



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Green Procurement

OBIC

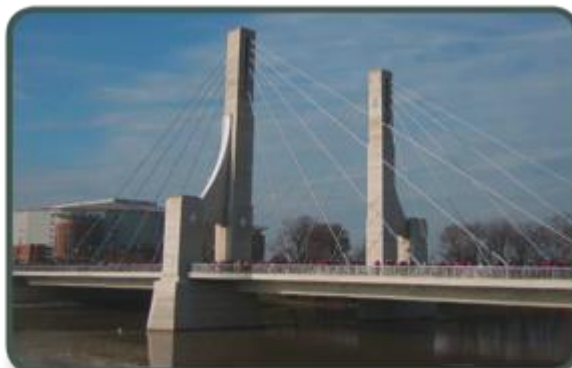
Max Maksimoski, Industrial Liaison



agriculture

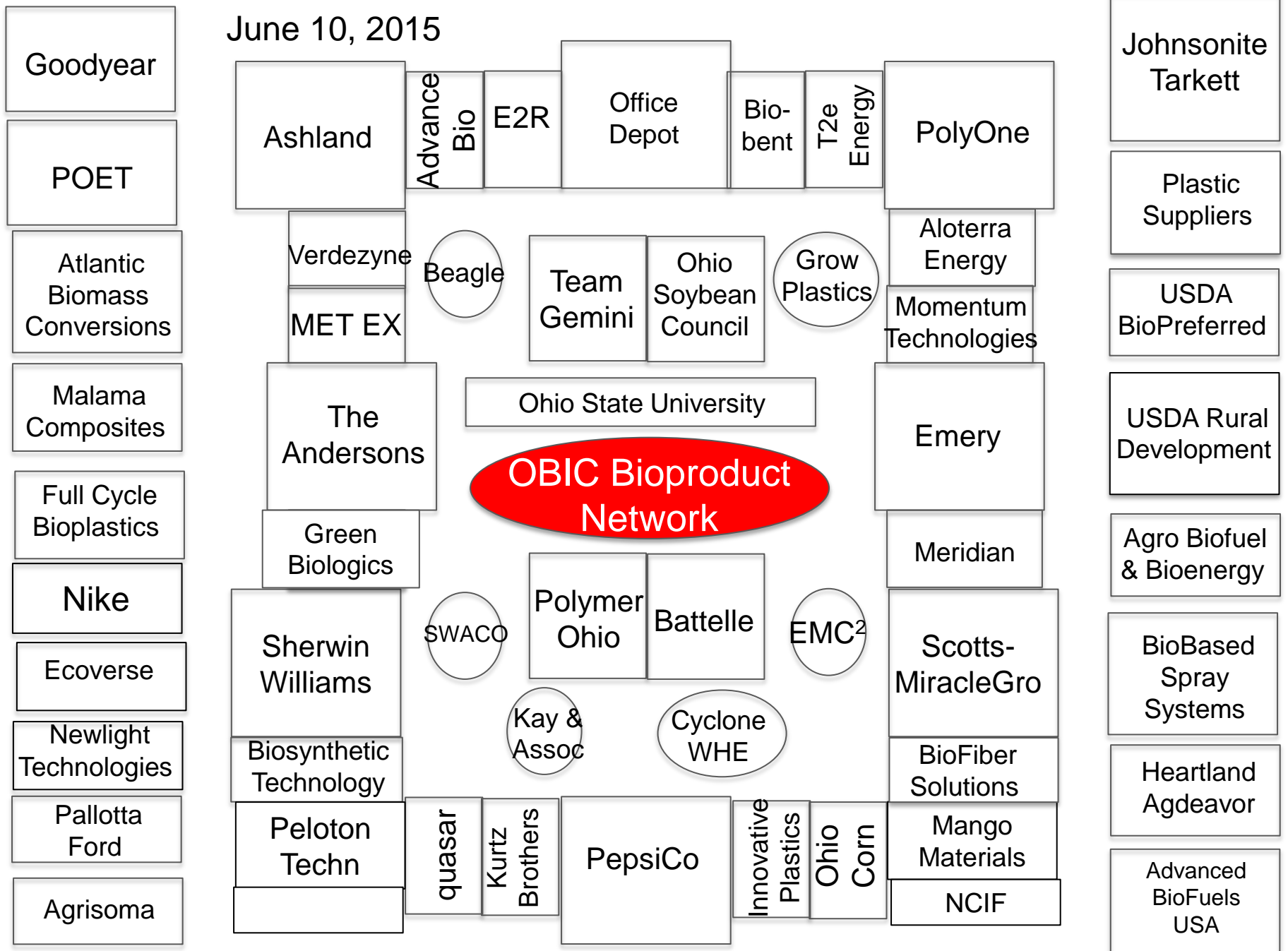
OBIC

polymers &
specialty
chemicals



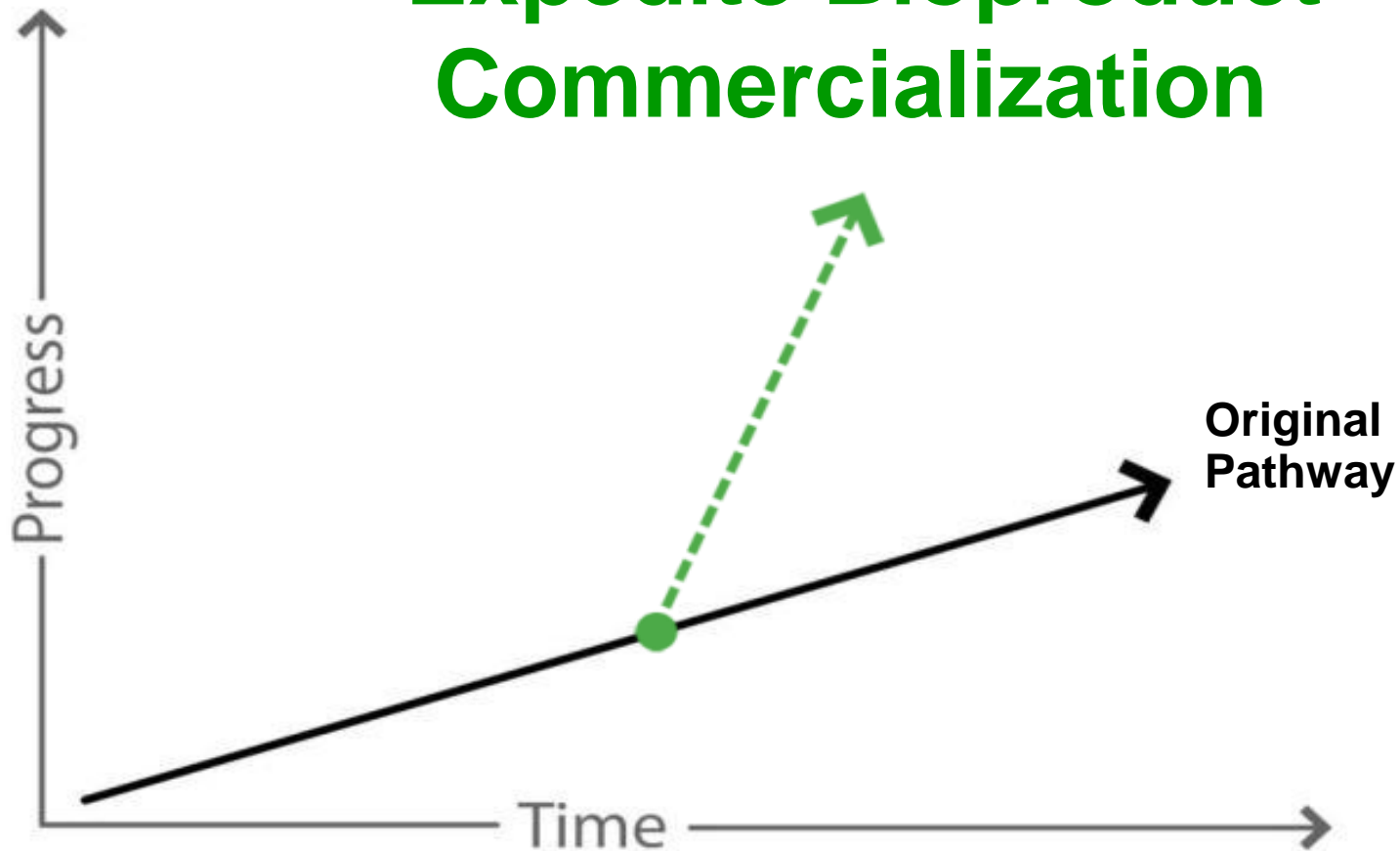
OBIC, the Bioproducts Innovation Center located at The Ohio State University, was created in 2005 to integrate academia and industry