KENTUCKY ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Kentucky's Waste Tire Program

A REPORT TO THE GENERAL ASSEMBLY

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I. Background

In 1990, the General Assembly passed HB 32 which created the waste tire control program and established the Waste Tire Trust Fund, which was to be used to eliminate existing waste tire piles and prevent the creation of future waste tire piles. The original program imposed a $1 fee on retailers of new motor vehicle tires sold in Kentucky, created requirements for tire accumulation and storage, and resulted in removal of many tires from the environment. However, thousands of tires continued to be stockpiled in anticipation that a market would develop in the future. In 1994, the General Assembly extended the program for four more years and added a prohibition on open burning of waste tires.

In 1998, the General Assembly repealed the waste tire control program and created a new program with a new approach. The new approach retained the $1.00 fee collected on new motor vehicle tires, the Waste Tire Trust Fund, and registration requirements for accumulators of waste tires. New additions to the waste tire management program included financial assurance requirements for accumulators, processors, and transporters of waste tires, grants for projects that manage waste tires, and a report from the Energy and Environment Cabinet (Cabinet) regarding the effectiveness of the program. The 1998 legislation set an expiration date of July 31, 2002 for the collection of the $1.00 fee on new motor vehicle tires sold. However, the 2002 General Assembly extended the fee for an additional four years. The extension passed both houses unanimously. The General Assembly extended the program for another 4 years during the 2006 legislative session.

The fee is collected from consumers by retailers and paid monthly to the Revenue Cabinet. The Energy and Environment Cabinet is to use the fee to implement the waste tire program, including the waste tire amnesty program, and to fund grants to manage and develop markets for waste tires. The provisions for collection of the tire fee were to have sunset on July 31, 2010, but the waste tire fee was extended in 2010 during the special legislative session as part of the budget bill. It is set to expire on June 30, 2012.

In the 2011 regular session, the legislature passed House Bill 433 which established the Waste Tire Working Group (WTWG) in KRS 224.50-855 consisting of:
(1) The Director of the Division of Waste Management;
(2) The Manager of the Recycling and Local Assistance Branch;
(3) One representative of the Kentucky Department of Agriculture; and
(4) & (5) Two representatives of the Solid Waste Coordinators of Kentucky.

The law states, in KRS 224.50-855(5):

> (5) The Waste Tire Working Group shall:
> (a) Provide advice and input to the cabinet regarding:

1. The administration and implementation of alternative methods for controlling the local accumulation of waste tires;
2. Developing the concept of a core fee for waste tires;
3. Improving the manifest system that tracks tires from point of sale to point of disposal;
4. Developing ways to assist local governments with direct grants for waste tire disposal; and
5. Developing an informational fact sheet on proper waste tire disposal pursuant to KRS 224.50-868(2) and (7) to be made available on the cabinet's Web site and available in print upon request;
(b) Serve as an advisory body to the cabinet in the development of a formula that the cabinet will use to apportion the money in the waste tire trust fund established by KRS 224.50-880 for crumb rubber grants, tire amnesties, and tire-derived fuel, and to return a portion of the waste tire funds to local governments during Commonwealth Cleanup Week for waste tire disposal; and
(c) Provide advice and input to the cabinet on the data development and preparation of the waste tire report mandated under KRS 224.50-872.

The WTWG conducted three meetings in 2011. During the course of these meetings, the group discussed primarily the concept for a core fee for waste tires, reviewed and provided input on changes to the current Cabinet fact sheets on proper waste tire management, and received information from the Cabinet as to how certain information provided in this report is calculated. In particular, the WTWG provided advice and input to the Cabinet on a concept for a core fee for waste tires, which is provided as Appendix A. The WTWG will continue to meet in calendar year 2012 to address the items set forth in House Bill 433 from the 2011 Legislative Session.

II. Purpose and Scope of Report

KRS 224.50-872 states:

> The cabinet shall report to the General Assembly no later than January 15 each year on the effectiveness of the waste tire program in developing markets for waste tires, the amount of revenue generated and the effectiveness of the fee established in KRS 224.50-868 in funding the cabinet's implementation of the waste tire program, to include any waste tire amnesty program established by the cabinet as provided for in KRS 224.50-880(1)(b), whether the fee should be extended, comparative data on the number of waste tires generated each year, the number disposed of, the number of orphan tire piles, and the cost of tire disposal by counties in the Commonwealth.

This report discusses the items required by the law.

III. Effectiveness of the Waste Tire Program in Developing Markets for Waste Tires

A. Number of Waste Tires Generated in 2010

- According to the Cabinet's calculations, Kentuckians generated 5,400,000 Passenger Tire Equivalents (PTEs) of waste tires in 2010. There is no known statistical data base for waste tires generated in individual states, so this estimate is based on compilation of national data with subsequent proration for Kentucky based on available data on population, gasoline consumption and motor vehicle registrations, as summarized below.

