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Market Development

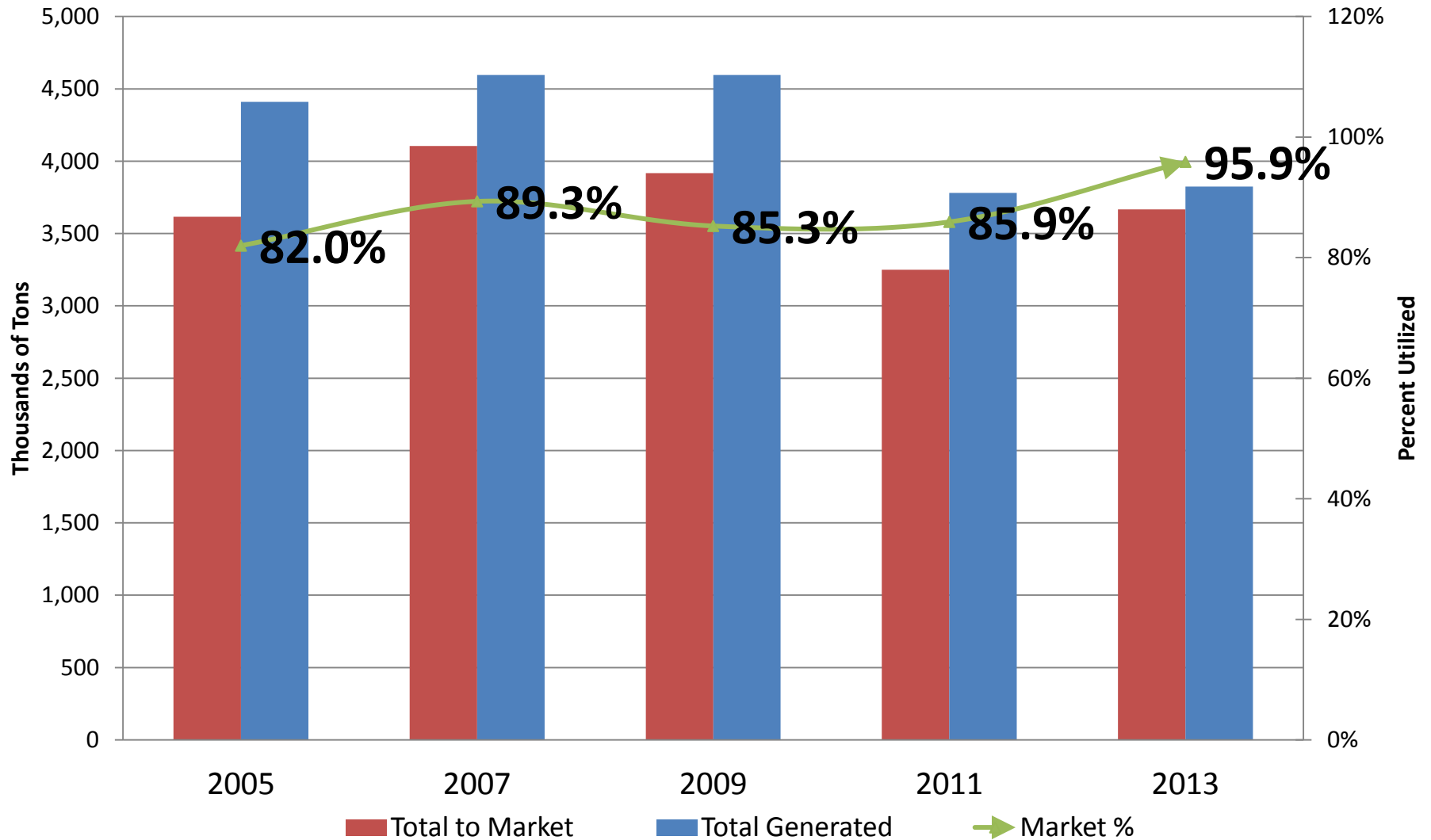
Advancing Tire Stewardship in the United States

