

Tools and Techniques for Recycling Market Development

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Resource Revolution

Recycling Can't Happen Without Closing the Loop

Landfill Diversion Model Built Collection and Primary Processing Infrastructure

Single Stream “Recycling” Created Mixed Grades Reliant on Asian Export Markets

National Sword, Sustainability, and Circular Economy Models Demand Updated Approach

Infrastructure for Sustainability

Enviros (rightly) attacked dirty industry while building capacity to divert materials from landfills

Obscured in this quest was the need to BUILD new, green and sustainable domestic manufacturing capacity

BIN Coalition Mantra

CONVERSION, Not Diversion

Guiding Question:

“What is to be done in the legislative, regulatory, financial, and technical arenas to make recycling market development the standard way of doing business in California?”



RMD <--> Clean Energy Analogy

Premise: Energy and Materials Management face similar transformation & offer GHG wins

Centralized Power Plants → Distributed Energy

Centralized LFs/MRFs generating mixed materials → Diversified, Specialized Markets



What is RMDZ, Anyway?

Recycling Market Development Zones

www.calrecycle.ca.gov/RMDZ

- 40 Zones Covering Half of CA
- Most of California's Industrial Land
- VALUE ADDED Processing & Manufacturing with Recycled Materials



RMDZ is a Partnership

CalRecycle's primary framework: legislation → regulation, and local government compliance

RMDZ is different: it is a PARTNERSHIP between CalRecycle, local government, and (most importantly) private businesses

Market development success is REGIONAL



Local Government's Key Role

Centerpiece of RMDZ program is its loan program, which emanates from CalRecycle

Just as important is local government vetting of businesses, plus siting and permitting assistance, and “network marketing”

Because recycling and organics facilities have local impacts, active PLANNING is critical

PLANNING for Success

Diversion relies heavily on Environmental Services and Public Works

RMD relies more on Planning and Economic Development staff

Targeting industrial zones to maximize (and minimize) impacts often critical

Vetting vs. Advocacy

Having a friend at City Hall can be very valuable to a recycling-based firm

Before any advocacy, must do friendly vetting of prospective firms, asking tough questions

Balancing credibility with external and internal customers requires clear communication

Job Creation vs. EJ Concerns

Recycling-based businesses can offer accessible, good paying jobs to low income communities

Operations can also incur air, noise, and traffic impacts that can affect such communities

Companies should be a good fit, well capitalized, and ready to address initial AND ongoing issues



GHG Grants = New Stimulus

Cap and Trade \$\$\$ from largest polluters generates funding for GHG reducing projects

Waste reduction categories include:

- Organics (\$63.5M) and Food Rescue (\$20.6M)
- Recycled Fiber, Plastic, and Glass (\$25.6M)

Funding depends on annual legislative approval

Sales Tax Exclusion for Green Manufacturing

CAEATFA offers statewide, competitive exemptions from sales tax on green manufacturing equipment

32 Projects for 25 companies since 2015

- \$42M tax savings on ~\$500M total investment
- Mix of franchised haulers, private manufacturers

Challenges: competition with other technologies and budget implications

Extended Producer Responsibility

California has various EPR programs covering different materials

- Carpet
- Paint
- Mattresses
- Pharmaceuticals

Lead Organization for EPR is Ca. Product Stewardship Council (CPSC) www.calpsc.org

Recycling Incentive Fees

Rewards producers for making products with recycled materials on a pound for pound basis

Requires a significant, dedicated funding source

Used in California for Tires and Plastics

ecologic[™]

packaging the earth can live with

the world's first Box To Bottle[®]



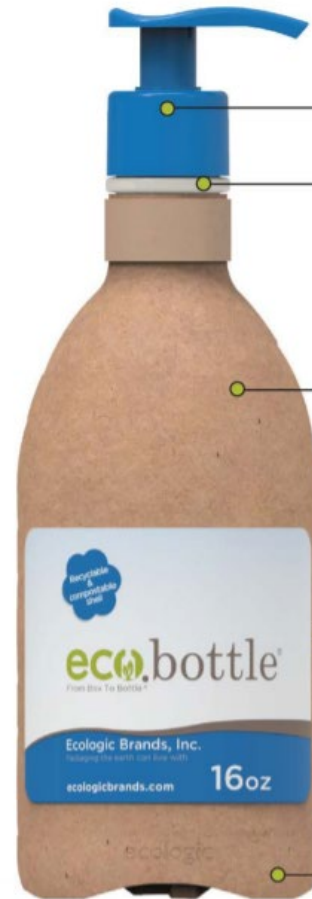
Personal care



Beverages



Home cleaning



Product versatility

Inner liner

- ✓ Up to 70% less plastic than plastic bottles on average
- ✓ Recyclable or produces low volume waste
- ✓ Can be made of Post-Consumer Plastic

Molded fiber shell

Paper recycling done on premise

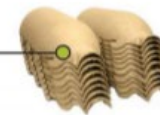
- ✓ Compostable
- ✓ Recyclable
- ✓ Made from 100% recycled cardboard and old newspaper
- ✓ Offers consumers function and durability
- ✓ Water resistant
- ✓ Comfortable hand feel
- ✓ Disruptive, on-shelf differentiation

Split side to separate and recycle or compost

Flat stable bottom

Stacking empty shells & liners

- ✓ More bottles shipped per truck



Made in USA

Patented Technology

Shifting the Emphasis

- DIVERSION Model Emphasizes Monitoring of Local Government Performance
- Market Development Lens Suggests Assisting Local Government with Land Use, Siting, Air and Water Compliance & Facility Development

Rebooting Consumer Education

- Diversion Model gave us Single Stream, Mixed Grades, and “Wishful Recycling”
- Education Guidelines to Weather National Sword Should Become New Normal
- Millennials Will Sort Their Stuff If We Tell Them Why It’s Important...

Need Research & Development

Successful, expanded use of recycled feedstock calls for investment in open source and private research & development

Efforts such as the REMADE Institute's recent call for proposals should be encouraged

<https://remadeinstitute.org/project-call-documentation>

Closing Words from Van Jones from “Green Collar Economy”

Three Waves of Environmentalism:

- 1) Conservation – preserving the best of nature
- 2) Regulation – use controls to limit pollution
- 3) Investment – capitalizing new markets and infrastructure for sustainability

Thank You for Listening

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