- A waste tire is generated for each replacement tire sold. A waste tire is most commonly measured in 20 pound units or PTEs, which is the approximate average weight of a scrap passenger automotive tire. A light truck tire is 30 pounds or 1.5 PTEs, while a medium truck tire, such as that for a tractor-trailer, is 5.5 times heavier than an auto tire at 110 pounds or 5.5 PTEs. Conversion of tire units into a uniform weight basis (100 PTE = 1 ton) allows comparison of waste tire generation to markets that are tracked in tons. The following table defines the quantity of waste tires generated in 2010, expressed as tire units and as PTE.

2010 U. S. Generation (Millions)			
Type	Replacement Tires	PTEs	**Total PTEs**
Auto	198.7	1.0	198.7
Light Truck	27.6	1.5	41.4
Medium Truck	15.2	5.5	83.6
Subtotal	241.5		323.7
Salvage 10%	24.2		32.4
Total	265.7		**356.1**

- Waste tires are also generated from vehicle salvage operations. Junked vehicles generally have tires, some of which are recovered and resold as used tires while others are eventually disposed of as waste tires. The quantity of vehicles removed from service is available in "Wards Motor Vehicle Facts and Figures", but the assumed quantity of tires that are waste tires per vehicle is debatable. If two tires per passenger vehicle and 3 tires per truck/bus are considered waste, then waste tires from vehicle salvage operations represent about 10% of replacement tire sales. Therefore, total waste tire generation in 2010 is estimated to be 265.7 million units representing 356.1 million PTE. Sales and generation data vary by year based on economic conditions. An average

benchmark of one waste tire per person per year is often cited, but there is a 10-20% variation based on economic conditions. In 2010, actual generation was about 20% below this citation on a unit basis and about 8% above on a PTE weight basis.

- Waste tire generation is considered to be dependent upon population, gasoline consumption and vehicle registrations. The quantity of waste tires generated in Kentucky can be estimated by calculating Kentucky's percentage of each of these parameters as noted below. The statistical sources for the data are cited in each calculation. For Kentucky, the average percentage is 1.5% and the variation is + or – less than 10% from the average. This is comparatively good agreement and provides a sound basis for the estimate.

Kentucky Waste Tire Generation Calculations

Gas Use 2009 (1,000s Barrels)

KY	53,400[1]
U. S.	3,226,600[2]
%	**1.65%**[3]

Motor Vehicle Registration[3]

KY	3,584,501
U. S.	246,382,886
%	**1.45%**

Population[4]

KY	4,339,367
U. S.	308,745,538
%	**1.40%**

Average **1.50%**

Waste Tire Generation in Kentucky				
	Tire Units (Millions)		Tires PTE (Millions)	
	U.S.	KY (1.5%)	U.S.	KY (1.5%)
Replacement	241.5	3.6	323.7	4.9
Salvage	24.2	0.4	32.4	0.5
Total	265.7	4	356.1	5.3

The estimated total number of tire units generated in Kentucky in 2010, counting a medium truck tire as one tire, is about **4.0 M** tires or **0.93** tire per person per year. The total quantity expressed as PTE is 5.3 million.

The estimated number of replacement tires sold in Kentucky in 2010 is 3.6 M tire units.

B. CY 2011 and 2010 Markets

The latest national market summary prepared by the Rubber Manufacturers Association states that tire-derived fuel (TDF), ground rubber and civil engineering applications consumed a total of 72% of waste tire generated in the US in 2009. Smaller applications like electric arc furnaces, punched/stamped products, exports, baling, agricultural uses and other unknown applications consume an additional 5.7%. The remaining 22.3 % are either landfilled, monofilled or accounted for as used tires sales that are not normally included within the waste tire generation totals.[6]

TDF applications include paper, cement and utility facilities that use whole or processed tires as a supplemental energy resource, generally displacing a small percentage of fossil fuel usage in full compliance with all applicable federal, state and local environmental regulations The largest ground rubber applications include playground safety cushioning, colored landscape mulch, and athletic fields. In some states and Canadian provinces, crumb rubber from waste tires is mixed with asphalt binder to enhance performance characteristics and longevity.

For this report, the Cabinet gathered information regarding the Commonwealth's waste tire recycling markets as follows:

- Each of the major in-state tire processors was called by the cabinet contractor. The market or landfill destination and the total tonnage delivered were listed.

- Tires collected in Kentucky were differentiated from those collected out-of-state based on the processors' records and knowledge.

- Out-of-state processors believed to collect tires in Kentucky were also identified and contacted.

- The users of the tire products were called to verify the receipt of the processed tires and the landfill owners were contacted to verify disposal amounts.