John Sheerin
January 21, 2014

Topics

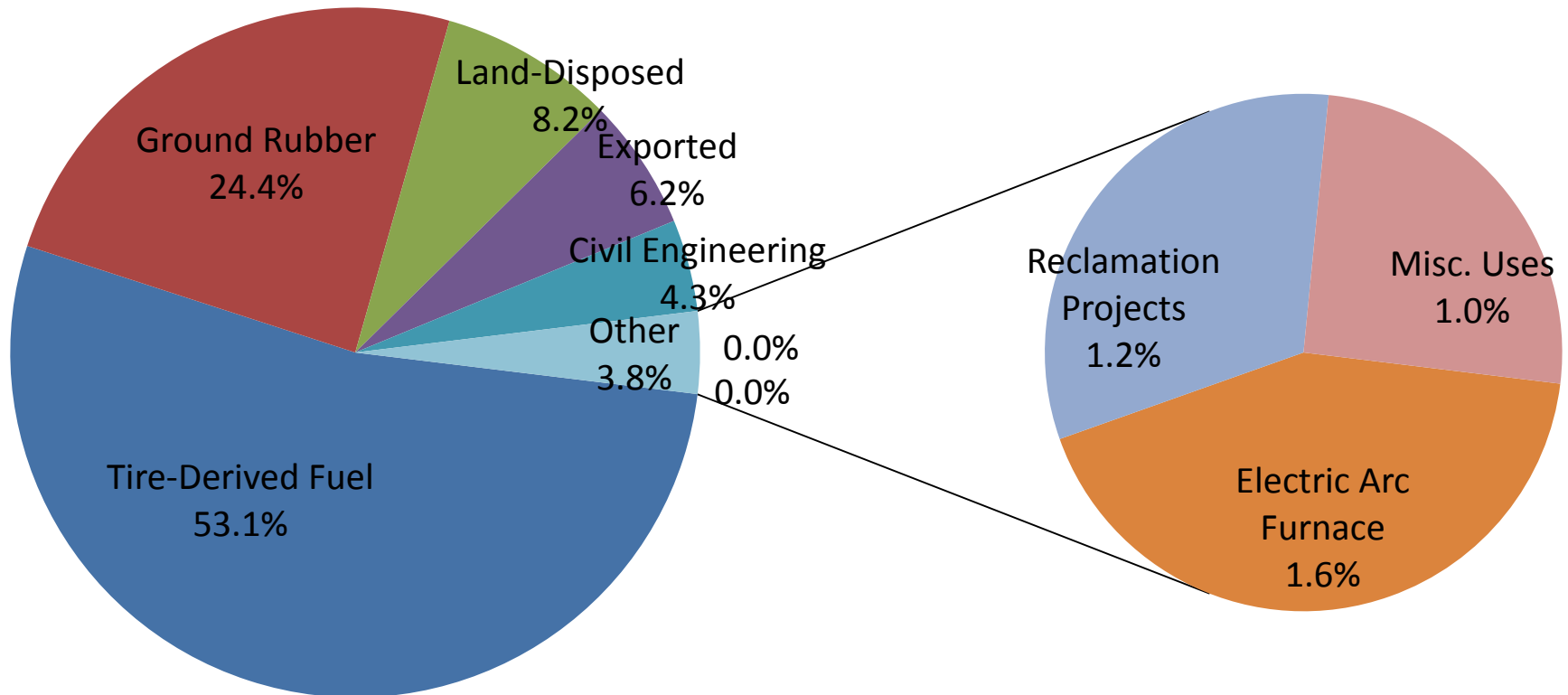
- What are the current markets in the US
- Trends
- New England Markets
- Opportunities

