plastic bottles and trays, glass bottles and jars, aluminum cans, steel cans, paper, cardboard, and boxboard in terms of material reprocessed rather than material collected for recycling. It draws on 2021 data sourced from the Environmental Protection Agency (EPA), states, counties, municipalities, sorting facilities, and processors. Primary and secondary research, detailed data analysis, use of informed assumptions. In the final report, detailed two pagers are provided on all 50 states of the US showing current and potential future recycling performance under good policy.

- **Colorado EPR Needs Assessment, 2023.** Colorado was one of the first states in the U.S. to pass extended producer responsibility for packaging and paper products. The designated producer responsibility organization (PRO) CAA selected Eunomia and HDR to conduct the states EPR needs assessment. The objective of this project was to develop three scenarios to estimate the future recycling performance and cost under the EPR program. Before passing EPR, waste and recycling data was segmented and limited across Colorado. Therefore, this assessment required a comprehensive research and analysis process across the value chain including residential and non-residential waste generation and recycling access, collection frequencies and practices, MRF performance, technology, and capacity, and recycling end markets. In total over 100,000 data points were gathered across the state. The research process involved 90+ Tours/interviews with service provider and end markets, 130 completed surveys from municipalities representing 60% of the population, and many hours of secondary research. This data was used to create a sophisticated scenario modelling tool to adjust potential implementation methods for the EPR program to understand its impact on recycling performance and cos. For example, the impact of collecting recyclables weekly vs every other week. Throughout this project, the team attended 18 meetings with the state advisory board getting constant feedback from local stakeholders. On April 17, 2024 the Colorado Joint Budget Committee approved (on a 5-1 vote) the “medium” scenario developed as part of the needs assessment which will be used as a foundation for developing the program plan. This shows that Eunomia’s comprehensive work has the strength to pass through legislative process.

2.4.10.2 Describe your company’s proposed timeline for the development of the Plan including any progress benchmarks.

Following is an outline of the timeline for Plan development. We will revise this timeline following a kickoff meeting with IDEM and present a revised version within the first month of the project. We will develop several timelines for various activities that will be overlaid to create the overall timeline. These will include timelines for modeling, strategy goal and action development, workshop development, and public engagement. Following is an outline of the timeline approach – public engagement elements are indented and bold:

- Months 1 to 3: kickoff meeting, primary and secondary research and development of the material flow and scenario model
- Months 2 to 5: model baseline, map infrastructure and forecast business as usual scenario considering population growth, etc.
 - ***Month 3 -- Develop detailed public-engagement plan including outreach strategy and target audiences***
 - ***Month 4 -- Begin developing outreach messaging and materials***

- *Month 5 -- Finalize outreach messages and materials*
- *Month 6 -- Launch initial awareness phase of the discovery public-engagement plan*
- Month 6: develop a long list of measures to manage waste stream, carry out infrastructure gap analysis, and develop criteria to qualitatively assess the list of actions and goals identified by material category and waste generator for each focus area.
- Months 7 to 8: stakeholder outreach and public engagement to socialize and stress test the measures with key stakeholder groups from across the value chain.
 - *Month 7 -- Activate invitations, influencer outreach, and participant-registration coordination of discovery public-engagement*
- Month 9 to 11: develop the Plan with the draft Plan in Month 11 and the final Plan in month 12.
 - *Month 8 -- Continue participant-registration coordination*
 - *Month 9 -- Support public-notice activation and public-meeting coordination (in-person and/or remote - see proposed options above)*
 - *Month 10 -- Support public-comment coordination and activation*
 - *Month 11 -- Finalize public-comment period, review comments and develop summary; develop any copy needed for public facing communication*
 - *Month 12 -- Assist with any mass stakeholder follow-up on final plan.*

2.4.11 Communications/Reporting Process

2.4.11.1 Describe your company's process for communicating progress of project results.

Eunomia prides itself on ensuring good communication with the client throughout each project, with the Project Manager and Project Director as the key points of contact. We like to use different channels for communication depending on the need and will discuss with IDEM which methods they find most useful. We may use some or all of the following methods to communicate progress of project results:

- **Biweekly project management meetings.** It is important to establish opportunities for consistent check-in with the client. Not only does this provide space for general project management, it also provides a standing opportunity to address questions that come up throughout the project. This connection will provide space to proactively address and resolve challenges. We take notes during every meeting and circulate action items to ensure everyone is in agreement and aware of next steps.
- **Ad hoc meetings.** It is important to be able to meet about technical and other issues as they arise, especially if discussion is required. If we need to communicate between the biweekly meetings, we recommend setting up ad hoc

meetings to address questions that come up.