For CY 2011, Kentucky was projected to recycle about 81% of its waste tires compared to about 78% nationally for 2009, the latest available year of RMA data.

The cabinet projected the amount for December based on the first eleven (11) months of data, since the contractor's report was completed on December 5.

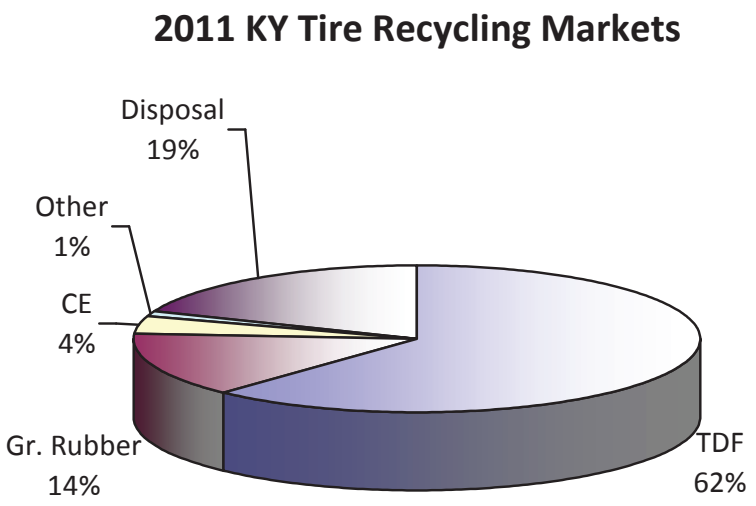
Since the processor operators and landfill owners have no knowledge of open tire dumps, the cabinet did not include the number of waste tires at open dumps in the recycling report. However, the cabinet estimates about 2.1% of waste tires could be illegally disposed in open dumps or tire piles, based on the national average of unreported markets for waste tires.[7]

The 2011 Kentucky Waste Tire Market Report follows below:

KY Waste Tire Collections 2011 (Tons)

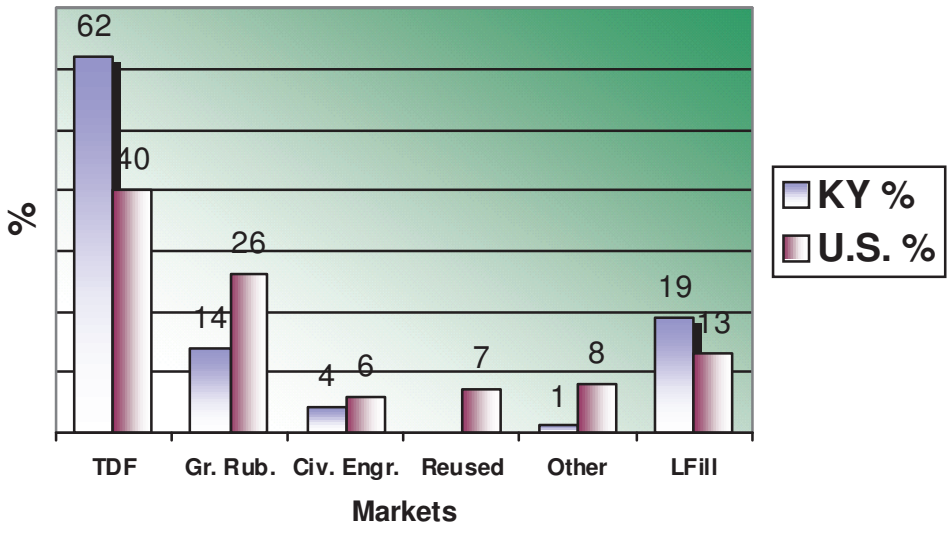
	Tires generated in Kentucky	Tires generated in other states
Collected by in-state facility owners	35,800	69,500
Collected by out-of-state facility owners	3,250	
Subtotal	39,050	69,500
Amnesty (MTR)	10,840	
Total	49,890	69,500
Projected Generation	54,000	

Collected	TDF	Mulch	Civil Engineering	Other	Subtotal Recycled	Disposal	Total
In-state	19,500	7,050	0	400	26,950	8,850	35,800
Out-of-State	750	0	1,950	100	2,800	450	3,250
Subtotal	20,250	7,050	1,950	500	29,750	9,300	39,050
Amnesty	10,840				10,840		10,840
Total	31,090	7,050	1,950	500	40,590	9,300	49,890
%	62%	14%	4%	1%	81%	19%	100%



The entire Kentucky reuse market is compared to the 2009 U.S. Market in Chart I.[8] "Other" U.S. reuses of 7% on the chart include Electric Arc (Steel) Furnace 0.58%, Exported 2.21%, Agricultural reuse 0.015%, Punched or Stamped Products 0.04%, Land reclamation projects 2.81%, and Baled tires 0.94% for a total of 6.6%, which is rounded to 7% on the chart.