U.S. Scrap Tire Trends 2005 - 2013



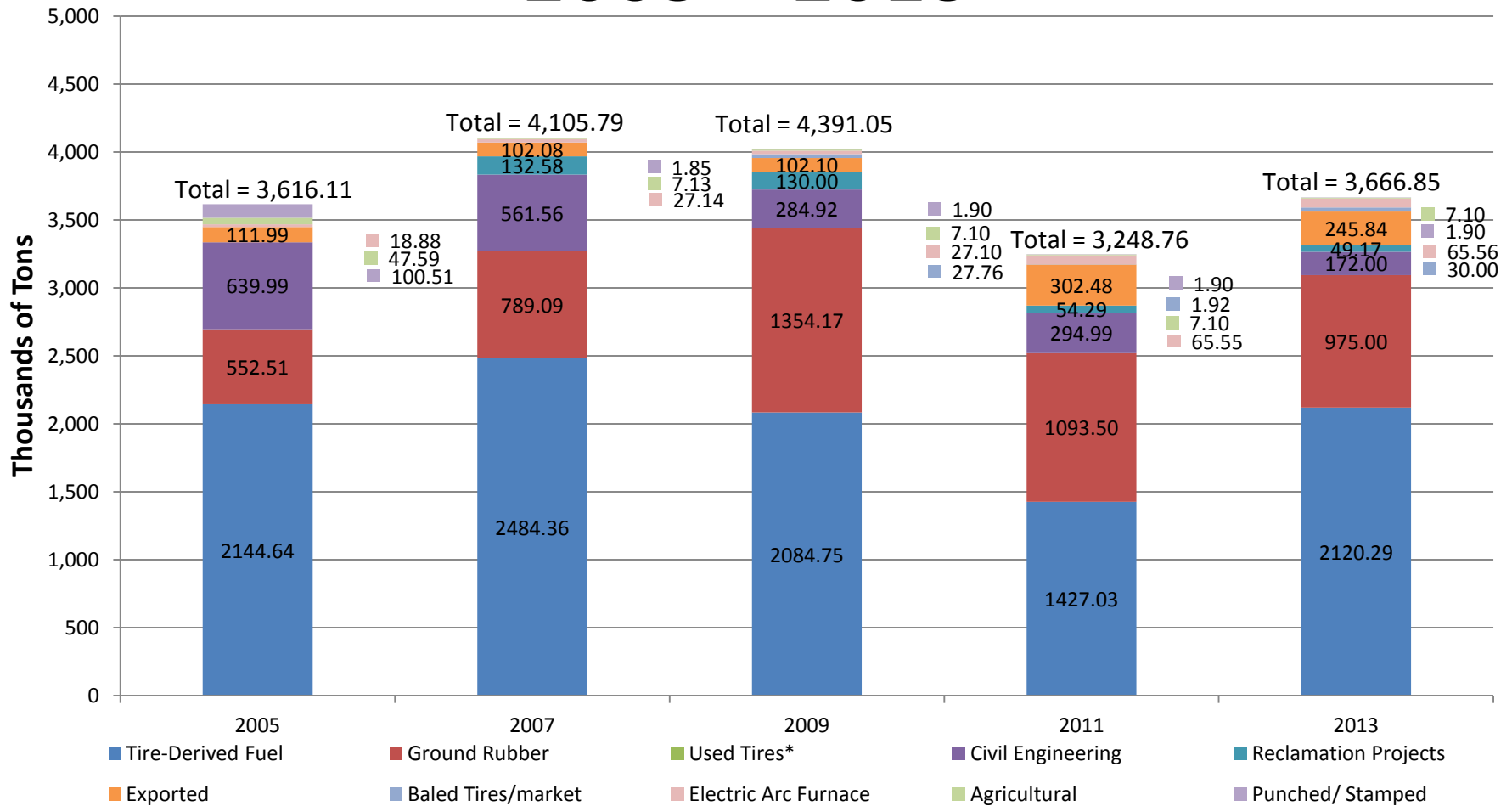
U.S. Scrap Tire Disposition 2013

(percent of total tons generated annually)



