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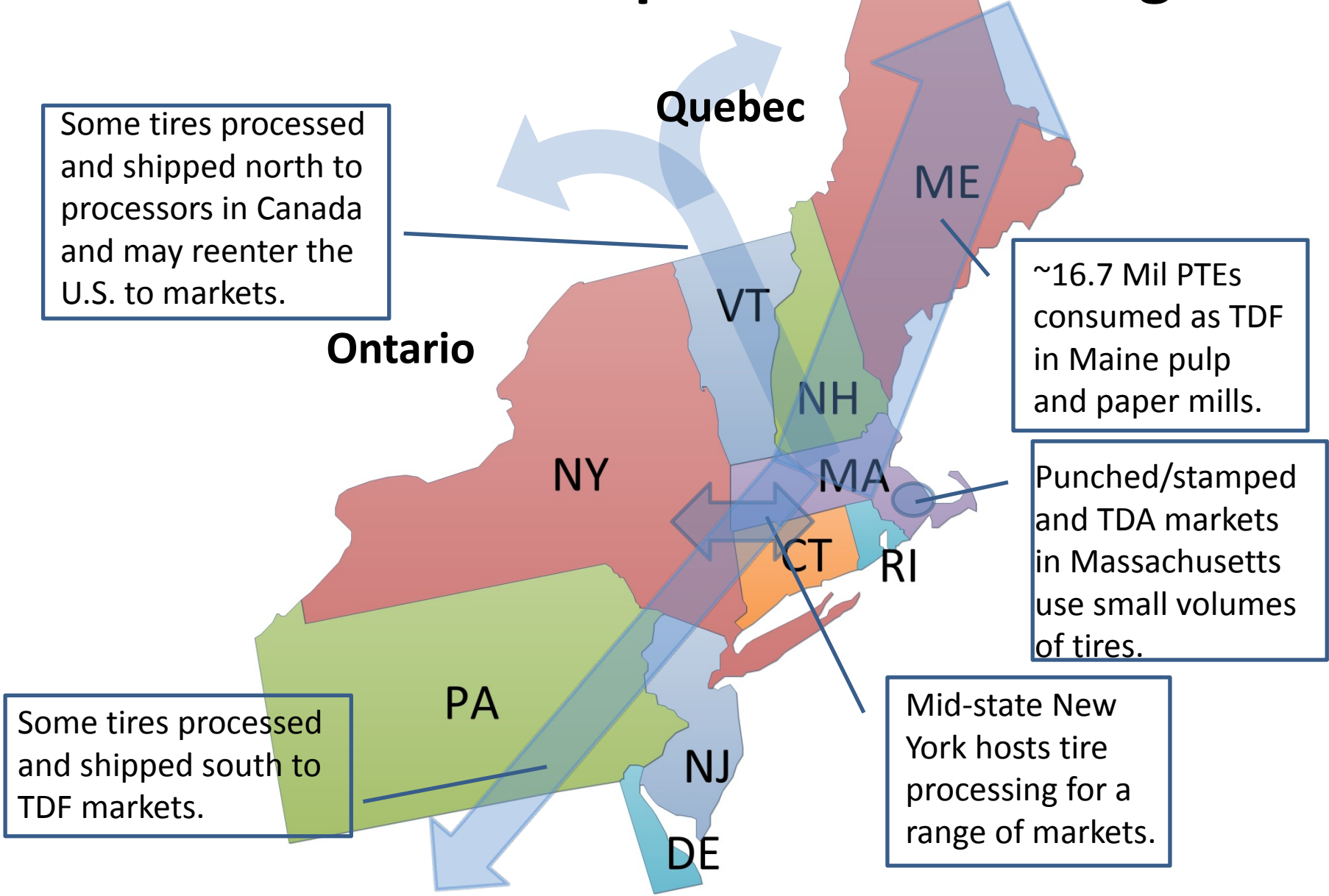
Scrap Tire Management in New England:

Market Assessment and Recommendations

January 17, 2015

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General Flow of Scrap Tires in New England



Some tires processed and shipped north to processors in Canada and may reenter the U.S. to markets.

~16.7 Mil PTEs consumed as TDF in Maine pulp and paper mills.

Punched/stamped and TDA markets in Massachusetts use small volumes of tires.

Mid-state New York hosts tire processing for a range of markets.

Some tires processed and shipped south to TDF markets.

2013 Scrap Tire Generation by State

	State Population (July 2013)	Estimated Generation (passenger tire equivalent or PTE) ¹
Maine	1,328,302	1,427,159
New Hampshire	1,323,349	1,422,159
Vermont	626,630	673,418
Massachusetts	6,692,824	7,192,554
Rhode Island	1,051,511	1,130,023
Connecticut	3,596,080	3,864,587
New York	19,651,127	21,113,634
Pennsylvania	12,773,801	13,724,473
New Jersey	8,899,339	9,561,659
Delaware	925,749	994,646
TOTAL	56,868,712	61,104,312
Subtotal New England (ME, NH, VT, MA, RI, CT)	14,618,696	15,709,900

¹Based estimated 2013 national scrap tire generation. *RMA, 2014*. One passenger tire equivalent (PTE) = 22.5 pounds.

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 Program Analysis

	Dedicated Fee	Regulatory Program to Hauler level	Stockpiles (millions of tires)	Market Development	In State Markets for Annual Generation
Connecticut	No	N	0? 0.25? 0.5?	N	N
Delaware	\$2.00	N	0.11	N	N
Maine	\$1.00	Y	0.2	N	Y
Massachusetts	No	N	0	N	N
New Hampshire	No	N	0.04	N	N
New Jersey	\$1.50	N	0	N	Y
New York	\$2.50 ¹	Y	2.58	N	Y
Pennsylvania	\$1.00 ²	Y	1.16	N	Y
Rhode Island	No	N	0	N	N
Vermont	No	Y	0.46	N	N

¹Some of NY fee diverted. ²PA fee completely diverted.

Connecticut Scrap Tire Profile

	Status
Annual Generation	3.84 Million PTE (2013 based on population and US average generation rate)
Stockpiles	None? 250,000? 500,000?
Markets in State	None
State Program Structure	(Fee, regulations to what level) – processor and stockpiles are regulated in the solid waste regulation. No regulation down to hauler level.
Market Development Activities	None
Challenges in State	Absence of markets and funding mechanism leaves market development entirely up to free market. Dependent upon other states to manage annual generation. Closure of Exeter Tires to Energy Facility in Sterling.
Opportunities in State	Pass legislation and regulations, develop a funding mechanism to enforce at the hauler and generator level, develop markets and prevent dumping.
Additional Information	None

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

Connecticut Fee Considerations – Potential State Income

Estimated New Replacement Tire shipments in CT (based on population and nationwide shipments)

- 2.58 Million passenger/light truck tires
- 178,000 truck/bus tires

Potential State income from new fee on sale of replacement tires:

- \$0.25 fee → ~ \$689,500 per year
- \$0.50 fee → ~ \$1,379,000 per year
- \$0.75 fee → ~ \$2,068,500 per year
- \$1.00 fee → ~ \$2,758,000 per year

Proposed state program budget should be developed on which to base fee proposal.

Connecticut Fee Considerations – Potential State Program Scope

Level of proposed fee should be based on estimate of annual budget for program scope

Recommended program scope

- Enforcement of state laws and regulations
- Stockpile abatement (if any)
- Illegal dumping clean up (“midnight dumping”)
- Market development

Acknowledgements

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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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