Chart I: KY vs. U.S. Tire Recycling Markets

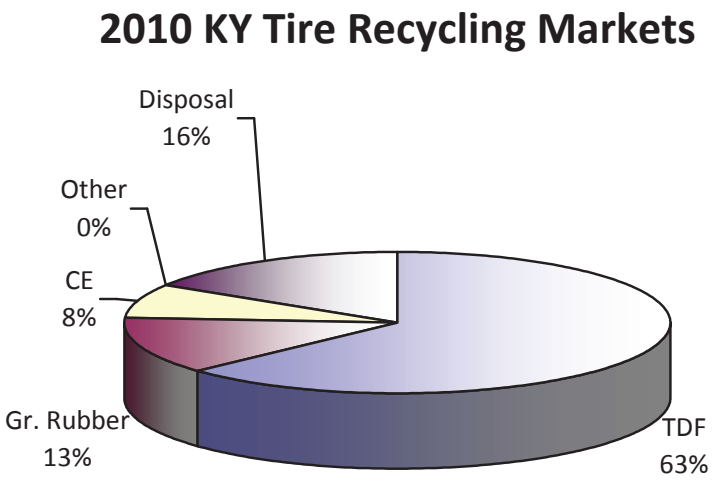


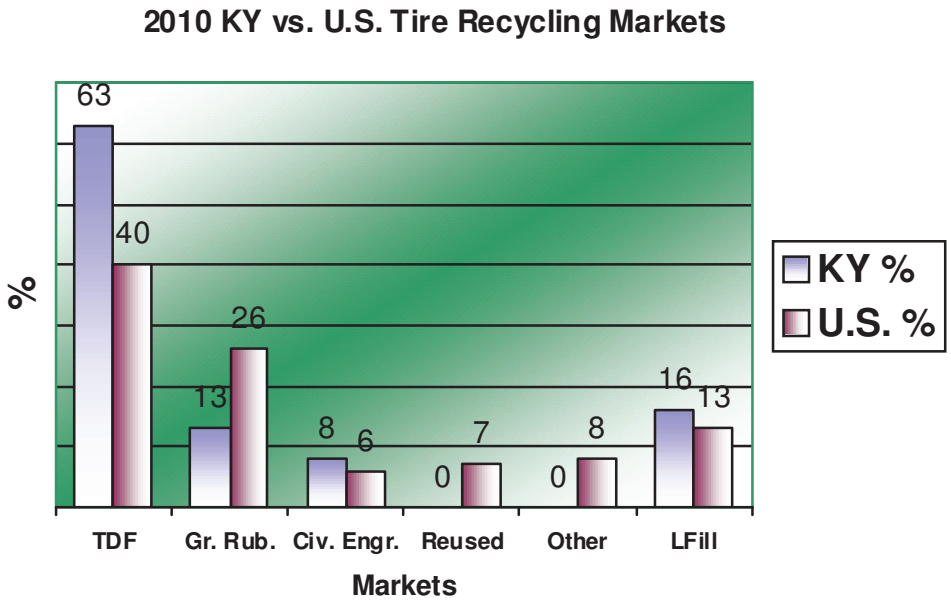
For CY 2010, Kentucky reused 83% of its waste tires:

KY Waste Tire Collections 2010 (Tons)

	Kentucky Tires	Other States' Tires
Collected in-state	34,567	64,949
Collected out-of-state	3,620	
Subtotal	38,187	64,949
Amnesty (MTR)	9,900	
Total	48,087	64,949
Projected Generation	54,000	

Collected	TDF	Mulch	Civil Engineering	Other	Subtotal Recycled	Disposal	Total
In-state	20,367	6,050	1,800	172	32,589	6,178	34,567
Out-of-State	0	0	1,840	20	1,860	1,760	3,620
Subtotal	20,367	6,050	3,640	192	34,449	7,938	38,187
Amnesty	9,900				9,900		9,900
Total	30,267	6,050	3,640	192	40,149	7,938	48,087
%	63%	13%	8%	0%	84%	16%	100%





Comparing Kentucky to other national markets, the primary differences are:

- A higher reliance on TDF (which is typical for the Southeast which averages 75% according to the 2007 RMA market report);
- Less reliance on playground mulch and ground rubber; and
- The Cabinet does not have the number of tires taken off a vehicle and reused since the tire has remaining tread life. This number is reported as "zero" but there are a substantial number of tires in Kentucky that meet this description.

The crumb rubber market is generally a higher-end market than TDF, since the properties of the original automotive tire are carried forward to the resultant new product rather than using the one-time energy value of the waste tire.