linking expertise from two major industries, agriculture and polymers/specialty chemicals.

June 10, 2015





Expedite Bioproduct Commercialization





Bioproducts represent an important economic development opportunity, especially for rural America.

“Cell to Sell”® Innovation Pipeline



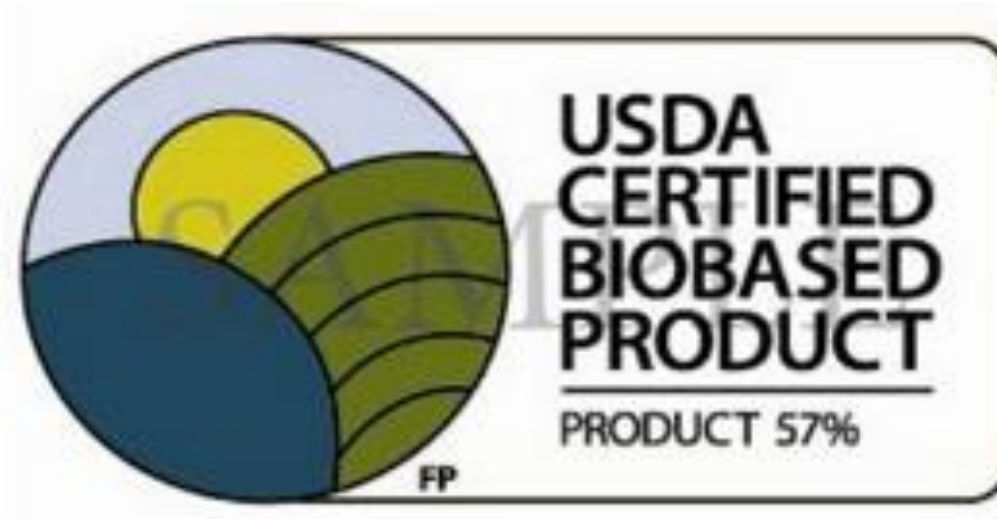


2,363 companies, 18,442 products





A consortium effort is needed to increase market pull.



