



NRC Recycling Markets Development in the 21st Century – Forging Ahead Handout on Economic Development Strategies¹

Introduction to Economic Development Strategies

Recycling can be a job creator and saves energy and greenhouse gas, but the benefit derives from the use, not merely the collection, of recycled materials. Recycling economics and the jobs from the industry can be enhanced the more the materials can avoid expensive transportation and be used locally. As one state puts it, the goal of their market development work is to add value to recyclables before they leave the state because that creates jobs. Economic development initiatives can increase diversion through the creation of new programs, facilities, and public/private partnerships. It is always beneficial to develop local end-markets for collected recyclables, but is especially important now, given the current export restrictions on recyclables. And on the composting side, the markets must nearly always be local. In addition to creating local markets, there is the cost savings of long-distance transportation, the creation of local green jobs, and the reduction in carbon-footprint. Efforts to develop local end-markets for collected recyclables are made more productive by working with established local economic development programs; getting recyclables prominently on their radar can help long-term efforts in recycling economic development.

Major Market Development Strategy Types

TA: Tech Assistance

- Dedicated experts
- Local market development assistance staff
- Toolkits / business development plan templates, information on “specifications” by material
- “One Stop Shopping” assembled resources, websites, checklists, contacts, information sources

FA: Financial Assistance

- Loans for priority materials, gaps, barriers
- Incentives (tax exemptions, credit, business incentives)
- Grant programs / priorities

Match-Ups – Direct Connections, support, networking

- Help find / foster strategic partnerships
- Marketing / promo assistance
- Siting assistance
- Aggregation help
- Demonstration project assistance

Research – Info / research, proactive & on-demand)

- Markets, tonnage, economics
- Infrastructure
- Financing
- Econ development contacts
- Partnering with other states & national organizations on priority areas

Advocacy

- To increase supply of recyclables (bans / mandates)
- Increase demand
- Improve economics
- For financial incentives
- For EPR
- Direct advocacy

Outreach

- Promote priority state-made recycled content products to businesses, households
- For residential / generator outreach emphasize places to recycle, importance

Short Summaries of State and Local Assistance Examples

- **Phoenix resource park**- joint city/college venture; had land and enterprise fund / ability to enter into long term contracts
- **Austin Recycling Economic Development Program** - mission is to attract, retain and grow zero waste businesses and entrepreneurs; Shop Zero Waste website; The Austin
- **SC** – Aggressively recruit businesses (in other states!); married up with broader state business development; target firms that build on existing industries; started building fund in 1992
- **NC** – Dedicated staff, build up supply network(s), regular messaging to legislators that recycling is a dynamic part of the economy

¹July 30, 2018. *Sources for document / For More Detail:* Skumatz, Griek, et.al., “Establishing a Framework for A Statewide Markets Analysis” for CDPHE, Skumatz Economic Research Associates (SERA), Superior CO, 4/14/17, http://bids.findrfp.com/xDocs/eb3670e10c694b0c91c7f0f377ab883d_Appendix_D.RecyMarketsRept_Part2.pdf and Gedert, Robert, “Austin Recycling Economic Development”, 2017, and Gedert, Robert, “Economic Development Strategies”, Memo, 7/20/18. See longer NRC Resource Paper n NRC Online Library; an annotated bibliography is also included in the full NRC Resource Paper.

Materials Marketplace; Zero Waste Business Rebate;
Recycling Innovations Investment Forum;
<http://www.austintexas.gov/recyclingecodev>

- **Des Moines, IA** – Strong One-stop shopping web site

- **MN** – dedicated staff, underlying goal of adding SOME value while in the state for job creation / find the part of the value stream you can affect, help steer businesses through process
- **PA recycling markets center** – economic development program. Existing manufacturing base helped; start-up funds from state.