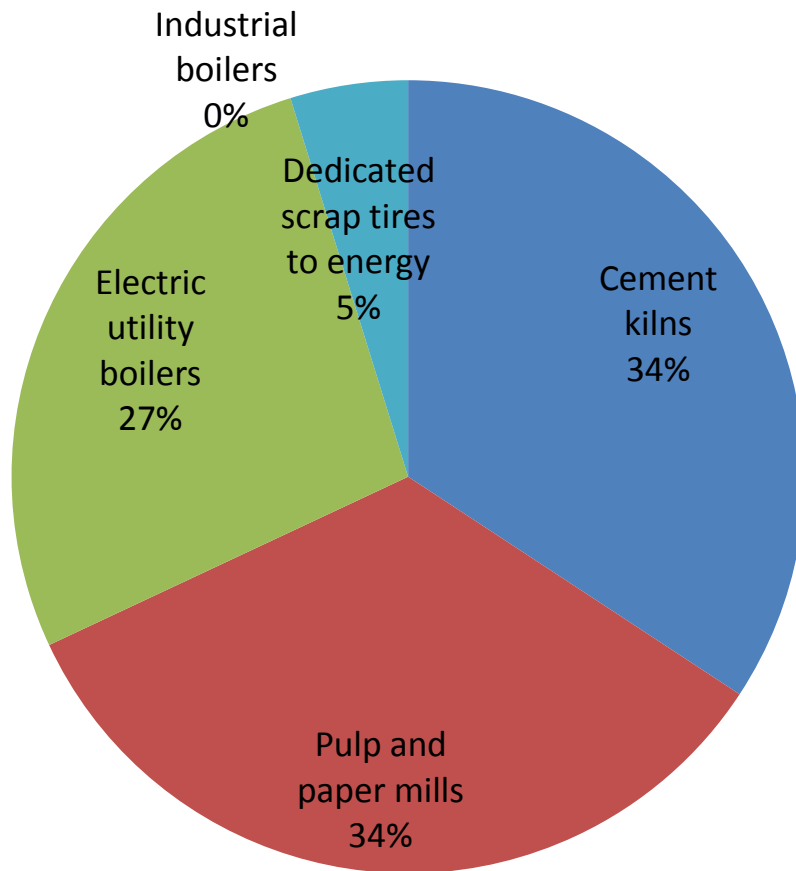
Numbers may not add due to rounding.

U.S. Scrap Tire Market Trends 2005 – 2013



Please note: RMA began tracking tires culled from scrap tire collection entering domestic used passenger and light truck used tire markets in 2009. RMA changed the way it incorporated estimates of tires entering used tire markets between 2009 and 2011. In 2009, RMA included used tires as a market for scrap tires. In 2011 and 2013, RMA subtracted used tires from the total tires hauled to calculate total net scrap tire generation.