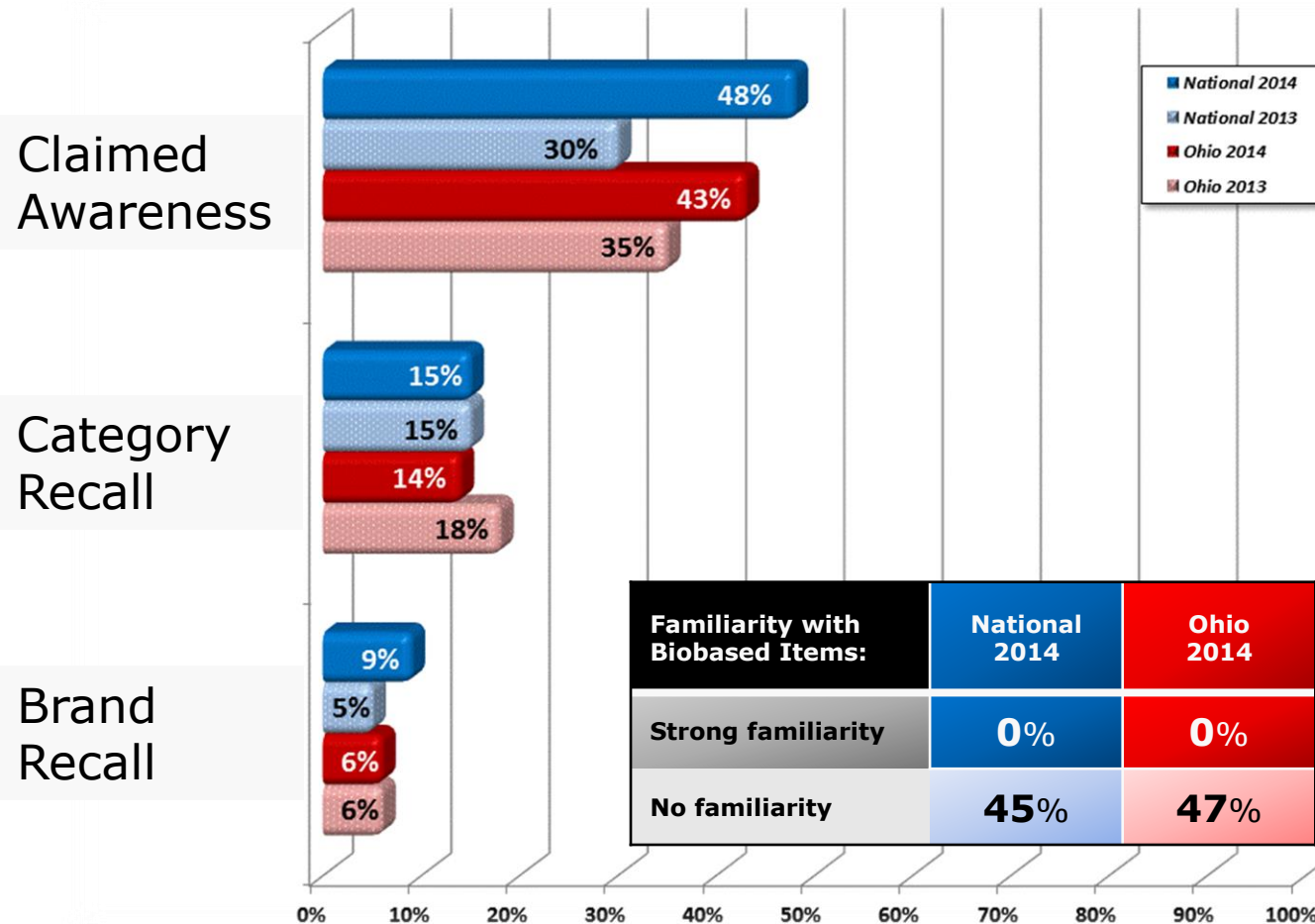
B4 Branding:

Survey of Biobased Market

- *A total of **800** respondents completed the online survey that was conducted during the second half of 2014:*
 - ✓ ***600** Nationally representative respondents*
 - ✓ ***200** Ohio-specific respondents*
- *Respondents met the following criteria:*
 - ✓ *Adults 18 – 74 years old*
 - ✓ *Target of 50% male / 50% female*
 - ✓ *Made purchases from a grocery store or mass-merchandise retailer within the past 30-days*

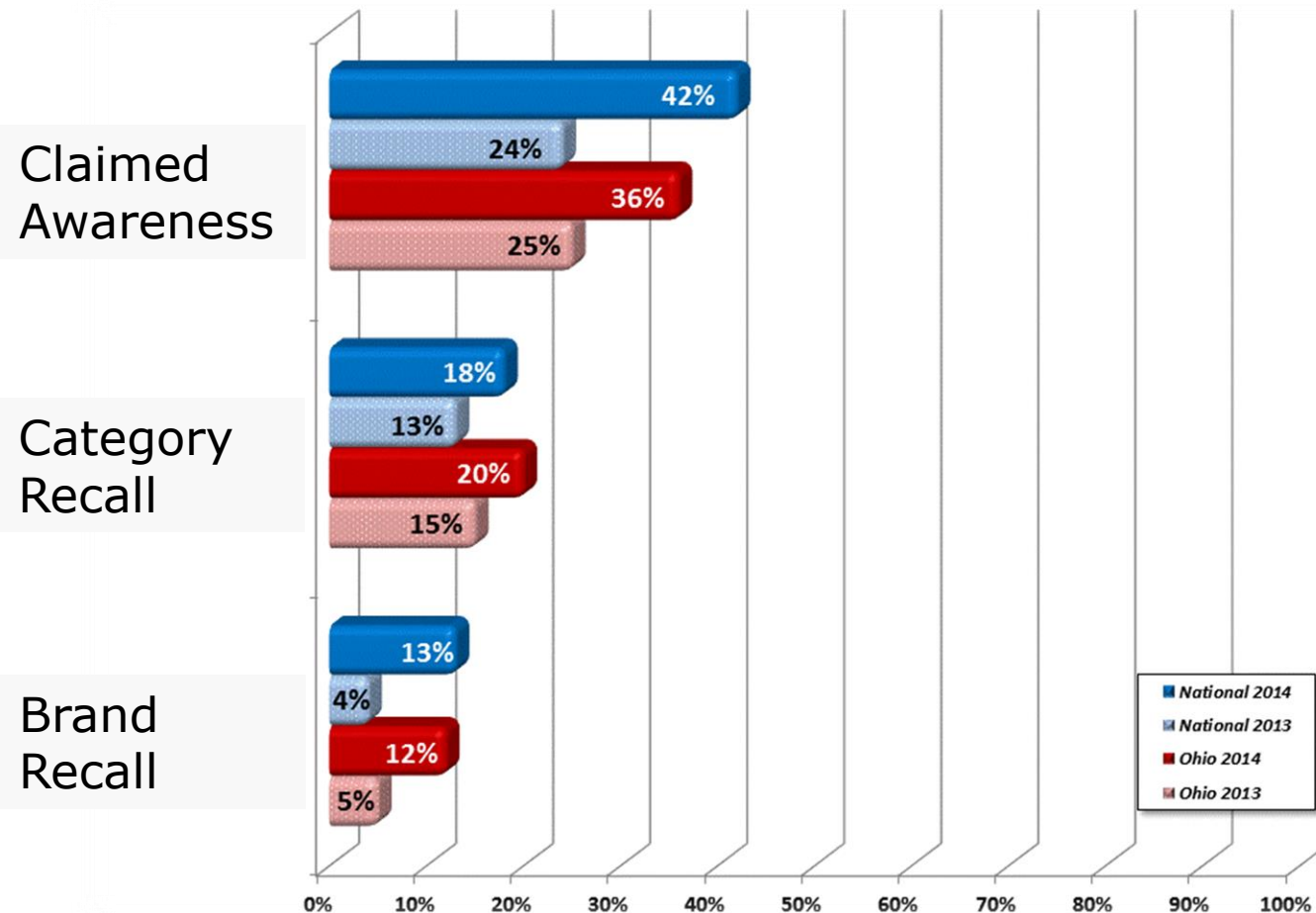
Unaided Awareness of Biobased Products

Are you aware of any biobased products? What biobased products are you aware of? You may list up to three such products in the blanks below:



Unprompted Purchase of Biobased Products

Have you purchased any biobased products? What biobased products have you purchased?



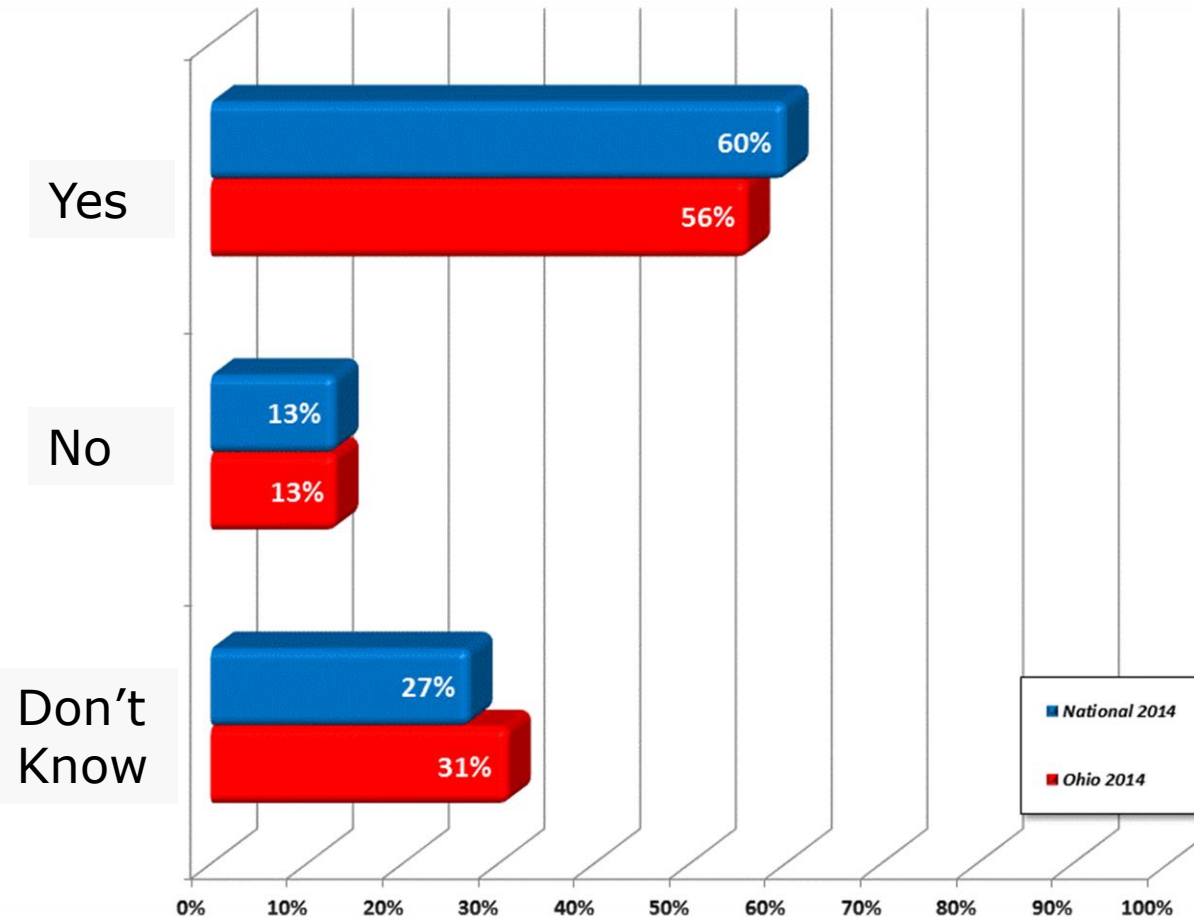
Unaided Benefits Associated with Biobased Products

What do you think are the primary benefits from using biobased products or packaging? You may list up to three benefits in the blanks below:

Biobased Benefits:	National 2014	National 2013	Ohio 2014	Ohio 2013
Better for environment	49%	43%	55%	48%
Fewer toxins	18%	11%	13%	15%
Produces less waste	16%	12%	17%	14%
Safer to use	15%	9%	12%	11%
Biodegradable	14%	15%	18%	14%
Recyclable	12%	10%	12%	11%
Healthier	10%	11%	8%	7%
Renewable	7%	7%	9%	12%
Natural	6%	6%	8%	7%
Doesn't use petroleum	5%	1%	3%	5%
Don't know	47%	53%	44%	49%