Short Summaries of Joint / Cooperative Initiatives

- **OR** – Oregon Beverage Recycling Cooperative – nonprofit statewide collection / processing. Has grown steadily over time, becoming vertically integrated; moving beyond bottle bill processing
- **Northeast Resource Recovery Association**– collects and markets for 3 states. Processed glass aggregate (mobile crusher), competing with foreign markets
- **SERDC** – Collaborates across state lines on collection and facilitating stronger local supply of material to provide feedstock and help grow regional manufacturers.
- **ME** – State acts as broker of recycled materials.
- **EPA Region 4** – Has worked to build collaboratives, toward economic development, including between state DEQs and Economic development agencies, then approaching industry, then build interest from politically influential people and organizations
- **CO** – Small Manufacturing AdvantEDGE program –within small business office assisting small manufacturing. Leverages state / local funding from manufacturing; industry experts for coaching, consultation, and training
- **CA** – Market Development Zones is aggressive program for market development

Discussion of Specific Strategies and Case Studies

Technical Assistance, Research, and Information Strategies

Dedicated Staff –One of the most critical items that will impact and benefit end use markets is dedicated staff at the state level. We have seen this option working very well in Minnesota with only 1.8 FTE and \$50K in grant funding and it is critical to the successful programs in both North and South Carolina, whose program representatives indicate that this is KEY to their long-term positive economic outcomes. States – with dedicated staff - can act as a clearinghouse of information to smooth the way for new or expanding companies, whether they are starting up or moving to the state or expanding into another part of the state. The Minnesota Pollution Control Agency provides oversight and helps coordinate market development opportunities and projects around the state. The MPCA's market development program works to solve specific market problems, analyze viability of specific materials, evaluate potential new materials and their collection, administers local and grant programs, and provides technical assistance to maintain projects already implemented.

State-Sponsored Economic Development Incentives and Business Recruitment Programs – The State may work with the Economic Development department to develop incentives / program for soliciting growth, expansion and new business in the waste diversion sector and build the reverse logistics supply chain. This option has had some success in other areas but requires multiple state agencies to work in tandem, along with local manufacturing trade associations, recycling organizations, and potential new business councils to facilitate the process and build political and economic support for the program. There are excellent examples of this approach in both North and South Carolina, with business-friendly staff embedded in the state-level economic development agency. Additionally, SC aggressively seeks out businesses that complement available materials and existing businesses (e.g. plastic bottle manufacturers and textile manufacturers that make carpets and other products using plastic fiber); offer highly competitive incentives in both sales tax and property tax exemptions; recruit competitively with neighboring states for businesses and yet work with those states on educational programs (Bottles Mean Jobs – NC & SC). Both NC and SC perform regular economic studies on economic impact and job growth / creation by industry that are used by businesses to talk to legislators about the importance of their industries to the overall economic health of the state. Regular waste characterization studies are conducted to update targeting of materials that are still in the waste stream.

"Permitting Central" Concierge – A start-up or incoming business only has to go to one person to learn, in total, exactly what permits and processes are needed or required in any location the business wants to locate in, providing a clear path from start to finish. South Carolina provides this very efficient, time-saving strategy very successfully.

Transportation Information and Creative Solutions – One consistent factor affecting the collection, processing and marketing of materials is Transportation (with a capital 'T'). Complaints include truck and rail costs, timely access, shipping time, restrictions against backhaul use, cases of higher costs for in-state shipping than out-of-state, and other issues. Research on what can and can't be impacted by state and/or local government may be fruitful, or listing of hauling opportunities on exchanges may be useful. Cooperative approaches like donated / shared backhaul trucking might be feasible (for example, the long-standing **Alaskans for Litter Prevention and Recycling / ALPAR**, an actual cooperative for marketing like TX or NM², or hub & spoke-type milk runs). Perhaps the state may be able to solicit for bids for reduced transportation pricing and then offer to businesses and governments around the state.

² *Cooperative Teamwork and Recycling Alliance (Texas) and Rural Recycling Resources operated by the New Mexico Recycling Coalition*

Information Packets – Dedicated staff can develop, maintain and distribute packets of pertinent data to assist new / incoming businesses, which might include: listing of the local players in the marketplace, site selection / brownfields information, state agency contacts related to regulatory oversight, fast track permitting assistance, service provider names (attorneys, planners, land use, consultants), and other information companies need to make a decision related to energy costs, labor availability, hauling options, disposal options, equipment, demographics, materials available, real estate, market conditions and incentives and funding information. Several states have assembled information packets.