The Cabinet also surveyed each of the contained and large Construction-Demolition-Debris landfill owners/operators in the state and one out-of-state disposal facility in West Virginia to obtain the number of tons of waste tires disposed. The Cabinet then compared this number to the tonnage reported by waste tire processors as being sent to the landfill. This amount of disposed tires represents tires that were landfilled and not recycled or dumped in unpermitted tire piles.

State of Disposal		Landfill Disposal
	Tons	# PTEs
KY	7,930	793,021
WV	928	92,800
Totals	8,858	885,821
Statewide Generation	54,000	5,400,000
%	16.4	16.4

The landfill owner survey shows 7,930 tons of waste tires disposed in Kentucky landfills for CY 2010. This compares somewhat favorably with the 7,938 tons of Kentucky tires reported disposed by in-state and out-of-state processors for the same period.

One large monofill in West Virginia received 928 tons of waste tires direct from Kentucky retailers and transporters in 2010. The Commonwealth surveyed only shredders who primarily manufactured product from waste tires. Since these processors would not have managed whole tires destined for out-of-state monofill disposal, the West Virginia numbers are added to the amount of disposal reported by processors. Adding 928 tons of waste tired disposed at the West Virginia monofill to the 7,938 tons reported disposed by processors results in 8,866 tons, which is close to the 8,858 tons on the landfill report.

State of Disposal	Landfill Reported Disposal	Processor Reported Disposal
	Tons	Tons
KY	7,930	7,938
WV	928	928
Totals	8,858	8,866
Statewide Generation	54,000	54,000
%	16.4%	16.4%

There is a difference between the 4,989,000 PTEs (3,690,000 tires) reportedly handled by the waste tire processors and the 5,400,000 PTEs (4,000,000 tires) predicted by the earlier analysis. Some reasons for the approximately 500,000 PTE (300,000 tire) discrepancy may include:

- Nationally, about 2.1% of all waste tires are dumped in tire piles.[9] For Kentucky, a direct extrapolation would yield 113,000 waste tires per year illegally disposed in open dumps. Kentucky's unique continuing amnesty program, which offers to remediate newly discovered tire piles when no viable responsible party exists (landowner without preventative measures or no evidence of a dumper), sends many of these tires to recycling. The cabinet cleaned up two tire piles in FY 2011 and currently knows of one in Simpson County and another in Powell County.

- Also, the Cabinet offered $3,000 per county in FY 2011 to manage tires dumped in their jurisdictions. This popular program removed 249,312 PTEs from the environment. Kentucky also has strong county programs, including Judge-Executives, Fiscal Court members and Solid Waste Coordinators, who spearhead open dump removal at the local level. number of tires dumped and unreported is, of course, unknown.

- Some tires likely go to other out-of-state landfills. Kentuckians dispose of 9% of their solid waste in non-Kentucky disposal facilities. [10] Using that percentage, 486,600 PTEs would flow out of state, including 92,800 PTEs going to the one monofill that we contacted. Subtracting the monofill, other unreported out-of-state disposal could account for an additional 393,200 PTEs.

- Some Kentuckians likely buy some tires in one of the surrounding seven states. When comparing tire fees, the neighboring states are higher or equal except for Indiana at $0.25 per tire, Missouri at $0.50 per tire and West Virginia, which collects the tire fee on auto registrations. Illinois adds $2.50 per tire and Tennessee $1.35 apiece. Some out-of-state consumers buy replacement tires in Kentucky. On the whole, this may balance out. Please refer to Appendix B for the map of surrounding states' new tire fees or equivalent mechanism to run their programs.

- Kentucky tires may be going to out-of-state processors that are unknown to the cabinet.

- Some of the waste tires generated by salvage operations are included with the vehicle when it is compacted or shredded. As a result, the tires become part of the steel cube or the residual fluff that is generally landfilled. This volume would not be identified as waste tire material during the market analysis.

C. TDF Market Development

In 2001, Kentucky spent $454,276 on capital equipment to assist Owensboro Municipal Utility (OMU) in using TDF. Although the contract expired in 2004, OMU still used 538,300 PTEs in 2010 and 358,500 in 2011. The decrease was due to boiler down time for major maintenance unrelated to the use of TDF. In 2006, NewPage, located in Ballard County, was granted $750,000 to make improvements to its process infrastructure in order to use 3,750,000 PTEs by 2012. So far, NewPage has used 1,040,600 PTEs, including 281,200 in 2011. NewPage is expected to request an extension to the date to continue using TDF. Counting out-of-state use, TDF use has increased from about 1.1 million PTEs per year in 2001 to approximately 3.1 million today. In 2001, all Kentucky-generated waste tires went to out-of-state TDF markets. Currently, about 1,700,000 Kentucky-generated waste tire PTEs are annually used for in-state TDF markets, according to the following table:

IN-STATE TDF USAGE
(PTEs)

COMPANY	2010	2011
Kosmos Cement	83,100	1,116,800
OMU	538,300	358,500
NewPage	227,600	218,200
TOTAL	849,000	1,693,500

Kosmos Cement in Louisville, a partnership between CEMEX and Lone Star Cement, used 83,100 automotive tires in 2010, increasing to 1,116,800 in 2011. The company uses a unique tire thrower to toss whole automotive tires into the center of the kiln for a more efficient burning. The metal in the tire is incorporated into the clinker. Compliance air emission testing revealed no significant change in emissions from using waste tires and coal as opposed to only coal. The cabinet's waste tire amnesty program contractor provided most of the fuel for the kiln during 2011 with Louisville Metro government providing additional tires. Kosmos received technical assistance from the cabinet but did not use state grants in making the modifications to use waste tires.