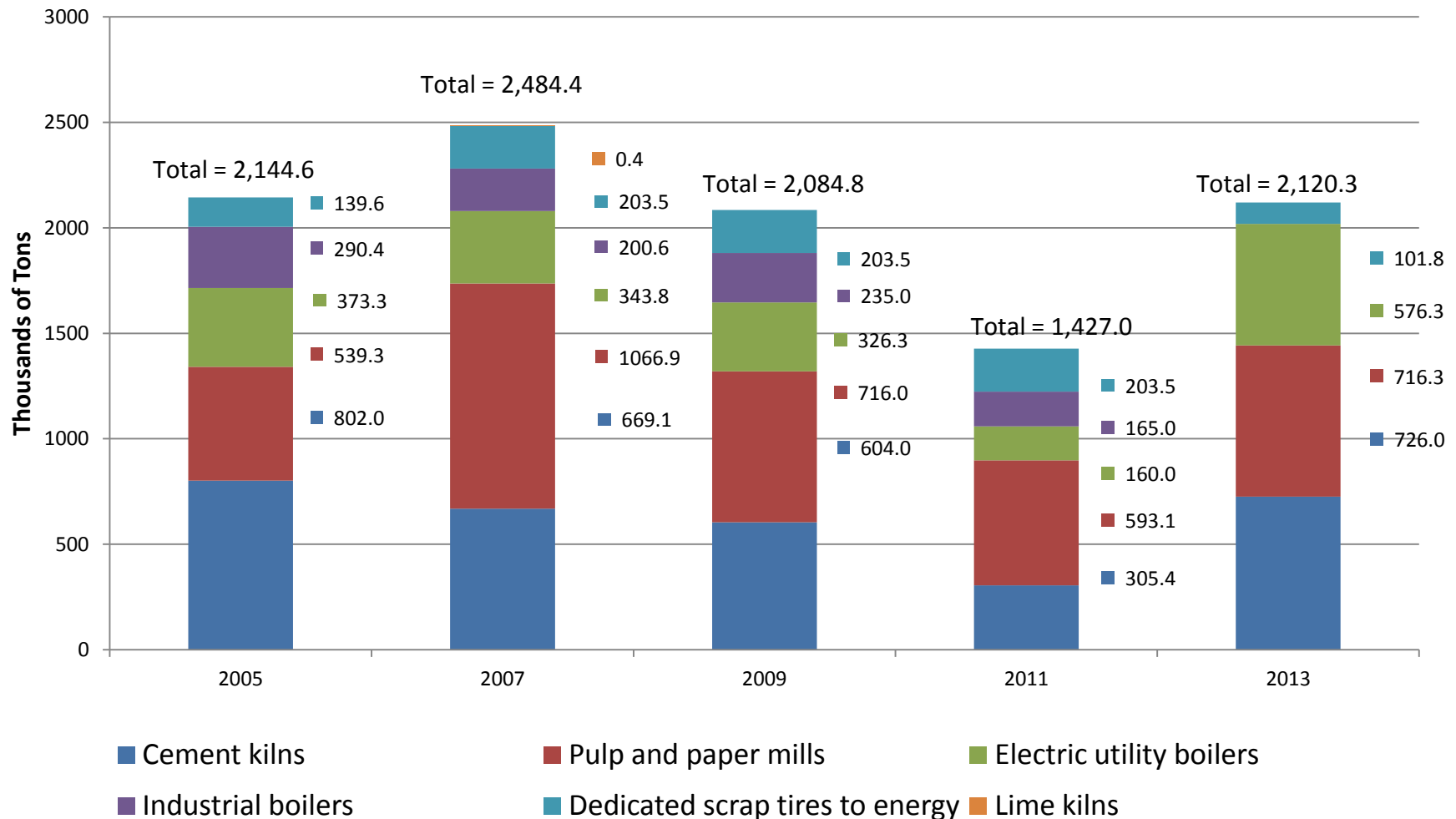
U.S. Tire-Derived Fuel Markets 2013



Did you know?

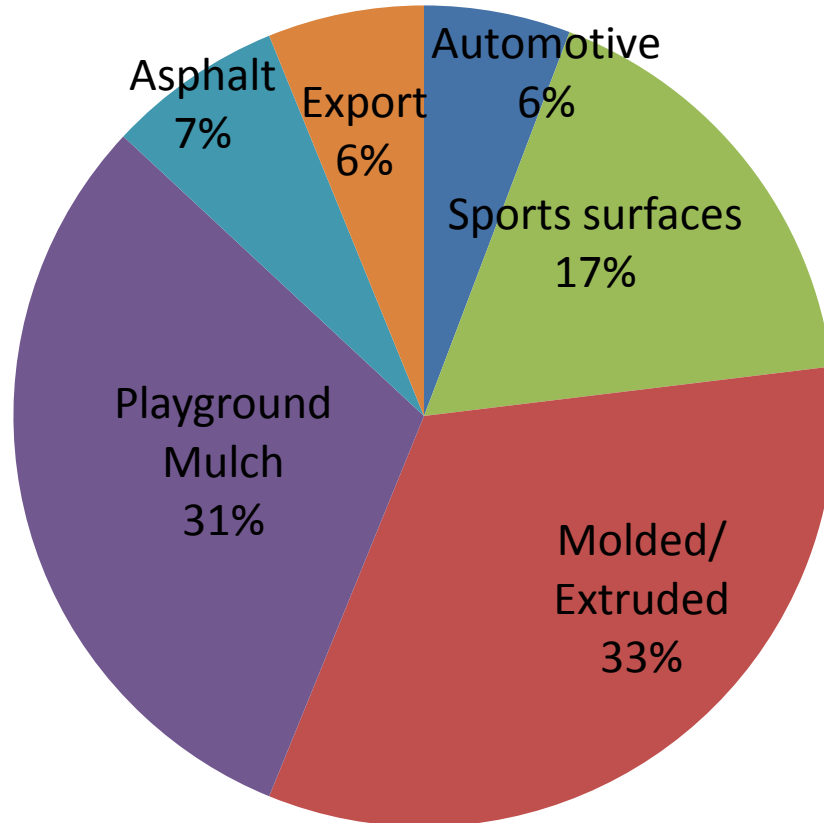
Total scrap tires diverted to TDF market:
2,120,300 tons or
almost 130 million tires