- **Email updates.** We are very responsive via email and will use this to provide general updates and share information and resources.
- **Shared workspace.** If helpful, we will set up a SharePoint website where we can share resources like publications, data, interview notes, and draft report files.
- **Workshops.** We set up workshops when we want to present information and gather input and feedback, or to brainstorm. We will often do this when presenting ideas around strategy or walking through data analyses and requesting input on assumptions and approach.
- **Monthly progress reports.** Each monthly progress report is delivered with the corresponding invoice. These progress reports detail work conducted that month as well as any challenges encountered, and how they are being addressed.

2.4.11.2 Please detail your company's customized and ad hoc reporting capabilities including how long the state will wait to receive new requests for information.

Eunomia works closely with clients to provide research and data tailored to client needs. Our response time is, to some degree, tied to the type of information being requested. For example:

- **Project budget and staff resourcing.** Eunomia uses Netsuite, cloud-based enterprise software that includes products and services tailored for small and medium-sized businesses including accounting and financial management, customer relationship management, inventory management, human capital management, and project management services. Timesheets are submitted on a weekly basis which means budgeting can be reviewed and reported on a weekly basis. This tool also helps manage staff resourcing and allows the company to assess staff availability and mitigate challenges around potentially competing priorities. Staff resourcing is updated at least weekly, if not more frequently.
- **Ad hoc reporting capabilities.** Much of the work we do at Eunomia is customized for the client. This means we don't draw data from centralized databases for all our projects. Therefore, if a client requests information based on analysis, this means we generally conduct a bespoke analysis. However, if a client is looking for sensitivity or other analysis that extend existing data, we work with the client to understand the request so we can provide a realistic timeline for providing the information. The company consists of more than 140 employees who provide resourcing flexibility and support timely delivery of work.

For ad hoc requests, we recommend communicating with Eunomia as early as possible regarding information needs, as well as potential future frequency of data needs. This will help us efficiently respond to IDEM requests. If the reporting need involves pulling data from an existing database and involves limited manipulation, the response time will be faster than if the data must be generated or modeled. We will discuss each request with IDEM to understand the specific

need and offer solutions as well as timelines for each.

2.4.11.3 What is your company's standard process for problem resolution, including standard response times? What is the escalation process if an issue is not resolved during the standard resolution process?

The risks associated with each project will vary depending on its nature. Eunomia's risk management strategy is to implement a Risk Register at the start of each project. This register is used to track the development of any risks and record appropriate mitigation responses as the project develops.

For each project, risks are initially identified by drawing on the experience of the Project Director and Project Manager as well as lessons learned from previous projects. They will also be discussed with the client and other partners to ensure that none are missed and all have been defined appropriately. The Risk Register is a working document, maintained and updated throughout the project. Further risks may emerge during the course of project delivery; these are added to the register as they are recognized.

Risk management roles and responsibilities will be allocated at the start of each project. For most projects, the Project Manager will be responsible for the day-to-day management of project risks. As part of the risk management process, early warning indicators and risk tolerances will be agreed upon between the project team, as these will dictate the nature of the risk mitigation responses.

The main risks that have been identified in relation to this project are summarized in the below table. We also present here our proposed measures for reducing or mitigating these risks to ensure effective and uninterrupted project delivery. This is an initial, high-level assessment that will be refined as part of the project inception process outlined above. After inception, the project initiation documentation and Risk Register will include a more comprehensive assessment of the risks and our proposed strategies for mitigating these.

Risk	Description of Impact	Probability	Impact	Control Measures
Poor quality or lack of data.	Not enough information is gathered, resulting in an inconclusive report.	Possible	Major	Eunomia has identified a number of experts who can be contacted to provide further details on data sources. We will work with the client and these experts to identify alternative data sources and possible solutions.
Experts are unable to assist with the review process.	Key data and peer review of this data is not undertaken, affecting report	Unlikely	Moderate	Identify additional contacts in each country via [the client] and our own internal contacts database. We have already

