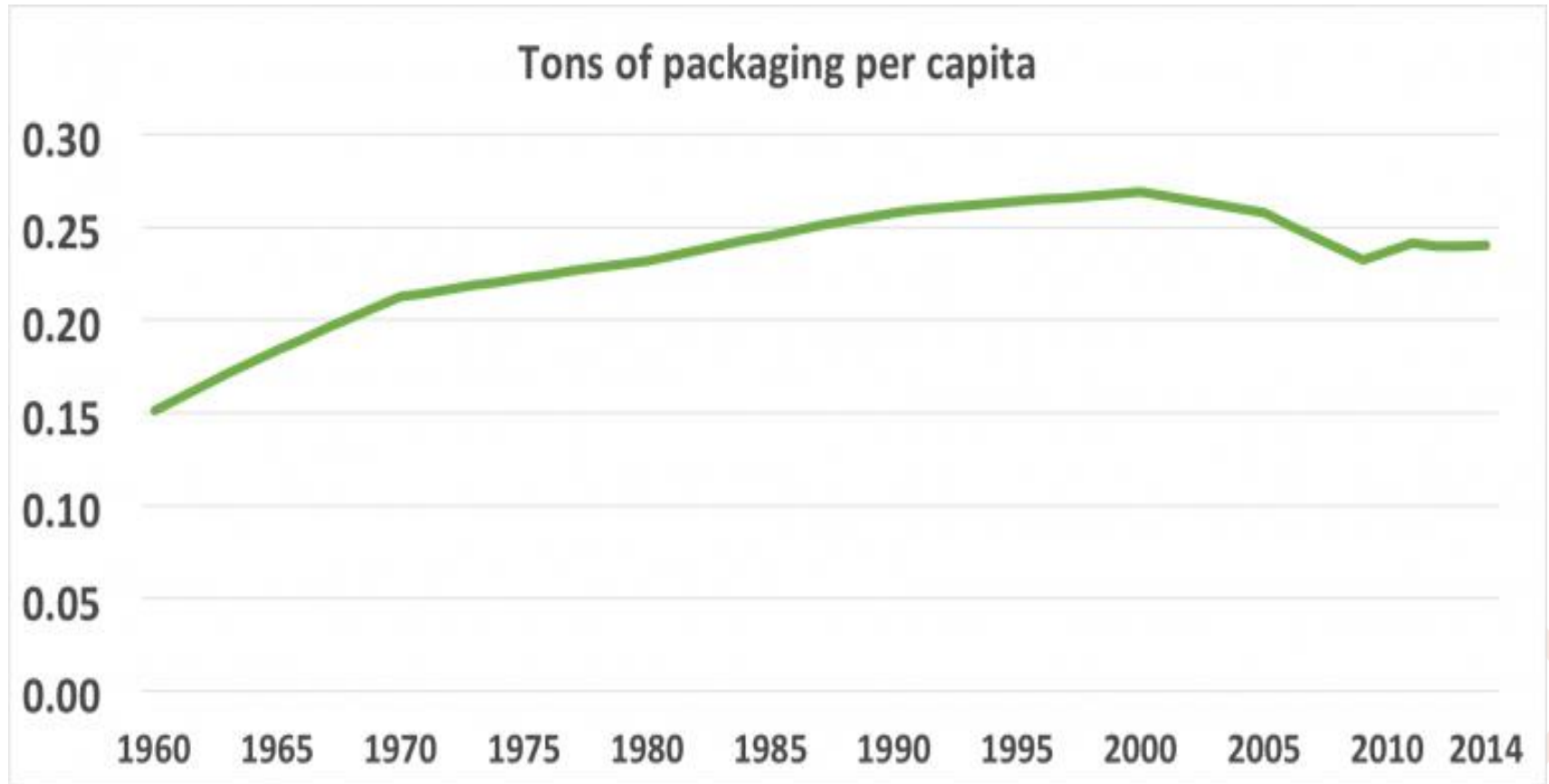


[illegible]