D. Ground Rubber Market Development

The ground rubber market continues in Kentucky. Since 2004, the Commonwealth has awarded 295 grants totaling $6.5 million, primarily to schools and municipalities, for ground rubber uses. The uses are crumb rubber spread on athletic fields to increase turf life and reduce injuries.

Please see the list of crumb rubber grantees for FY 2010 and 2011 in Appendix C.

Manufacturing of ground rubber and mulch from Kentucky tires has increased from near zero in 1998 to 700,000 PTEs per year in 2011. Liberty Tire (formerly Martin Tire) in Union County manufacturers a large quantity of colored mulch for outlets such as Lowes, Home Depot and Wal-Mart. King Tire in McCreary County produces material for off-site playground mulch manufacturing. Dalton Tire Recycling (DTR) in Boyd County also produces crumb rubber for playground and horse arena use. Porter Tire in Carter County is preparing to produce crumb rubber.

As discussed earlier, Kentucky uses more TDF and makes less crumb rubber or mulch than the national average. Crumb rubber and mulch markets are higher-end uses resulting

in a more value for the final product. Eventually, the free market should direct waste tires to the crumb rubber manufacturing over TDF use. But, there are still higher-end markets that could be developed. Kentucky could focus on two new emerging markets while maintaining the playground mulch and athletic field grants:

(1) Automotive Industry: Kentucky is the fourth largest producer of trucks, and the fourth largest of cars in the U. S.[11] The Commonwealth should assist the three major automotive manufacturers in using waste tire crumb rubber in automotive parts to broaden this important potential application in Kentucky.

(2) Rubberized Asphalt: The cabinet should also request the Transportation Cabinet to consider Rubberized Asphalt. Unfortunately, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 mandated that state DOTs add crumb rubber to asphalt projects as a way to recycle waste tires. This edict resulted in many "unsuccessful" trials and a general aversion to rubberized asphalt by most state highway engineers. The edict was rescinded but the unpleasant perception remains. Now twenty years later, the rubberized asphalt industry has matured and state waste officials recognize that it is not the sole answer for waste tire recycling. Instead, several states, Canadian provinces and countries like Sweden have found that it has certain specialized uses:

- The use of ground rubber, polymers or hybrid combinations in open-graded friction course asphalt (the top wear layer of the road) decreases highway noise generation and can reduce the need for expensive noise reduction barriers in some urban areas, resulting in substantial overall savings. The open-graded structure also allows rain water to drain through the pavement surface rather than on the surface, dramatically reducing hydroplaning and impaired vision from spray. Accidents have been significantly reduced by using open-graded asphalt on accident-prone suctions of roads. Consideration of this technology by the Transportation Cabinet could benefit highway performance and economics in selected locations as well as create an additional high value market for ground tire rubber.

- In gap-graded overlays, the addition of ground rubber can increase pavement strength and longevity, resulting in better drivability for a longer period of time.

IV. Effectiveness of the Fee in Funding Implementation of the Waste Tire Program

A. Effectiveness of the Program

As discussed above, the Cabinet, along with county solid waste officials, has made significant progress in removing waste tires from the environment, funding crumb rubber grant projects, and developing markets for waste tire by using funds generated by the Waste Tire Fee. In most ways, the program has worked very well. However, as tires are continuously being generated there are still program aspects to be evaluated for improvement.

Program Successes

- Since 1998, the program has funded the removal and disposal of nearly 17.8 million waste tires at a cumulative cost of $17.7 million from 120 county amnesties held every four years and hundreds of tire stockpiles. If the *USS Nimitz* aircraft carrier was used to transport these tires, it would take about 31 loads. Two orphan tire piles were cleaned up in 2011 and currently there are two known piles.

- Removal and disposal of these millions of waste tires, which could otherwise have served as a breeding ground for mosquitoes, has been one factor that has led to a decrease in and then leveling off of the likelihood of mosquito-borne illnesses in the Commonwealth. The following table summarizes the decreased incidence of the West Nile Virus in Kentucky, some portion of which is likely attributable to the removal and disposal of millions of mosquito "incubators" in the form of waste tires in the environment.

