



# Update on the U.S. Ground Rubber Market

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For the

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# Rubber Manufacturers Association

- Represents the 8 US tire manufacturers
  - 90% tires sold in the USA
- Created scrap tire development program in 1990
- Focus on development of sound markets and management for 100% of annually generated scrap tires.



# RMA Tire Company Members





# RMA Scrap Tire Strategic Goals

- To promote the elimination of all scrap tire piles in an environmentally & economically sound manner
- To promote the management of all annually generated scrap tires in an environmentally and economically sound manner



# RMA Scrap Tire Strategic Goals

- To seek public awareness of scrap tire management success
- To advocate for a legislative and regulatory environment that is conducive and supportive of the RMA scrap tire mission



## 2007 Market Findings

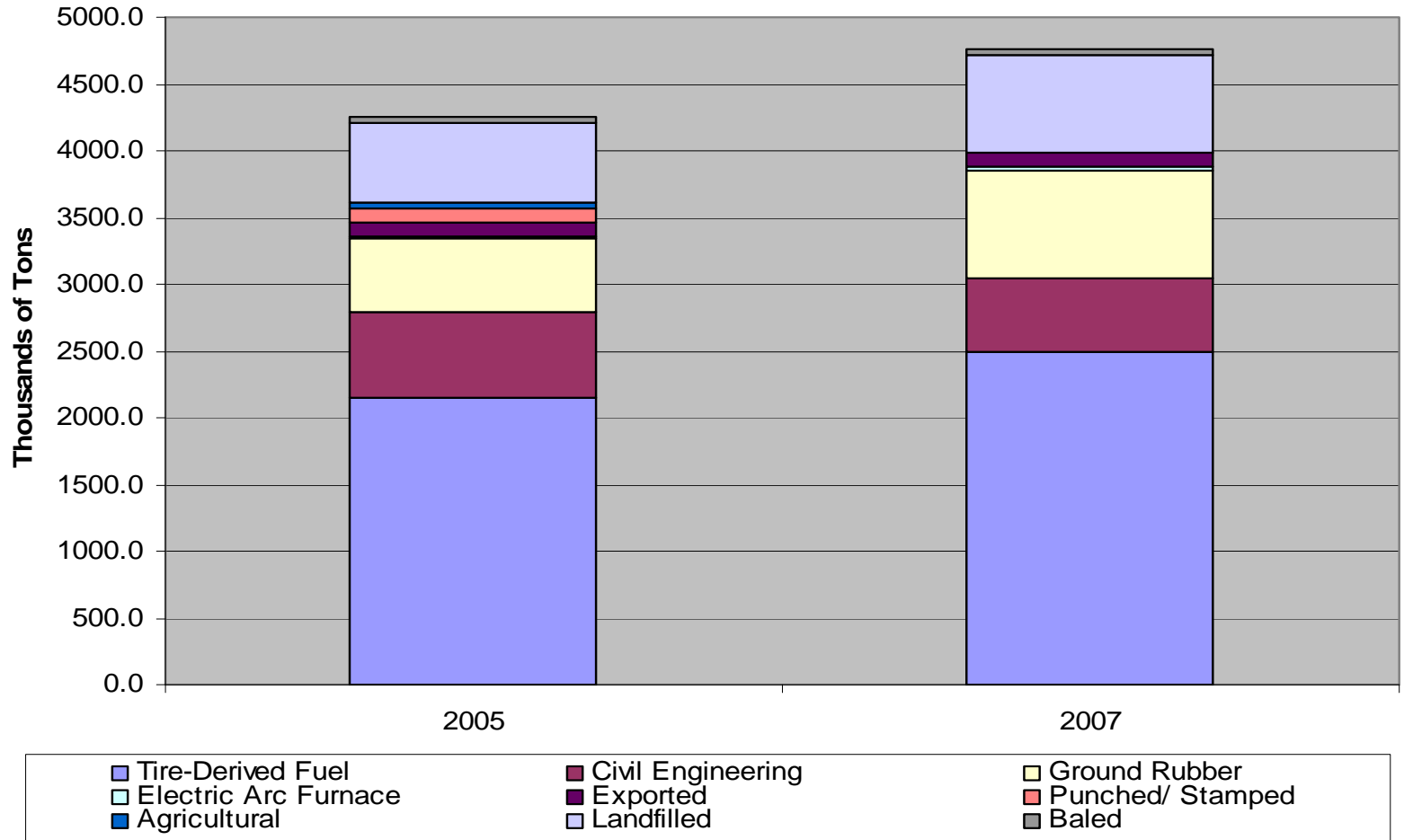
- Demand for ground rubber (GR) increased by 46 percent since 2005
- Increases in 3 markets: infill, mulch, molded products
- Several new GR producers entered market between 2005 - 2007
- New production capacity did not drive GR prices down