U.S. Tire-Derived Fuel Market Trends 2005 – 2013



U.S. Ground Rubber Markets 2013

(percent of total pounds of ground rubber consumed in market)



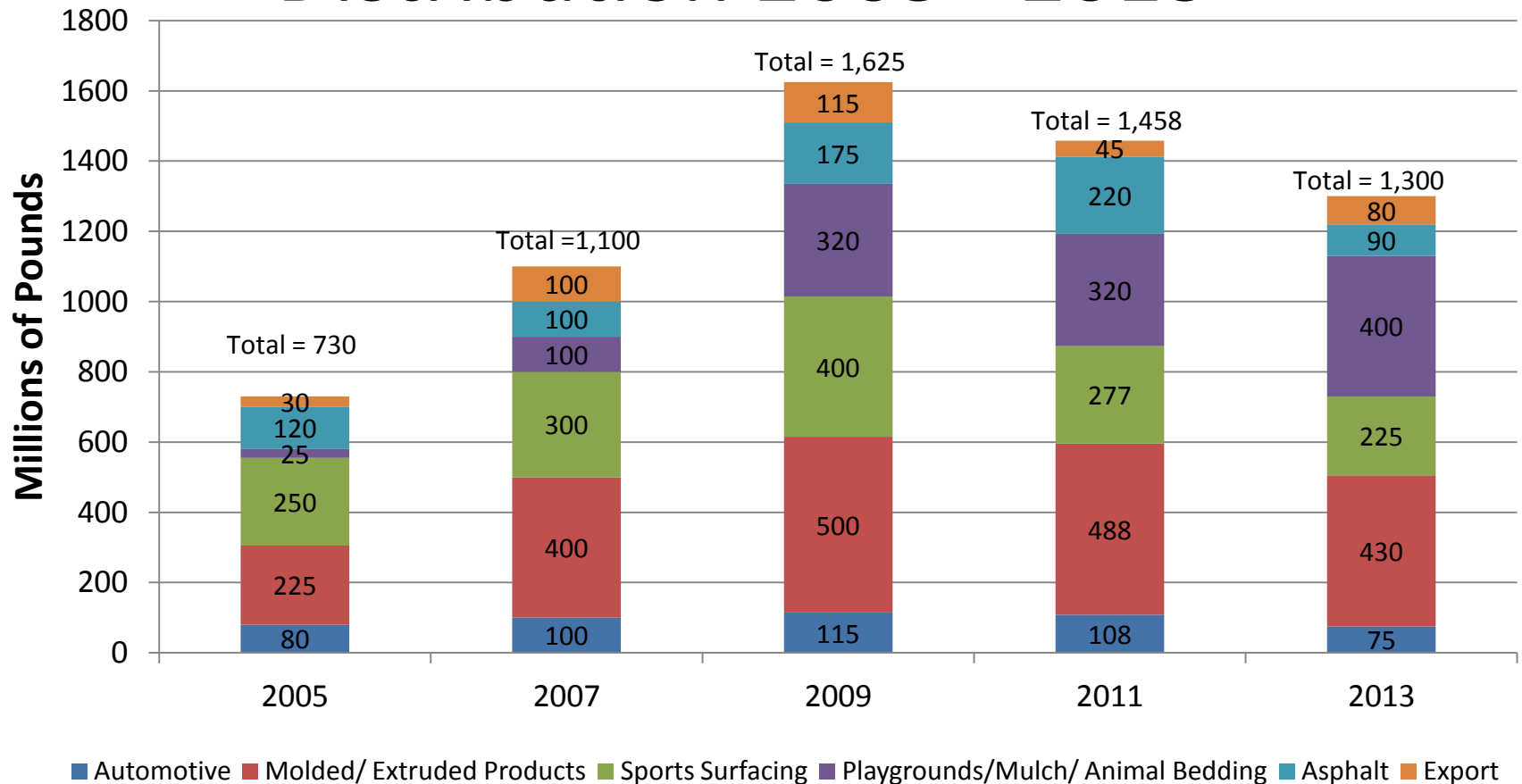
Did you know?