Cabinet for Health and Family Services Report on West Nile Virus[12]

Year	Reported Cases	Reported Deaths
2002	75	5
2003	14	1
2004	7	0
2005	5	1
2006	7	0
2007	3	0
2008	1	0

The following table shows a continued low incidence rate of the West Nile Virus in Kentucky:

USGS Report on West Nile Virus (Mosquito)[13]

Year	Reported Cases
2009	3
2010	3
2011	4

B. Fee Receipts

Kentuckians buy about 3,600,000 replacement tires each year. Subtracting about 4% for internet sales[14], the Commonwealth should be collecting about $3.5M per year. Kentucky is receiving approximately $2.6 million per year, or 74% of the money that should be collected. This percentage was slightly lower than the rates of fee collection of other states such as Ohio at 75%.[15] The following table shows tire fee receipts for the last six years:

Tire Fee Receipts	
Fiscal Year	Amount
2006	$2,698,851.56
2007	$2,690,102.51
2008	$2,734,917.85
2009	$2,590,443.21
2010	$2,673,255.12
2011	$2,621,464.29

There are a number of possible explanations for the fact that not all of the fees are being collected:

- Not all retailers are collecting and/or remitting the proper amount of tire fees.
- It is likely that a fee is not being paid by trucking companies purchasing large numbers of tires through fleet sales from wholesalers.

There are other challenges with the current waste tire program:

- Individuals may choose to retain their waste tires to avoid additional fees charged by tire retailers for waste tire disposal, taking these tires out of the recycling stream. Also, these tires, or a portion thereof, may be later mismanaged and dumped into the environment which burdens counties with continual waste tire management issues. The WTWG provided advice and input to the Cabinet on a core fee concept to address individuals leaving the retailer with their used tires.

- Also, it is reported that some tire retailers charge $4-6 to encourage this practice instead of the average $1.50-2.00 tire disposal/recycling fee charged by most retailers. As an alternative, this situation could be improved by requiring the disposal price to be included in the sale price or list the actual state wide average disposal rate on a notice and let the free market handle the situation.

- Many tires collected by registered waste tire transporters are still being legally disposed of in landfills rather than being recycled. It is less capital intensive to cut or shred and landfill a tire than to install equipment required to produce a recyclable product. Some states have fixed this problem by banning all tire material, including cut or shredded tires, from landfills.

- It is highly likely that some percentage of retailers are collecting disposal fees and then stockpiling waste tires until the amnesty program is conducted in their areas.

- Some retailers are suspected of transferring tires to an unpermitted hauler who then illegally dumps them on a roadside or elsewhere. Discovering of such a pile requires a continuing response from county and/or state government to recover these tires at taxpayers' expense.

- Since tire amnesties have been conducted in each county about every four years, waste tires are sometimes accumulated until the next free disposal opportunity.

- Waste tires generated in salvage yards are sometimes brought to tires amnesties, dumped along roadsides or more often placed in the auto body before being sent to an auto shredder.

C. Expenditures

The Cabinet spent $689,884 in FY 2010 to recycle 711,306 PTEs and $707,530 for 774,799 PTEs in FY 2011. The cabinet also gave $256,461 to 117 counties to pick up and dispose of an additional 249,312 PTEs. The cabinet disbursed $351,000 in grant funding, but counties returned unspent funding of $94,539. Also, the cabinet remediated 32,726 PTEs at two piles at a cost of $32,988 as a part of the amnesties' cost. Overall, amnesties represented 13% of the total tires sent to market in FY 2010 and 20% of the market in FY 2011. The free market handled the remaining 80% of waste tires in the latter period. Please see Appendix D for more information on the amnesty program.

Below is a table that outlines the waste tire program expenditures from 2006 to 2001.

Waste Tire Expenditures							
Expenditures	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**Total**
Admin Costs	$171,711	$210,199	$360,927	$1,126,913	$967,224	$634,934	$3,471,908
Tire Amnesties	$773,301	$393,941	$1,939,703	$774,776	$1,445,838	$660,641	$5,988,200
Crumb Rubber Grants	$1,473,460	$1,201,984	$994,133	$199,458	$299,954	$400,000	$4,568,989
Commonwealth CU Week	$112,599	$105,497					$218,096
TDF Projects	$769,582		$16,661	$785	$20,941		$807,969
Davis Property				$23,940			$23,940
Tire Grants to counties						$351,000	$351,000
Cooksey Project	$1,400,000						$1,400,000
Refunds to Revenue				$1,189	$1,919	$4,340	$7,448
Budget Reduction			$500,000				$500,000
TOTAL	**$4,700,653**	**$1,911,621**	**$3,811,424**	**$2,127,061**	**$2,735,876**	**$2,050,915**	**$17,337,550**

V. Whether the Fee Should Be Extended Beyond July 31, 2012

The Waste Tire Program exemplifies the cabinet's mission of protecting human health and the environment and encouraging waste reduction, reuse, and recycling. It does so by conducting tire amnesties, cleaning up large tire dumps, and developing markets for TDF and crumb rubber. If the waste tire fee is not extended, program funds will not be available to conduct waste tire amnesties or to remove dumped tires. The crumb rubber and TDF market development programs would end. Due to shortfalls in the general fund budget, it is unlikely that another source of funds would be available to operate the program.

