

Biosolids Products, Markets & a Plan

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Apply Marketing & Management Principles

- ◆ Customer Based
 - ◆ Problem Solving/Benefits Driven
- ◆ Long-term Commitments & Investments
- ◆ Wide Range Strong Partnerships
- ◆ One or More Back-up Plans

Building a Marketing Plan & Sustaining a Biosolids Program

- ◆ Compost Production & Quality Control
- ◆ Market Research & Assessment
- ◆ Product Development & Innovation
- ◆ Promotion
- ◆ Education
- ◆ Sales & Distribution

Compost & Organics Market Planning Resources

- ◆ “Winning the Organics Game” Rod Tyler, 1996
 - ◆ TEMPS- Testing; Education; Market research; Product development; Sales
- ◆ “Compost Utilization in Horticultural Cropping Systems” Peter Stoffella & Brian Kahn, 2001
- ◆ “The Practical Guide to Compost Marketing & Sales” Ron Alexander, 2003

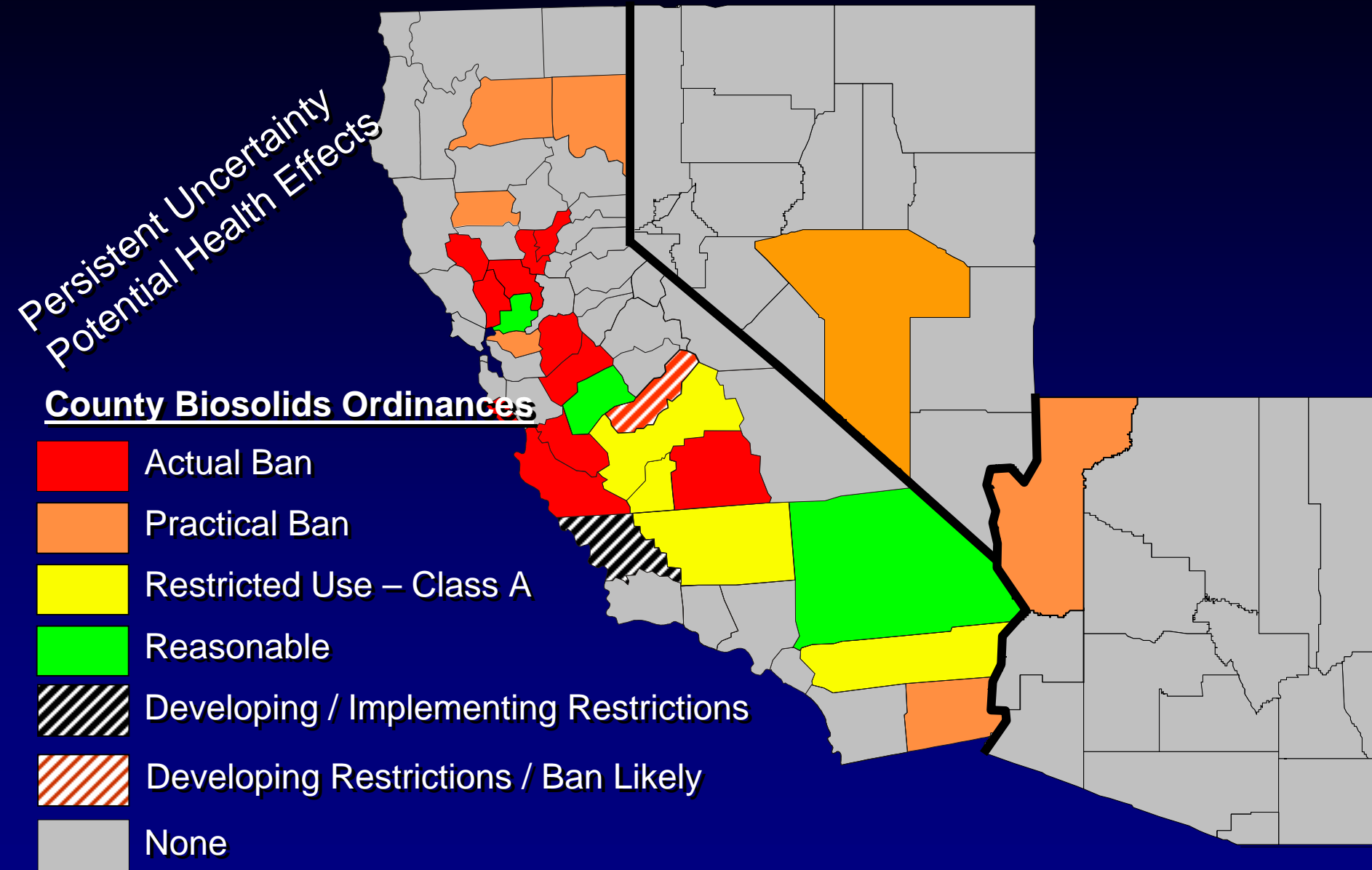
Market Research & Assessment Methodology