Total tire rubber consumed in ground rubber markets:
about 1,300,000,000 pounds

Total scrap tires diverted to these markets:
About 975,000 tons or almost 60 million tires

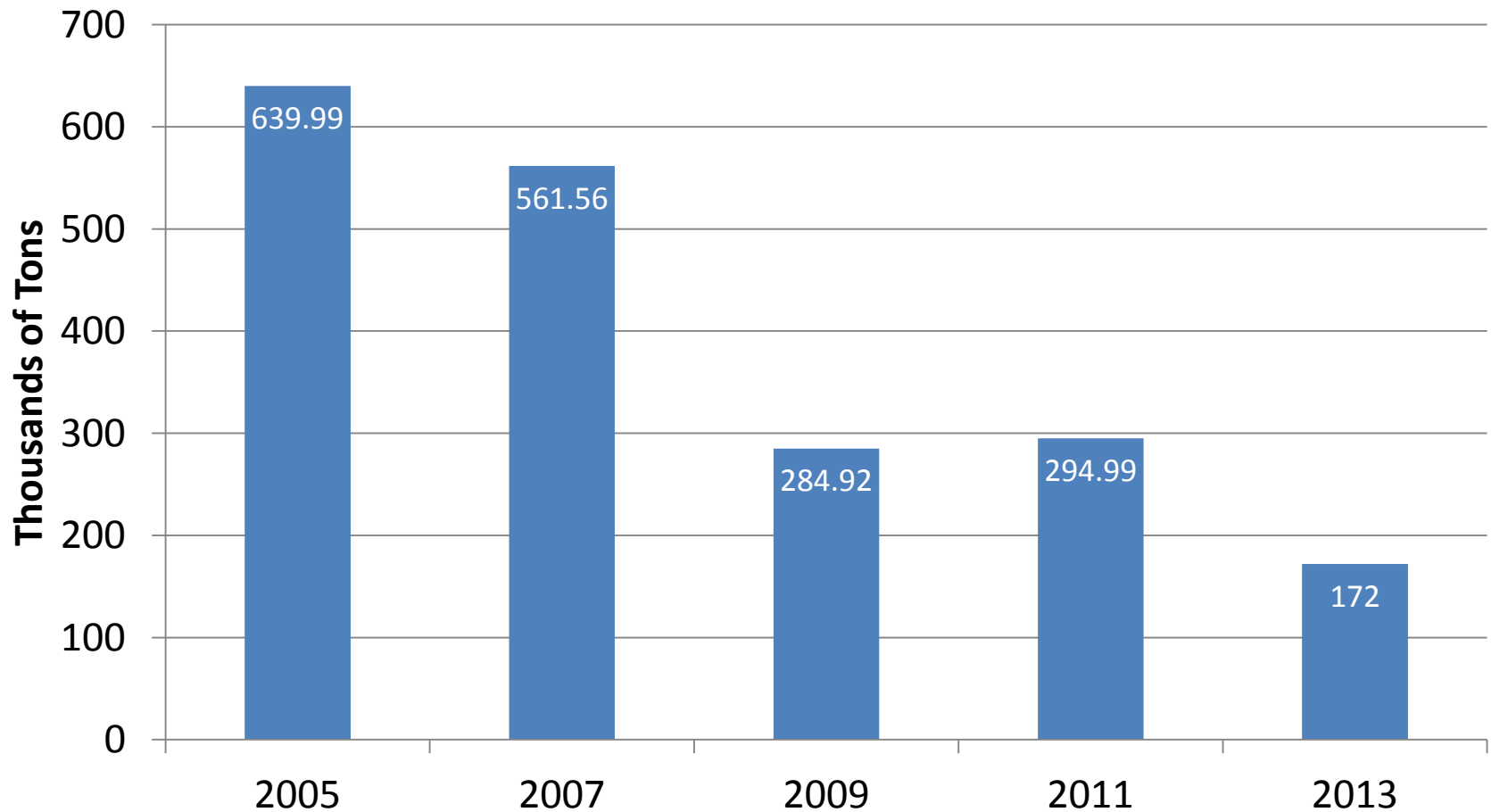
Please note: Ground rubber market distribution data are based on ground rubber consumed in end-use markets, not whole tires entering these market streams. The data represented in RMA U.S. scrap tire market summaries refer to the weight of whole tires diverted to all scrap tire markets, including ground rubber, whereas this chart refers to the weight of processed ground rubber, with wire, fluff and agglomerated rubber removed that is consumed in ground rubber end-use markets.