Information on Virgin Material Substitution – Engage businesses that use virgin materials to get them the necessary information that will help them consider making the switch from virgin to recycled feedstock. Information packets can be developed for businesses that now use virgin materials but might be interested in using recycled materials instead of or in addition to their current feedstock. Information should include: suppliers of suitable recycled content feedstock, data related to processing requirements (and case studies if available), summary of necessary equipment alterations / adjustments, and information on issues specific to the particular material.

Materials and Information Exchanges - To increase the size of the marketplace and its users, establish an internet-based waste exchange network for office, commercial, and industrial material streams (US Business Council for Sustainable Development has a model) to create a network and one organization's hard-to-recycle waste and by-products becomes another's raw material. Staff actively pushes out recommendations for matches by leveraging best practices from case study library, international network of material reuse projects, and technical partners, and work to address barriers through a facilitated process.

Research & Development and Innovation Support – Build strong relationships with local university research labs, entrepreneurs, and local technology developers to develop design for recyclability opportunities, new technologies, innovative uses for materials, or address barriers. Offer research grants and potentially use waste composition or market studies to identify target materials.

[Financial and Resource Assistance](#)

Local economic development tools to bring new recycling and reuse industries to the area - Create a new job position to promote recycling and reuse within the existing state Economic Development office framework (e.g. startup showcases, innovations investment forums, etc.). The position uses the tools of the economic development community (such as use of local industrial parks, use of economic development financial incentives, and included in local economic development promotions) to forge public/private partnerships for manufacturers that are part of the recycling supply chain.

Grant Funding – Identifying a grant source can be a major motivator, and there are good programs in many states. However, grants may bring greatest return if they require a matching percent to ensure applicants have “skin in the game”, give points for developing in regions of the state that have been targeted for feasible development, or other special features. It is important to clarify to grant recipients that technologies developed through grants often must be publicly accessible and not confidential.)

Eco-Industrial / Resource Parks - Develop an industrial park to host companies that reprocess locally generated materials to build local recycling processing and remanufacturing infrastructure. Use the local economic development tools and offer a welcome mat to prospective businesses. Examples include California's RMDZs (mixed reviews), Boulder's Resource Park, and successful examples in City of Phoenix and City of Austin, both of which had political support for the projects and land that could be dedicated to new businesses at a reduced lease price. Phoenix used an RFI for options to develop new products from designated target materials being landfilled in large quantities; Austin sought proposals for materials businesses want / need and the city selected from among the applicants.

[Purchasing](#)

Purchasing Targets and Business Development - Examine what the state / locale currently purchases in high volumes and identify whether it is something that can be made from recycle materials and whether it can support local businesses. The State can use its resources to entice business to move here or launch a company to supply the chosen product made from locally generated, collected and processed recycled materials. For example, Georgia officials realized that agri-business was important to the GA economy. They are working with that sector to determine equipment / material needs, and now are working with businesses that supply those needs to see if they can encourage them to use recycled content in those items. Colorado Correctional Industries make many items using prison labor, and likely other states do as well. Identify whether the products can be made from locally sourced recycled materials.

Mandated Purchasing - Create or beef up Environmentally Preferable Purchasing policies to require expanded use by state agencies of recycled content supplies and services to help drive demand in the recycling sector and lead to increased collection and processing of materials. Review contracting language to eliminate barriers that make it difficult to pursue purchasing of recycled content materials, or revamp its current system to one that limits purchase choices. The University of Colorado at Boulder has thousands of purchasers in their system, but the system is designed so that one can only purchase through the system or at locally approved retail outlets. These sellers are all contracted with the University to only offer contractually-approved recycled content products for sale to anyone from the University, assuring consistent and

controlled product access. Seattle mandated EPP but compliance didn't kick in until a professional with a strong EPP background was put in place (for approximately 6 months) to expand and clear up the supplier and material lists and eliminate barriers in the EPP language.

Match-ups / Cooperatives / Structural Solutions

Vertical integration – Ripple Glass was created by Kansas City Boulevard brewery out of frustration with the lack of options for recycling their glass bottles. The brewery financed and built Ripple in 2009; by 2016, they operated approximately 300 drop off sites, both commercial and public. Ripple sells all its glass to an Owens Corning insulation plant in Kansas City. As another example, the Oregon Beverage Recycling Center built its infrastructure over time. It started with collection centers, then added transportation, then more processing. Now it is adding a bottle washing line for breweries and is considering one for wine bottles. This is one example of the potential of starting with one type of material (in this case, containers), building the infrastructure to handle collection of the material (collection centers), then adding to that infrastructure before branching out to other types of materials.