- ◆ Develop Product Marketing Goals
- ◆ Understand Drivers & conceptualize products
- ◆ Estimate applications, features, benefits
- ◆ Research market segments
 - ◆ Products; positioning; competition; issues
- ◆ Assess & rank markets
- ◆ Research & assess fail-safe backups

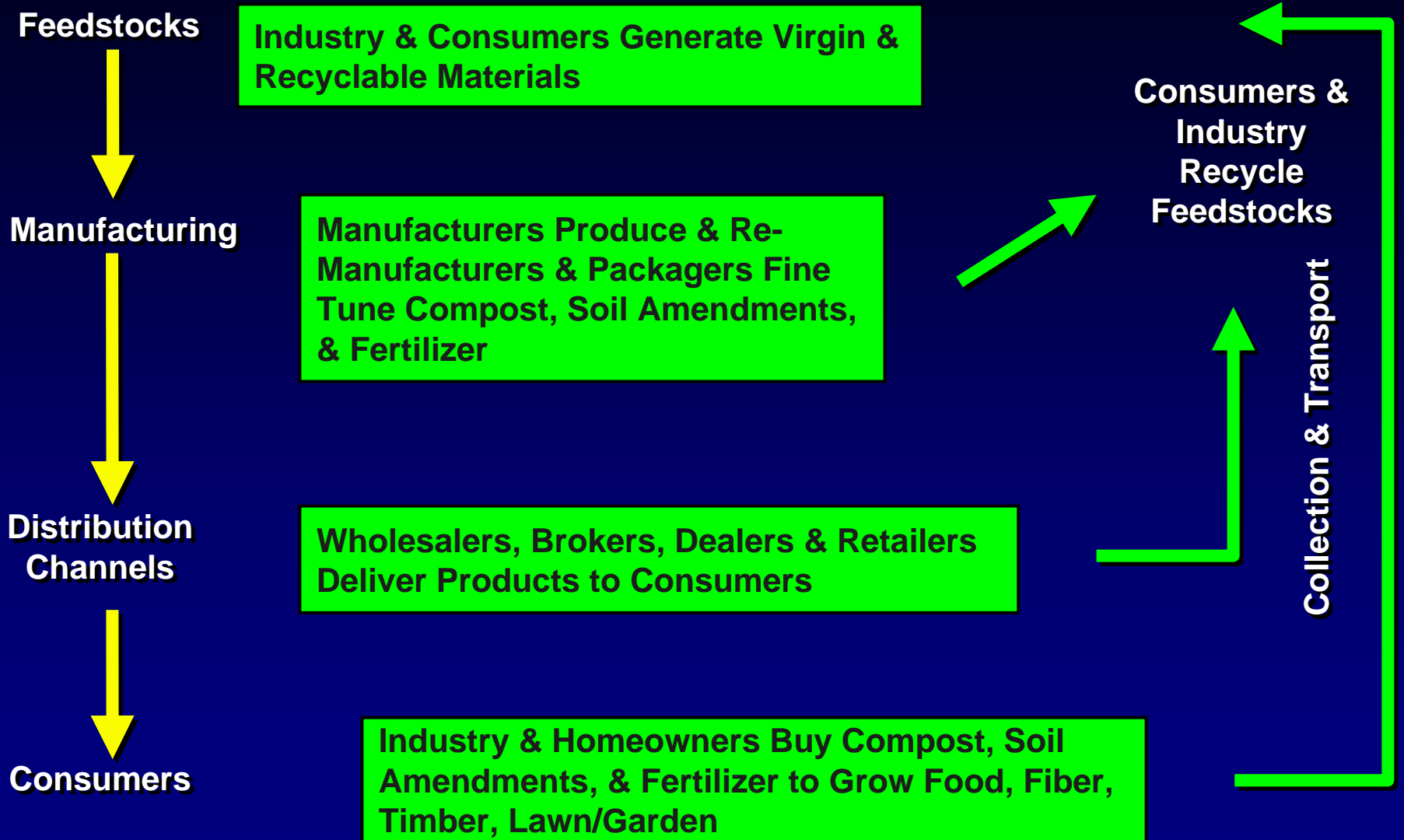
Establish Market Research Goals

- ◆ Sustainable, Reliable, Economical
 - ◆ Identify potential **products & markets**
 - ◆ Identify onsite/offsite **manufacturing** facilities
 - ◆ Develop flexible Plan- multiple markets -
“**diversity**”
 - ◆ Beneficially reuse- maintain **NBP & EMS**

Key Drivers- Biosolids



Structure of Organic Recycling Industry



OCSD Case- Concepts for Markets & Products

◆ Cropping Markets

- ◆ Class B Land Appl.
- ◆ 4 Horticulture
- ◆ 4 Agriculture
- ◆ 2 Silviculture
- ◆ Energy

◆ Non-Cropping Markets

- ◆ 2 Energy
- ◆ Erosion Control
- ◆ 2 Landfilling
- ◆ 2 Construction Matl.s
- ◆ Dedicated Disposal