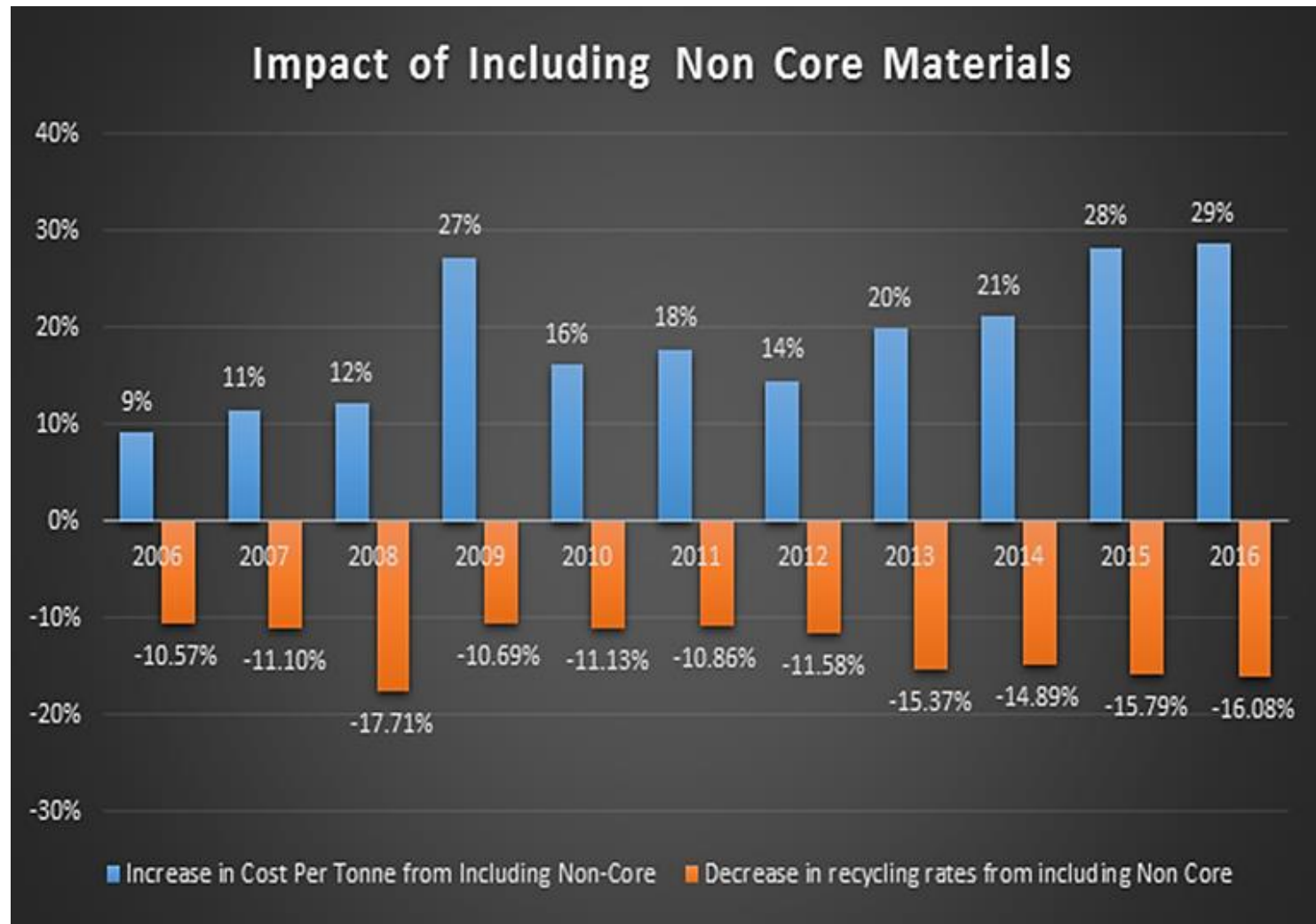
Source: EPA, March 2010



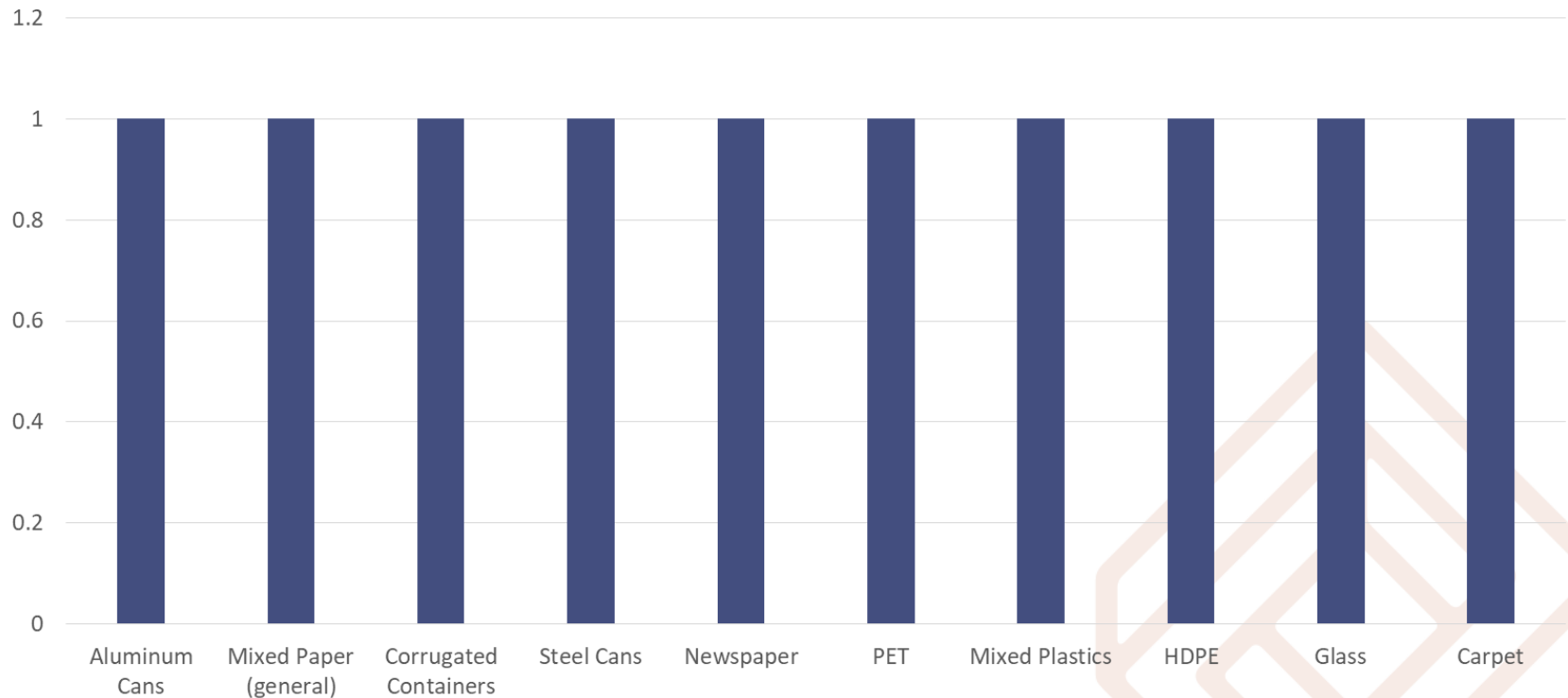
- Reduced by 37% (grams) over the past decade
- Means we need 1/3 more bottles (35,000 bottles) to make a one ton bale for recycling
- We are recycling more but our form of measurement (tonnage) fails to capture this.
  - Recycled materials on average increased 37% but weight only 8%
- Stream is less dense but more voluminous

Source: AMERIPEN testimony at CA Manufacturers Challenge

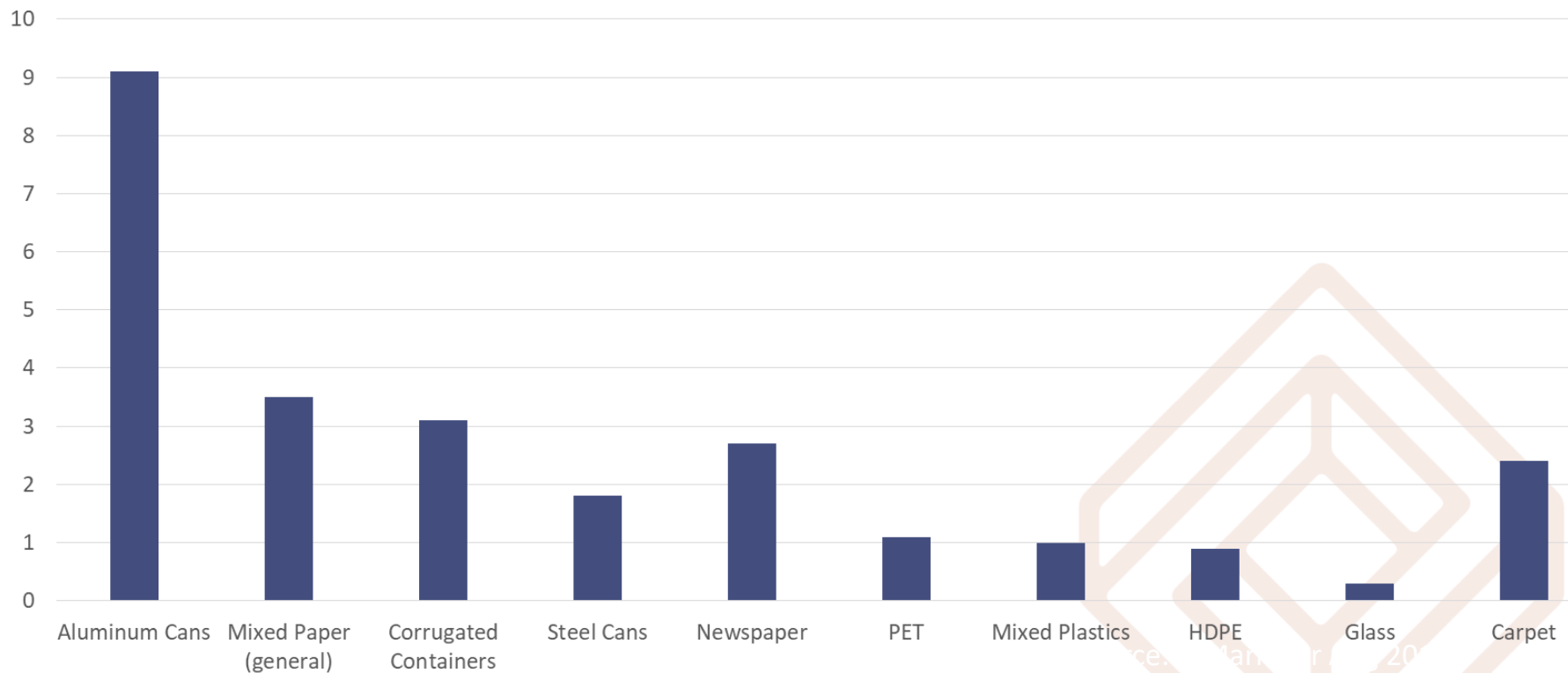
Coffee Packaging Choices and Associated Enviro Impacts	Steel Can 	Rigid Plastic Container 	Flexible Pouch 
Packaging Weight oz./11.5oz of coffee	4	3	0.4
Recycling rate by consumer	73%	28%	0%
MSW landfilled after recycling (lbs./100,000oz of coffee)	598	1,171	<b>217</b>
Packaging GHG emissions (lbs. CO2e/11.5oz of coffee)	0.77	0.28	0.05
GHG benefit of packaging recycling (lbs. CO2e/11.5oz of coffee)	-0.45	-0.16	<b>-0.02</b>
Packaging net GHG emissions (lbs. CO2e/100,000oz. of coffee)	3,800	1,996	413
Packaging net energy consumption (MJ/100,000oz of coffee)	33,489	76,721	<b>7,722</b>