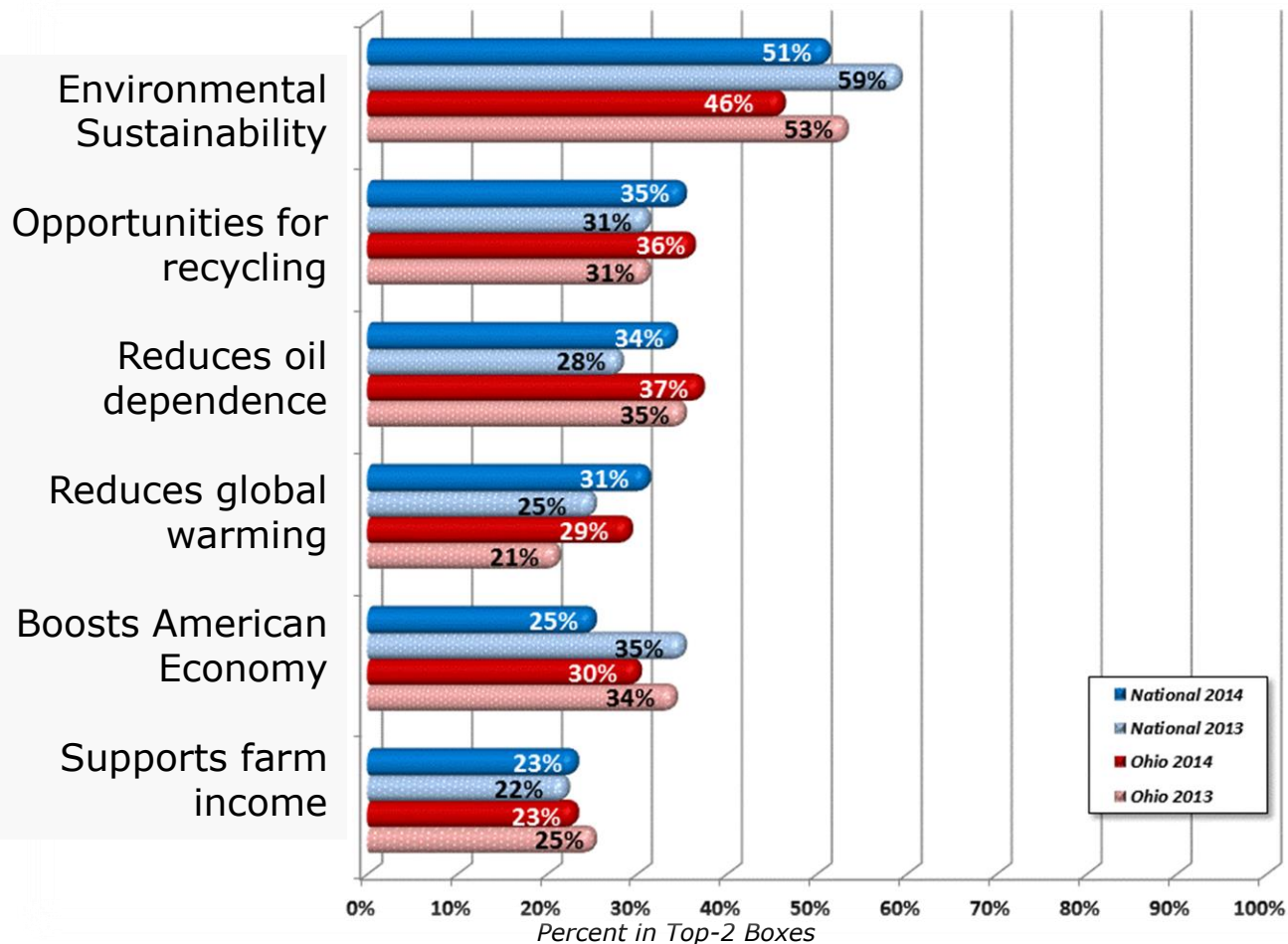
Biobased Products Making a Difference

Do you believe that buying biobased products or products using biobased packaging make a difference? (Coded open-ended responses)



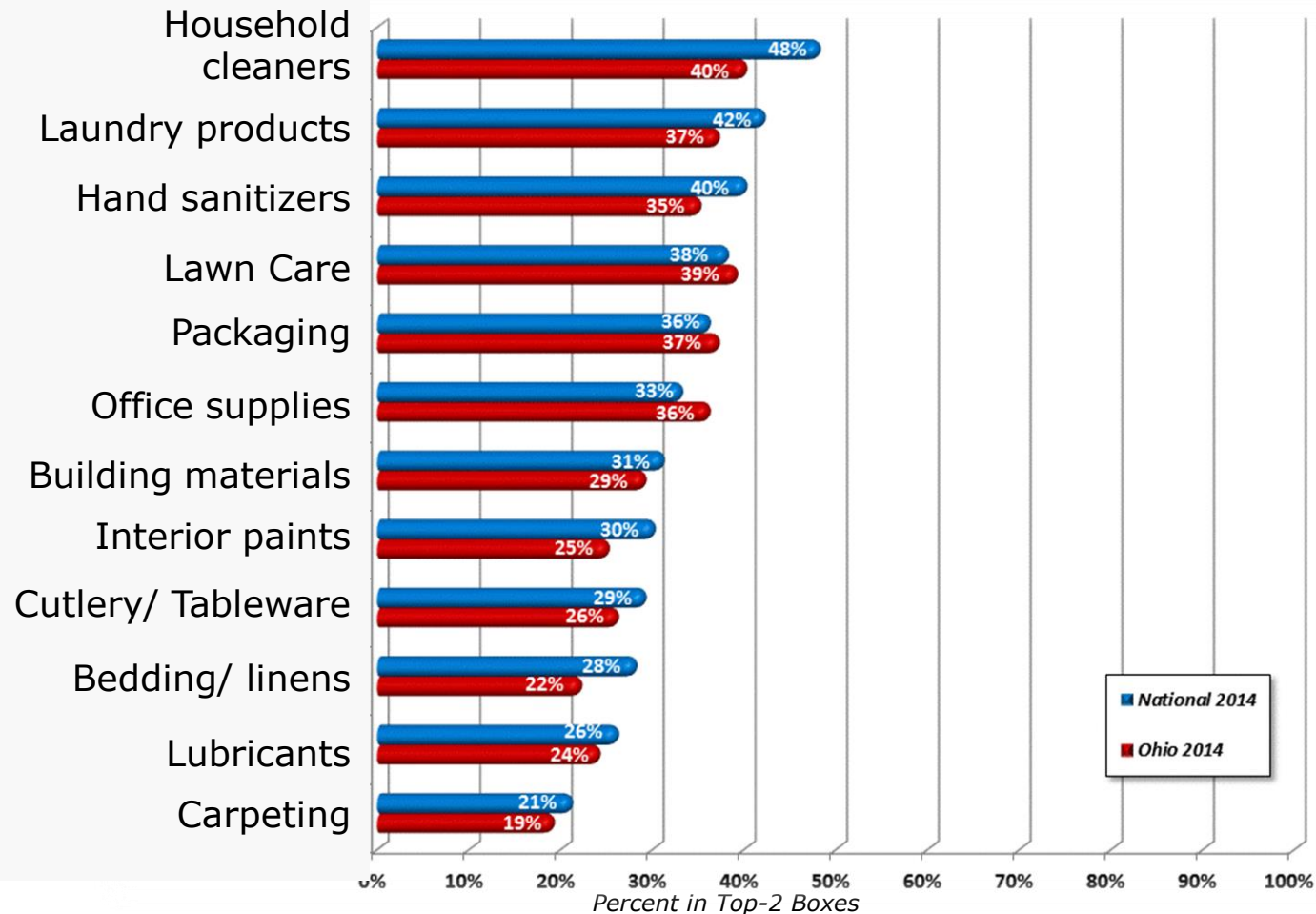
Benefits Influencing Purchase of Biobased Products