14 Market Research Criteria

- ◆ Segment Description & History
- ◆ Current Strength
- ◆ Current Size
- ◆ Future Size Est.
- ◆ Other Large Agencies
- ◆ Regulatory Restrictions
- ◆ Perceived Risk
- ◆ Public Perception
- ◆ Product Features
- ◆ Economics of Marketing
- ◆ Political Hurdles
- ◆ CEQA Issues
- ◆ Ease of Implementation
- ◆ Key Indicators

Profile - Horticulture Uses w/ Member Agencies for Greenscapes



**OCSD Member
Cities and Agencies**
(green space)

- ◆ Public works, parks, and facilities maintenance
- ◆ Wholesale pricing
- ◆ Current & Future Market Size- 35,000 to 70,000 CY/Y
- ◆ 28 Dry Tons/Day or 14% of District's needs
- ◆ Long-standing municipal use of compost & pellet products
- ◆ Many local agencies and private firms
- ◆ Important PR to use own products in local community

Market Ranking Criteria List

1. Perceived benefits to OCSD/county
2. Market Size
3. Estimate of Future Market
4. Competitors In the Market & Potential Impacts
5. Current & Future Regulatory Restrictions
6. Perceived Market Risk
7. Public Perception of Product/Brand
8. Product Quantitative & Qualitative Limits & Preferences
9. Economics of Manufacturing & Marketing
10. Political Hurdles & Constraints
11. Ease of Implementation
12. History of Product Applications to this market
13. Geographic Range of Markets
14. Long-Term Sustainability
15. Meeting District's Biosolids Policies
16. Influence Over Critical Control Points
17. Traffic & Delivery
18. Market Site Location
19. Potential for Nuisances including Noise & Dust
20. Potential for odor

Market Ranking Process

	History	Market Strength	Current Market Size	Estimate of Future Markets	Competitors	Legal Restrictions	Perceived Market Risk	Public Perception Issues	Product Limits & Preferences	Economics	Political Constraints	CEQA	Assessment of Implementation
Cropping Markets													
Existing Program Baseline - Non food chain cropping, Class B	Substantial & Proven	Poor & failing	31,000 DTPY ¹ (85 DTPD - 41%); 205,000 DTPY ² (560 DTPD - 274%)	Uncertain	Many; over 4,500 WTPD	Severe & worsening	Very Risky	Strongly Negative	Poor farmer acceptance; prefer other types	Reasonable yet worsening	Severe & worsening	General Order under litigation	Infeasible
Horticulture - member agencies	Substantial & Proven	Good	5,100 DTPY ¹ (14 DTPD - 7%)	10,000 DTPY ⁴ (28 DTPD - 14%)	Many; current local suppliers	None	Some what risky	Good	Normal	\$0 to \$30 per ton revenue	Low	None	Feasible; demonstrations, sales mgt.

OCSD Situation

- ◆ 650 TPD growing 930 TPD @ 22% TS
- ◆ Current Market Blend
 - ◆ land application
 - ◆ Composting
 - ◆ alkaline stabilized products
- ◆ Crop land for animal feed

Market Research Results

- ◆ Overall SC compost marketplace 4,000 TPD; 1.5 Million TPY
 - ◆ yard material compost dominant
- ◆ Robust growth @ 4-5% per year
- ◆ New market opportunities
 - ◆ Expand existing retail & bulk horticulture
 - ◆ Ag crop to ethanol
 - ◆ Burn area revegetation & erosion control
 - ◆ Certified organic products

Top Six Markets



Retail Outlets



Nurseries and
Ornamentals



Construction
Materials



OCSD Member
Cities and Agencies
(open space)



Shade Tree
Programs



Direct Energy
Production

Horticulture Market Niche Breakdown

<u>Ornamental Industry</u>	<u>Landscape Industry</u>	<u>Nursery Industry</u>
Greenhouse cut flowers and plants	Landscape architects	Wholesale and retail
Perennial plants	Landscape contractors	Container plants
Fruit trees	Wholesaler's soil amendments	Soil amendments
Ground covers	Retailer's soil amendments	Mulches
Woody ornamentals	Producer's soil amendments	
Sod production	Public sector users	
	Parks Departments	
	Transportation and Highway Departments	
	Public Works Departments	

Integration of Product Markets and Technologies

	Composting	Heat Drying	Organo-Mineral Fertilizer	Heat Treatment	Pyrolysis	Power Generation
Retail Outlets	✓	✓	✓			
Nurseries & Ornamentals	✓	✓	✓			
Member Agencies (landscape)	✓	✓	✓			
Shade Tree Programs	✓	✓	✓			
Construction Materials		✓		✓		
Energy Production		✓			✓	✓



OCSD Strategy for Biosolids:

- ✓ Produce Less Biosolids
- ✓ Produce Higher Quality Biosolids Products
- ✓ Optimize Treatment Costs
- ✓ Diverse Management & Marketing Options
- ✓ Take care locally