## One Ton of Recycled Material



## GHG Impact of One Ton of Recycled Material (MTCO<sub>2</sub>e)



## State Goal: Mandatory 55% recycling overall by 2025



25%  
reduction  
by 2025



25%  
reduction  
by 2020



25%  
reduction  
by 2020



## 25% reduction in Food Waste by 2020

- Waste characterization and LCA identifies food as opportunity for reducing environmental impact
- LCA demonstrates that preventing one ton of food waste (source reduction) results in six fold benefit in GHG emissions over composting.
- In 2017, a program plan was released that identifies a program plan to reduce the wasting of food. Plan identifies key priorities (note non focus on end-of-life):

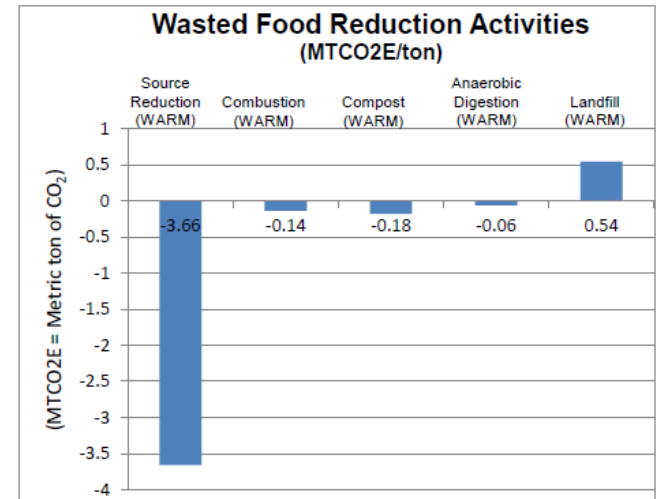


Figure 3: Average lifecycle impacts (CO2E/lb of food) from food waste reduction activities from US EPA Waste Reduction Model (WARM) background data

### Oregon Strategy

- |                                 |   |
|---------------------------------|---|
| 1. Waste Food Measurement Study | 6. Edible Food Resource                           |
| 2. Messaging                    | 7. Labelling                                      |
| 3. Consumer Outreach            | 8. Coalition of Interested Parties                |
| 4. Schools                      | 9. Research not included elsewhere                |
| 5. Commercial Sector            | 10. Guiding principles for project implementation |

## *Efficient Utilization of Recovered Fiber Varies by End Product*



Perception	Reality
EPR results in increased recycling	Harvard study said 10–25% for products studied.
Places with EPR have higher recycling rates	When normalized, EU and US all material recycling rates are similar US - 26%, EU - 29%. Adding in composting raises EU to 42% and US to 35%.
EPR encourages green design	No data to conclude this. US has seen an 11% decrease in packaging per capita since 2000 while Europe has remained steady.
Producers bear the costs of EPR	Unlikely—this will be passed on in terms of increased costs to consumer. Note Lakhan study.

**What is the end goal?** To increase: recycling, finance the system or drive environmental benefit? *Clearly defining the goal will help identify the best solutions.*