U.S. Ground Rubber Market Distribution 2005 - 2013



Please note: Ground rubber market distribution data are based on ground rubber consumed in end-use markets, not whole tires entering these market streams. The data represented in RMA U.S. scrap tire market summaries refer to the weight of whole tires diverted to all scrap tire markets, including ground rubber, whereas this chart refers to the weight of processed ground rubber, with wire, fluff and agglomerated rubber removed that is consumed in ground rubber end-use markets.

U.S. Civil Engineering Markets 2005 - 2013



Tire Derived Aggregate Markets

- Lightweight aggregate, vibration dampening, leachate collection and distribution, landfill gas collection, septic system leachfield
- <https://www.youtube.com/watch?v=aJmK3WDuEV4>
- Go to youtube, search “tire derived aggregate”, select **Uses of Tire Derived Aggregate in Civil Engineering Applications -Pt 1 of 3**

Scrap Tire Markets by State

	End Use Markets	Collectors and Processors in state	TDF	Ground Rubber	Other Markets
Maine	16.7 million (est.)	1	2 pulp and paper mills		
New Hampshire	No known	0			
Vermont	No known	1			
Massachusetts	<1 million	5			TDA, punched products
Rhode Island	No known	0			
Connecticut	No known	3			
New York	2 facilities	17		2 facilities (fine)	
Pennsylvania	7 facilities	~20	1 boiler, 2 kilns	2 facilities (fine); 2 facilities (mulch)	
New Jersey	1 facility	19		1 facility (mulch)	
Delaware	No known	2			

State Experience with Rubber Modified Asphalt

State	State Experience
Maine	No known experience.
New Hampshire	Has tried.
Vermont	No known experience.
Massachusetts	Piloted; good specification.
Rhode Island	Piloted.
Connecticut	No known experience.
New York	NYDOT and NYC evaluating material.
Pennsylvania	Piloted, good specification in draft.
New Jersey	Has run tests; use increasing in 2012.
Delaware	No known experience.

New England Scrap Tire Market Summary

The markets in New England are working.

Current markets include:

- TDF
- Punched product
- Tire derived aggregate
- Other, smaller markets

More interconnected, nuanced and diverse than a cursory glance would suggest.

- Local reliance on two large pulp and paper mills in Maine is somewhat of a cause for attention over the long term.
- The Exeter Tires-to-Energy Plant in Sterling, CT may reopen to at least some tires
- Other new end users entering the market.

Recommended New England Market Development Focus

New England should develop more scrap tire markets in more diverse applications

- Market diversity protects against disruption should a single market experience a decline
- Market was sufficiently strong to adapt to the shut down at Exeter with zero disruption at the retail level, but increased market diversity would protect against any future disruptions.

Other potential future markets include:

- Rubber modified asphalt
- Molded and extruded products
- Automotive parts
- Tire derived aggregate

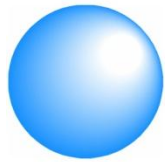
NE Scrap Tire Market Opportunities

Tire Derived Aggregate

- Lightweight fill
- Landfill construction
- Septic system leach fields

Ground Rubber

- Rubber Modified Asphalt
- Molded/Extruded Products
- Playground/Mulch
- Sports Surfaces
- Automotive
- Export



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About the Rubber Manufacturers Association

RMA is the national trade association representing tire manufacturers that make tires in the United States. RMA's scrap tire management efforts are a reflection of the tire industry's commitment to the concept of shared responsibility for its products when not suitable for use on vehicles.

RMA began its scrap tire program in 1990 under the auspices of the Scrap Tire Management Council. RMA works with all stakeholders, including states, U.S. EPA and the industry to develop markets, reduce scrap tire stockpiles and implement state regulations that foster sustainable scrap tire markets. RMA supports all scrap tire markets that are environmentally sound and economically feasible.

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