	quality.			identified potential alternative candidates and should be able to draw on these at short notice.
Stakeholders are delayed in returning comments or responding to requests for information.	Key data is not collected, affecting report quality or causing delay in project.	Possible	Moderate	We will ensure that stakeholders are given sufficient warning about when they can expect documents and how long they have to respond. We will also set a deadline with some leeway to allow for slippage. If early signs suggest that stakeholders are having difficulty completing their work, we will make rapid contact with an alternative.
Scope of requirements expands beyond original specification.	Project costs and timescales are affected.	Unlikely	Moderate	The Project Manager will work closely with [the client] to ensure the project conforms with requirements and any extensions are identified early so that formal variations can be agreed.
Data is more complex and diverse than expected.	More time than expected spent on deeper analysis of data.	Possible	Moderate	Through systematic analysis of information gathered, focus will be put on relevant higher level data to avoid tangential paths of investigation.
Key member of Eunomia team become unavailable.	Loss of resource and skills required.	Unlikely	Minor	Mobilise staff from our available pool of experts to remedy any temporary gaps in resources. The Project Manager will ensure replacement staff are on hand and can coordinate additional support if required.
Modelling results are incorrect or misleading	Incorrect assumption may be made based on modelled data that is either inaccurate or based on estimated inputs.	Possible	Moderate	Continue to operate our model quality review process for this study, ensuring that all quantitative data are checked by a qualified modelling expert.
Project behind schedule	Delays due to issues in collecting accurate and up-to-date information from relevant institutions.	Possible	Moderate	During inception, . agree with . [the client] a protocol for data exchange that includes timing for delivery.
Poor stakeholder engagement / Lack of stakeholder availability	Delay/difficulty in getting engagement or feedback from	Possible	Moderate	When selecting stakeholders for participation in interviews/ workshops, briefly approach them to confirm their

	relevant stakeholders.			<p>willingness to participate in advance. If they are not willing, identify alternative participants.</p> <p>Ensure that multiple attendees for each type of stakeholder group are included in the initial stakeholder list; this redundancy will help insure against poor attendance. Give good notice for invitations to workshops – 4-6 weeks.</p>
Lack of decision or consensus	Delays/deadlocks in the [client] decision making, which will delay project development.	Possible	Moderate	During inception, raise the importance of timely decision-making so as not to delay deliverables or derail the project work plan.
Incorrect evidence provided by interviewees	Certain information given to the team may be factually incorrect.	Possible	Moderate	This is most likely to be relevant to producers. Any data provided by stakeholders will be sense-checked by our team and cross-referenced against other related data to ensure its veracity. Where data is of questionable quality, we will highlight this if it is used at any point in our report.

In addition to the Risk Register, Eunomia simultaneously uses an Issues Register. This register is slightly different in that it maintains an up-to-date log of all tasks that arise as part of a project's ongoing management. This allows the Project Manager to assign levels of urgency to each task and identify who is responsible for resolving any issue. In complex projects such as this, a comprehensive Issues Register is essential to ensure that all issues and tasks are dealt with and completed in a satisfactory manner.

In essence, the Risk Register identifies key risks to the project and proposes solutions to these, while the Issues Register is used daily to identify and manage the emergence of these risks. Together, these two registers make up a powerful toolbox for monitoring, managing, and resolving project risks and processes.

During our opportunity approval and bidding process, we consider both our technical ability to deliver the work and the availability of relevant staff against the timescales set by the client. Once identified, resources for the work are allocated at the bid stage and are monitored and managed in a proactive manner as the bidding and subsequent project progresses.

To reduce risk around team continuity, we strive to ensure key knowledge is disseminated across the business, especially from senior staff, to avoid bottlenecks. We operate monthly team meetings to disseminate such knowledge alongside internal seminars and workshops that examine specific technical areas or more strategic projects in depth. Our excellent staff retention rate means that we have a high degree of confidence that we can provide continuity across the contract period. In the event of any planned or unexpected absences, the following processes are applied to re-allocate sufficient resources for the project:

- The strength and experience of our senior team ensure that we will be able to provide replacement or cover from within the project in most instances. If Andrea Schnitzer becomes unavailable as Project Director, Sarah Edwards (President Eunomia North America) would provide equivalent experience and expertise for this project.
- If additional resources are not available from within the current project team, then all senior staff at Eunomia effectively form a reserve pool of environmental consultants who can step into projects should the need arise. All senior staff meet at weekly workflow planning meetings to discuss resourcing issues, and they are able to react quickly to shortfalls in project resourcing. It is understood that extended working hours are sometimes necessary to successfully deliver to client requirements, and staff are rewarded by the company for doing so.
- As insurance against subcontractor failure or to bring in additional resources due to absences in the Eunomia team (if the steps above have not been successful), we maintain a strong network of relationships with sole contractors through large consulting organizations. This information is captured in our subcontractor database, which can be used to quickly identify subcontractors to fill any resourcing or knowledge gaps.

A significant portion of management resources is also available to support project teams with these steps. We have also identified backup staff for each team member to ensure that we can meet the requirements of this contract.