Please rank the following benefits as to their importance in influencing your purchase consideration of biobased products or biobased packaging:



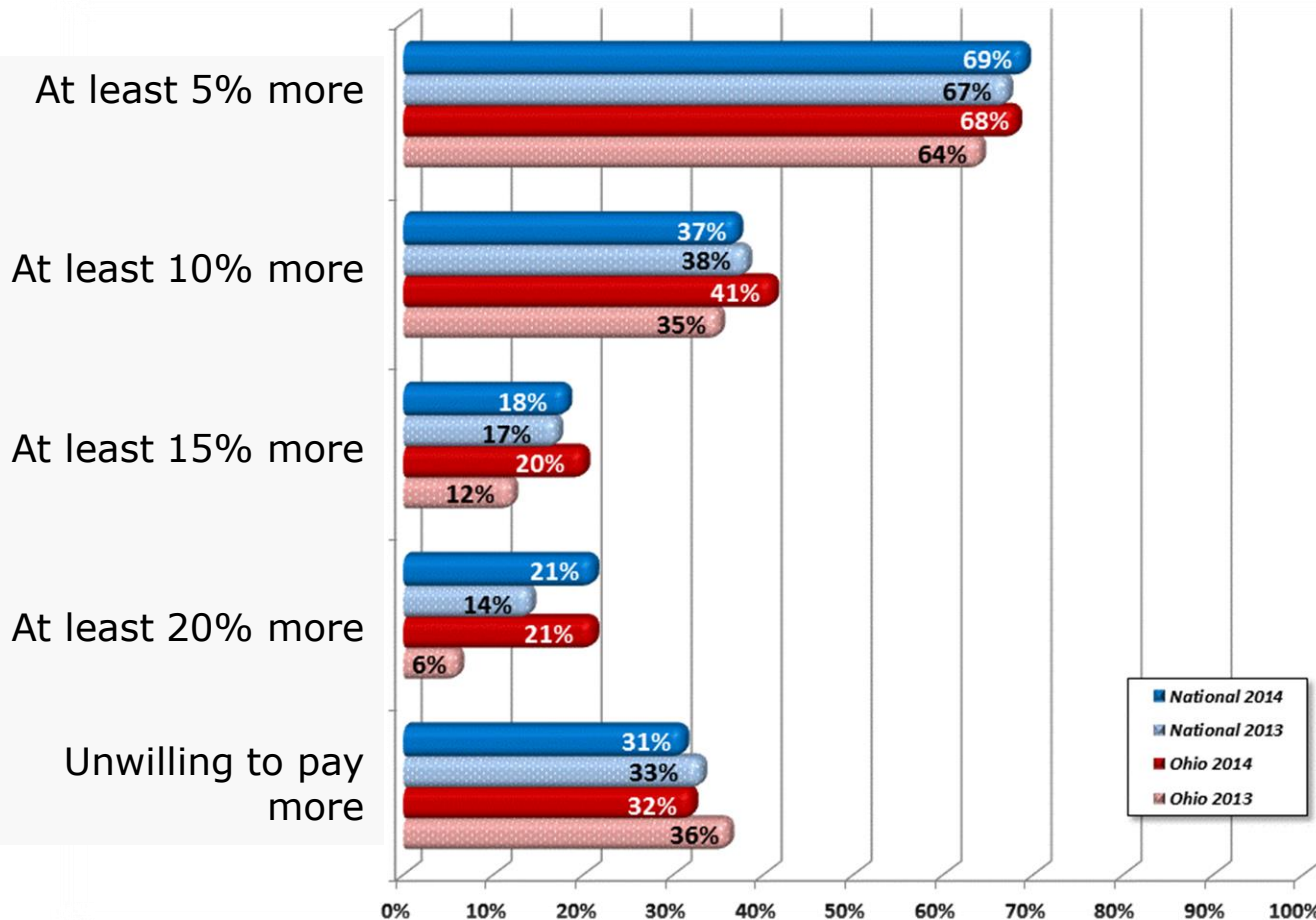
Interest in Purchasing Biobased Categories

Please rate your level of interest in buying biobased products in the following categories: (Rating based upon 7-point scale)



Price Sensitivity to Biobased Products

Assuming comparable performance to its petroleum-based equivalent, how much more would you be willing to pay for a biobased product?



Marketing Implications

- Increased awareness of biobased products and packaging
- More consumers are interested in using biobased items because of their presumed environmental benefits
- Respondents still having little familiarity with what they are, what brands to look for or why they should specifically care about biobased products.
- Awareness alone is not enough. Stakeholders need to build familiarity with the marketplace by educating consumers why biobased makes a difference
- Industry needs to demonstrate the effectiveness of biobased products and packaging to create brand relevance and to convince consumers that they are not sacrificing performance when they use a biobased product.