Market	2005	2007	% change
Tire-Derived Fuel	2144.6	2486.4	15.9%
Cement Kilns	802.0	664.0	-17.2%
Pulp & Paper	539.3	1075.5	99.4%
Electric Utilities	373.3	341.5	-8.5%
Industrial Boilers	290.4	201.5	-30.6%
Dedicated TTE	138.3	203.5	47.1%
Lime Kilns	<i>not avail.</i>	0.4	<i>n/a</i>
Ground Rubber	552.5	807.5	46.2%
Civil Engineering	640.0	560.0	-12.5%
Electric Arc Furnace	18.9	27.1	43.8%
Exported	112.0	102.1	-8.8%
Agricultural	47.6	5.5	-88.4%
Punched/Stamped	100.5	1.9	-98.2%
Total to Market	3616.1	3990.5	10.4%
Landfilled	590.8	730.1	23.6%
Baled	42.2	38.1	-9.8%
Generated	4410.7	4612.4	4.6%
% to Market/Utilized	82.0%	86.5%	5.5%
% Managed (incl. Baled and Landfill)	96.3%	103.2%	6.8%

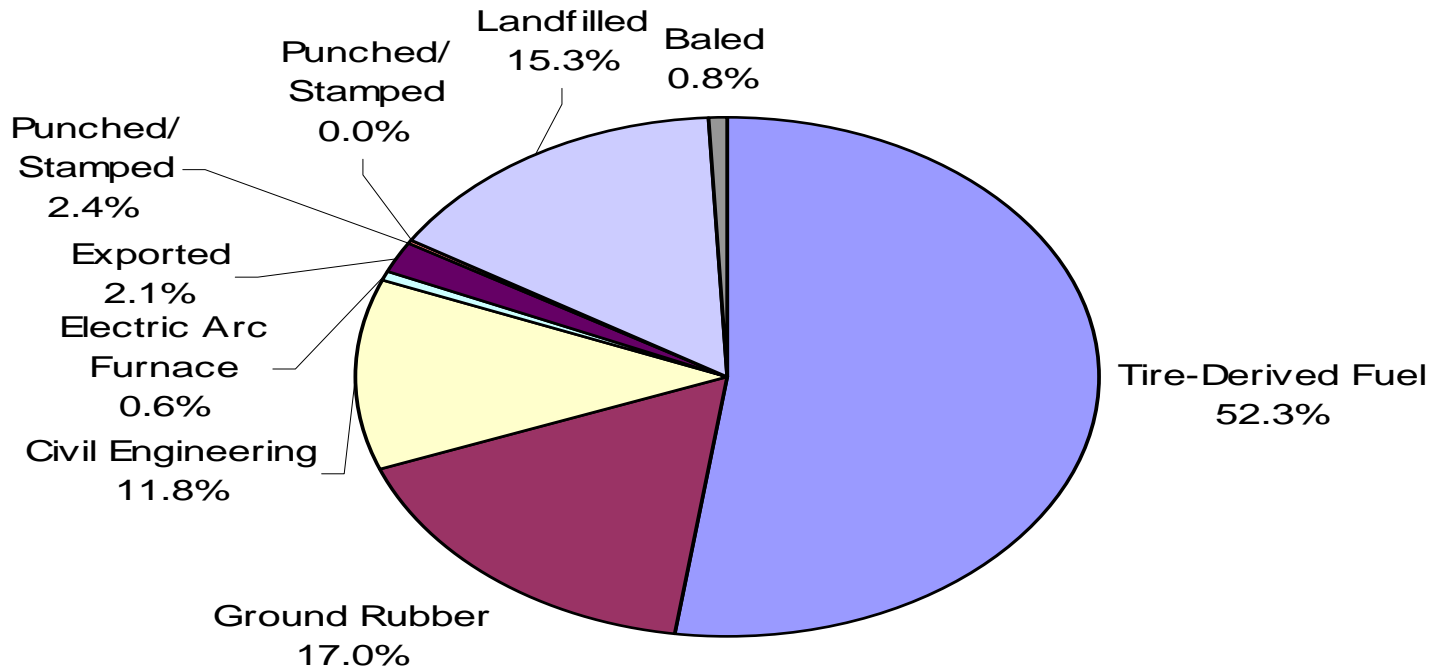


### U.S. Scrap Tire Disposition Trends, 2005 - 2007



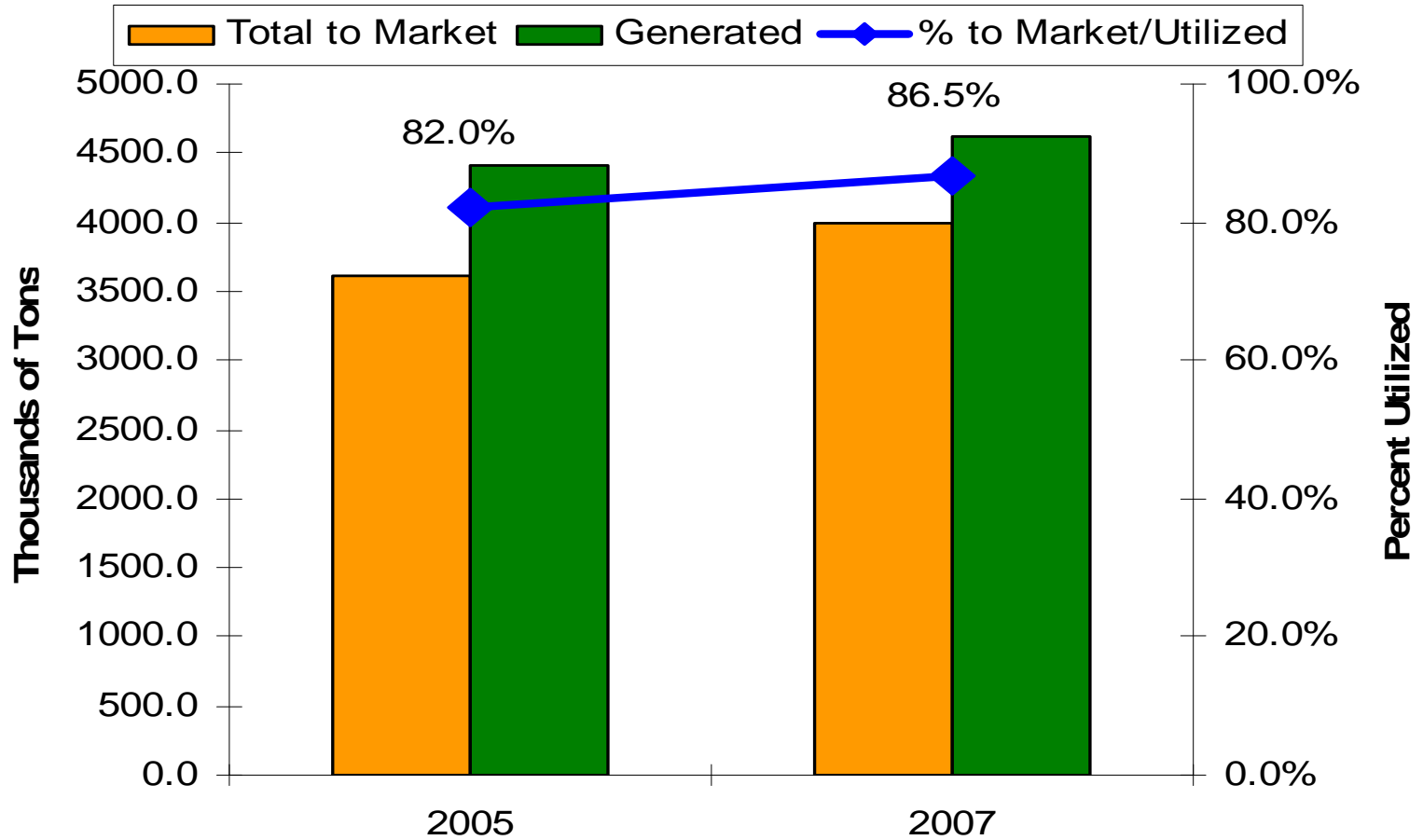


### U.S. Scrap Tire Disposition, 2007





## U.S. Scrap Tire Disposition 2005 - 2007





# Ground Rubber Markets

- Automotive: 100 million pounds
- Molded/extruded: 400 million pounds
- Coarse rubber: 100 million pounds
- Infill sport surfacing: 300 million lbs
- Asphalt: 100 million pounds
- Export: 100 million pounds