Cooperative Market Value-Added - MRFs can combine resources to construct an end-product processing or remanufacturing facility, operated by a third party. This possible new paradigm can develop local markets and jobs and reduce transportation costs. It is similar to vertical integration, but requires agreement among businesses that are typically competitors. As an example: #3 – 7 plastics which can be hard to find markets for and be difficult and costly to ship, could be used to make agricultural plastics. A manufacturing plant, financed by a consortium of MRFs, could contract out operation of the facility with a revenue / cost sharing agreement, and would utilize all 3 – 7 collected from those MRFs (and other collectors) to make locally desirable products such as agricultural plastic pipes, irrigation tape, silage tarp or similar products. Shared mobile equipment may also help regionally (e.g. mobile glass crusher in Montana, Papercrete operation in Arizona) – if ownership, operation, liability, maintenance and time-sharing can be agreed upon.

Multi-faceted Approach

Austin Recycling Economic Development – The City recognized the potential job development opportunity which lies within local environmental program development. The jobs development begins with curbside collection of recycling, and the MRF operations, but does not end there. The Institute for Local Self Reliance notes that for every 10,000 tons of waste landfilled, one job is created, yet if that material was recycled ten jobs are created, if placed in the reuse economy, up to 62 jobs created. <https://ilsr.org/recycling-means-business/>. The City of Austin Texas rebranded the Solid Waste Services Department as the Austin Resource Recovery (ARR), to introduce the resource recovery mission and chart a stronger tie to the City's Economic Development Department, resulting in the Recycling Economic Development Liaison, and the Austin Recycling Economic Development Program. Dedicated staff are funded through ARR from utility fees, yet housed and supported through the traditional Economic Development Office, and work cooperatively with the Office of Innovation to augment research, consulting, brainstorming facilitation, and strategic design services. New diversion initiatives include:

- **Bond Financing Program:** The Austin Industrial Development Corporation (AIDC) offers favorable terms and longer maturity products to tax-exempt or taxable bonds for eligible manufacturing projects, recycling and other exempt facilities projects, and projects owned and used by Section 501(c)(3) organizations.
- **The Family Business Loan Program** is a public-private partnership between the City of Austin, HUD, and participating private lenders to offer low-interest loans to qualified small businesses that are expanding and creating jobs.
- **The Austin Materials Marketplace:** an online platform allowing businesses and organizations to connect and find reuse and recycling solutions for waste and by-product materials.
- **[Re]Verse Pitch Competition:** a social innovation program to help turn valuable raw materials that are currently leaving local businesses, non-profits, and institutions as waste into the foundation of new social enterprises.
- **Zero Waste (ZW) Initiatives** including a ZW Business Rebate allowing qualifying businesses to earn up to \$1,800 in rebates to start, expand or improve recycling, composting or other zero waste programs, and a "Shop Zero Waste" website.
- **Recycling and Reuse Enterprise Resource Guide:** An online document that provides resources to entrepreneurs to start up a recycling and/or reuse business, showing the ropes of the city permitting and assistance processes. The guide also lists all government office contacts, existing recycling MRFs, and reuse non-profit agencies.
- **Forums and Showcases:** Eco-SXSW 2016 and 2015 have included Reuse + Recycling Start-up Showcases presented by the Austin Recycling Economic Development Program. The Recycling Innovations Investment Forum at Austin City Hall (2014) in partnership with the Texas Entrepreneur Network brought recycling manufacturing companies together with investors to help them start-up, expand, or relocate to Austin, with a focus on value-added products.

An evaluation of the efforts and potential showed that the recycling industry in Central Texas currently provides 2,673 jobs with an economic annual impact of approximately \$720 million. The report also notes that with additional economic development efforts, the job impact could grow to 4,278 local jobs in the recycling and reuse industry with an annual economic impact of \$1 billion for Central Texas.