Regulatory Activity – Federal Procurement Mandates

- Federal procurement plays a critical role in the continued growth of the biobased industry
- According to analysis of secondary sources pertaining to government procurement in the 2011 *USDA Biobased Label Sector Review* by the Shelton Group (2011 Shelton), the federal government owns and/or operates roughly 500,000 buildings and spends \$500 billion annually on goods and services

Table1. **Common Federal Government Biobased Purchasing Activity**

Department	Products
Department of Defense	Lubricants, transformer fluids, cleaners, cutlery
Department of Education	Cleaners, construction materials
Department of Energy	Hydraulic fluids, lubricants, coatings, bedding/linens/towels, cleaners, solvents, dishware, sealers, construction materials
Department of Homeland Security	Cleaners
Department of the Interior	Hydraulic fluids, lubricants, cleaners
Department of Transportation	Hydraulic fluids, lubricants, greases
Department of Veterans Affairs	Hydraulic fluids, lubricants, cleaners, medical products



2014 Government Employees Survey (2014 USB GES)

Conducted by the United Soybean Board (USB)

Of the 50 government purchasers who responded to the survey, 40 participants reported that they were *somewhat* to *very familiar* with biobased products

Almost half reported this familiarity had increased over the past year



2015 online study for *Government Procurement (2015 GP)* magazine by the National Institute of Governmental Purchasing

- Study surveyed 498 federal, state, and local government procurement employees
- Study did not ask explicitly about biobased products, but about awareness of sustainability-related purchases
- 42% identified sustainability as being likely to have a substantial impact on procurement in the next few years



Federal mandates for biobased procurement practices, in addition to the Farm Bill, include:

- The Energy Policy Act of 2005
- Federal Acquisition Regulation (FAR)
- Presidential Executive Orders

According to results from the 2014 USB GES, both FAR and internal agency requirements carry more weight than the Farm Bill and state or local mandates



- Low knowledge
- Availability
- Cost
- Performance
- Contract specifications

Data source: 2014 USB GES



2011 launch of the voluntary biobased product certification initiative expanded BioPreferred®'s audiences:

- Current and potential general consumers of biobased products
- Biobased products industry



Key consumer segments based on secondary analysis of data from the Shelton Group's annual Eco Pulse survey of 1,013 consumers

Early Adopters

Table 2. "Early Adopter" Profile (Shelton Group)

Profile Item	Statistic
Male	57% vs. 44% female
Aged 18-34	40% vs. 31% overall
A Minority†	39% vs. 31% overall
Single, never married	34% vs. 26% overall
Educated with a bachelor's degree	22% vs. 17% overall
Slightly more likely to reside in the Midwest	25% vs. 22% overall
"Actives" [Shelton Segmentation Method]	27% vs. 23% overall

† Presumably "A Minority" refers to a racial/ethnic minority (does not clarify): USDA Biobased Label Sector Review, p. 42.

Active Users

Table3. "Actives" (Shelton Segmentation Method)

Profile
More likely to be female
Well-educated
Household Income: \$75K+
White-collar workers
Predominantly Caucasian
Homeowners
Married with kids

Data source: 2011 Shelton



Priority sectors as of 2011 based upon a qualitative analysis of literature and secondary sources (2011 Shelton)

Table 4. **Prioritization of Biobased Manufacturing Sectors for USDA BioPreferred to Target (Shelton Group)**

Sector	Priority
Housewares and cleaning	High
Consumer product packaging ⁵⁸	
Personal care and toiletries	
Landscaping and agriculture	
Cafeteria and food service	Medium
Utilities	
Construction/road maintenance	
Industrial supplies	
Vehicle/equipment maintenance	Low
Furniture and furnishings	
Office supplies	
Safety products	
The great outdoors	



Very limited research in this field

2014 Biobased Manufacturers' Survey (2014 USB BMS)

Study conducted for USB analyzing results from 32 manufacturers

Of 21 companies with USDA Certified Biobased products and/or in the process of getting products certified were uncertain about whether the label helps with sales to:

- » Government agencies
- » Private Sector Customers
- » Individual Consumers/Retail



There is an opportunity to address the lack of genuine understanding of the term “biobased”

Applies to all audiences:

- » Manufacturers: Sheer lack of data on knowledge and awareness
- » Government Procurers: There is a knowledge gap
- » Consumers: Actual awareness is likely low

Educational efforts are appropriate and necessary



Benefits of purchasing biobased are not clear to consumers and federal procurers

Audiences confuse biobased and “green” products

Federal procurement is key

How the federal government spends money will influence purchasing behavior and potential BioPreferred® partnerships

Manufacturers need awareness about the label and its benefits before applying for a label



Table 5. **Summary of Proposed Research Efforts**

	Regulatory Activity – Federal Procurement Mandates	Market Activity – Voluntary Biobased Product Labeling	
	<i>Government Procurers</i>	<i>Consumers</i>	<i>Industry</i>
<i>Current Opportunities</i>	<ul style="list-style-type: none">– Leverage any interaction with federal procurers as qualitative feedback mechanism	<ul style="list-style-type: none">– Keep a pulse on the market through existing tracking surveys	<ul style="list-style-type: none">– Analyze BioPreferred certification database
<i>Near-Term Efforts</i>	<ul style="list-style-type: none">– Gathering insights and testing messages	<ul style="list-style-type: none">– Improve Certified Biobased Product label awareness tracking metric	<ul style="list-style-type: none">– Update segmentation– Gathering insights and testing messages



- Increase Consumer Awareness of biobased products and Biopreferred program
- Assist industry linkages through networking, collaboration, and clusters
- Continue to monitor Consumer Data with annual longitudinal market survey