## 2007 Market Findings

- Production of ground rubber and demand for GR almost a point of equilibrium
- Truck tires (all black) are in short supply
- Supply of buffings were steady and US imports 150 million lbs. of buffings
- GR infrastructure appears to be relatively stable



## 2007 Market Findings

- 90% of GR produced/sold by 15 companies
- This represents about 25% of the producers
- This is a higher percentage than in the past
- This suggests a more stabilized market
- Most large-scale producers sell into multiple markets; this maintains stability and reduces the number of failed companies



# Trends in the GR Marketplace

- Only a few GR companies are vertically integrated; most GR producers sell to a product producer
- Longer-term impacts of new production capacity is still unknown
- Several states are supporting GR production
- Other states are seeking to encourage purchase of recycled-content products



# Trends in the GR Marketplace

- 3 growth markets are under attack from competitors and research institutions
- Issues raised are based on ‘concerns’ about ground rubber or misunderstanding tire chemistry
- Questions raised by competitors of tire-derived products



# Trends in the GR Marketplace

- Significant amounts of ‘good science’ reports available that conclude tire rubber does not pose health risks
- States continue to study the health risks
- Question/answer comes down to: who do you believe?



# Industry Activities

- RMA responding to tires being ‘toxic’
- Ad hoc group developing specifications for GR in infill
- Ad hoc group (RMA/ISRI) developing ASTM specifications for loose fill playground applications
- Increasing information on WWWW



# Ground Rubber Markets

- Rubber modified asphalt
- Infill material in artificial athletic fields
- Cover material under playgrounds
- Molded/Extruded products
- Mulch
- Bound rubber products



# Rubber Modified Asphalt

- Little market growth over last 4 years
- Major markets limited to 5 states
- Not usable on all types of roads
- Need to work with public sector & contractors
- Technology still not well understood
- Best of quiet road surfacing: some potential for increased use



# Ground Rubber in Sport Surfacing

- Fastest growing market niche for GR
- 2009 market demand appears strong
- High end market requires strong economy
- Questions on health impacts linger
- Outlook for 2010 in question



# Ground Rubber in Playgrounds

- Strong market: safest material to fall onto
- Concerns raised about volatile emissions; “latex”; leachate; ADA requirements and ingesting rubber chips being addressed
- Facing strong competition from traditional cover materials
- 2009/2010 demand likely to decrease



# Molded & Extruded Products

- Increased/increasing use in molded & extruded products
- Large potential market but many technical issues have to be addressed
- Focus of several state & industry programs
  - CA & NY
  - RMA & Clemson University



# Mulch

- Demand has been increasing over last 4 years
- Replaced wood chips, which are being used for fuel value in PPMs
- Has become well accepted in marketplace
- Continued demand a function of the economy



# Bound Rubber Products

- Slightly improved demand over last few years
- High end products; requires strong economy
- Demand likely to continue to expand unless economy continues to worsen



# Ground Rubber

- Several new, large-scale players coming on-line that can make ultra-fine material
- Production capacity/efficiency does not guarantee markets
- Markets are price/quality sensitive
- Prices are not elastic and cutting price for entry into a market only hurts the industry



# Market Realities

- Developing production capacity can occur before creation of demand for this material
- Advancement in processing technology occurs faster than markets can be developed to use this material (ultra fine)
- Ability to process tires does not mean there is demand for the product



# Market Conditions

- Production of GR has increased between 2007 – 2009
- Production capacity for GR probably exceeds demand
- Sale of GR in 2007 & 2008 was stable
- Ontario preparing to start a tire stewardship program; will subsidize sale of GR



# Market Outlook

- Likely to have slight decrease in GR sales in 2009 & 2010 (the economy)
- Over capacity & new entrants into GR production likely to impact pricing
- Continued negative stories/innuendos about GR also likely to have impact on sales
- Inflow of Ontario GR could further weaken market infrastructure



# Conclusions

- Demand for GR increased significantly in 2005 – 2008 time frame
- 3 products were responsible for the increase
- Marketplace was in a period of relative stability through 2008
- The number of products using GR has increased; providing diversity and stability



# Conclusions

- There needs to be a full effort to combat the detractors/answer the questions on GR
- New production capacity could disrupt the balance in the marketplace
- Future demand for most ground rubber products will be a function of the economy
- Outlook for next two years has become uncertain due to the economy & concerns



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