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OBIC Sustainable World Tour



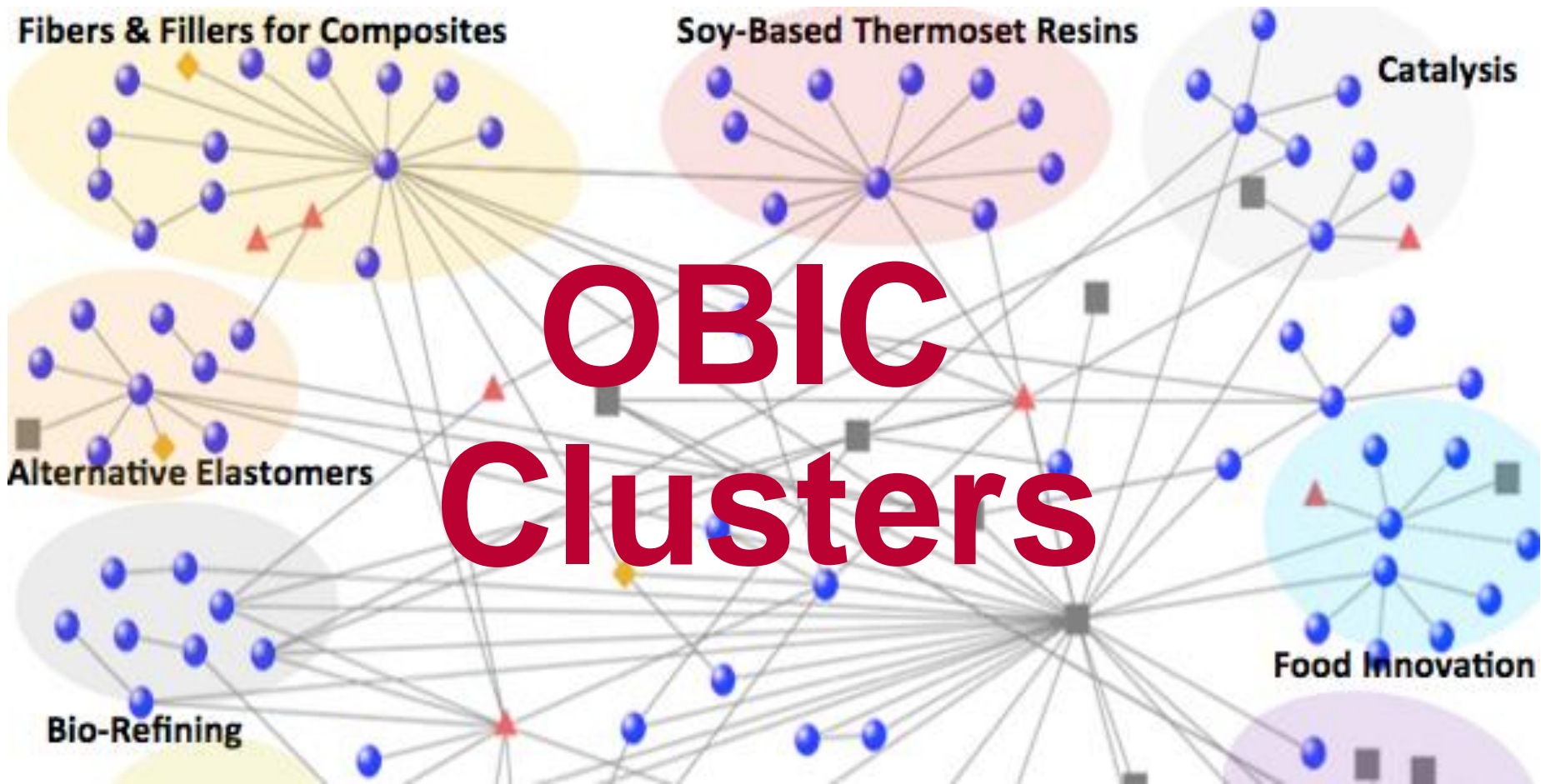


“We can virtually make everything and anything from biobased materials. It’s a new economy. It’s a new way of doing business.”

Secretary of Agriculture, Tom Vilsack



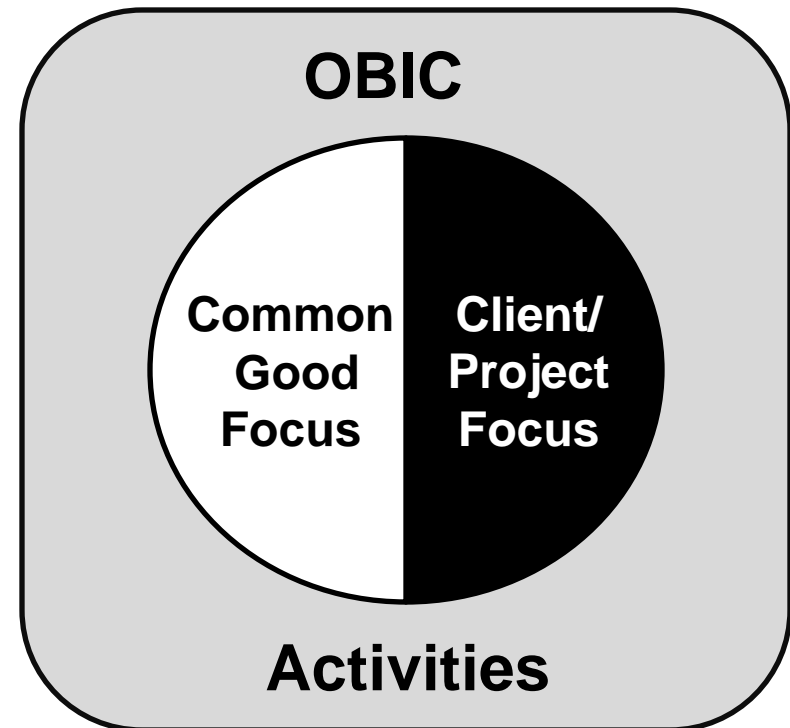
Bioproduct commercialization is not something that you do alone.





- **Prospecting**
 - Market Data
 - Needs & Opportunities
 - Technology & Feedstock Assets
 - Resources
- **Networking**
 - Industry Outreach
 - Collaborator Input & Ideation
- **Assessment**
 - Technical & Economic Analysis
 - Application & Market Analysis
 - Value Proposition/Business Case
- **Leverage Resources**
 - Talent – Public & Corporate
 - Facilities
 - Strategic Investments
 - Grant Proposal Development
- **Program Oversight**
 - Partnerships & Agreements
 - Project Development
 - Project Deployment

Goal: Increase probability of success





Biobased innovations offer consumers intelligent, sustainable choices because they use renewable materials derived from plants.

“Smart for Tomorrow...
Even Smarter for Today”



Thank you for your
work to advance the
Bioproducts Industry

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