In states that have discontinued their scrap tire programs, waste tire dumps soon reappeared. Please refer to Mr. Terry Gray's report in Appendix E. The states were faced again with a reoccurrence of the original emergency situation which necessitated the fee, including clean up of large tire piles and elimination of scrap tire fires. Legislatures and governors were again asked to solve a problem that once was solved.

The cabinet recommends that the General Assembly extend the waste tire fee.

VI. Cost of Tire Disposal by the Counties

The Cabinet asked the waste tire processors for their charge for tire pick-up, and it generally ranges from $1 for cutting and landfilling to $1.50 for recycling.

To help the counties defray some of their expenses, the Cabinet offered $3,000 per county for waste tire disposal, somewhat similar to what has been offered for Commonwealth Clean-up Week in the past. As stated earlier, the cabinet gave $256,461 from the waste tire trust fund to 117 counties to pick up and dispose an additional 249,312 waste tires. A total of $351,000 was offered but $94,539 was returned to the cabinet. This partial funding return may indicate that counties have cleaned up most of the tire piles in certain areas.

The Cabinet also allowed some use of the litter money from the PRIDE fund to be used to pick up waste tires along roads and highways.

VII. Other Issues

Manifesting: HB 433 in the 2011 session attempted to "close the loop" regarding accountability for waste tires placed into the disposal or recycling system. Before 2011, each transporter who picked up tires from a retailer merely left a copy of the waste tire receipt with the tire retailer. Then, the processor left a copy of the receipt with the transporter. There was no requirement that the processor return a receipt to the tire retailer showing that the waste load had reached its destination and that the retailer was receiving the service that it expected. The return of a final receipt or copy of a manifest from the processor is mandated by most states. The language in KRS 224.50-874(2) was amended to say:

> A retailer, an automotive recycling dealer, and a person required to register as an accumulator, transporter, or processor who transfers waste tires to another person shall obtain a receipt for the waste tires. The final processor or a transporter who arranges for disposal or recycling out-of-state shall return a copy of the receipt for disposal or recycling to the retailer within thirty (30) days of receiving the waste tires. If the retailer does not receive the receipt from the final processor or transporter showing proof of who took final custody of the waste tires and disposed of the tires in accordance with KRS 224.50-856(1) and (2), the retailer shall notify the Division of Waste Management.

The language could be interpreted to only close the loop for retailers sending their tires out of state for disposal. In order to clarify that the language "closes the loop" regarding accountability for waste tires, in-state processors should also be required to return a copy

of the receipt to the original generator, the language should read (with additions underlined):

> The final processor, or a transporter who arranges for disposal or recycling out-of-state, shall return a copy of the receipt for disposal or recycling to the retailer within thirty (30) days of receiving the waste tires.

Free Market: As stated in the paragraph on Amnesties, the free market handles about 80% of the waste tires in Kentucky, with waste tire fee-funded programs paying for 20%. Coverage of all parts of the state by processors is necessary for the free market to work. In other words, transportation distance translates into higher costs for certain areas if a good tire processor is not reasonably near. Appendix F contains a map showing the location of major waste tire processors in the Commonwealth.

The reporting requirement in KRS 224.50-872 could be more efficient if the requirement was for a report every two years. This would allow for changes to the program to be realized before a report was due. It would also place reports in conjunction with the state budget cycle.

A change to how the department reimburses the Revenue Cabinet could close the gap between the possible $3.5 million that could be collected on each new tire and the $2.6 million currently being received.

Footnotes:

[1]U.S. Energy Information Administration, Independent Statistics & Analysis, U.S. States, Kentucky, Data, 2009, http://www.eia.gov/state/state-energy-profiles-data.cfm?sid=KY

[2]U.S. Energy Information Administration, Total Energy, Annual Energy Review, Table 5.13c Petroleum Consumption Estimates: Transportation Sector, 1949-2010, http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0513c

[3]U.S. Department of Transportation, Federal highway Administration, Policy Information, Highway Statistics 2009, State Motor Vehicle Registrations, http://www.fhwa.dot.gov/policyinformation/statistics/2009/mv1.cfm

[4]United States Census 2010, 2010 Census Data, http://2010.census.gov/2010census/data/

[6]Rubber Manufacturers Association, *U.S. Scrap Tire Management Summary 2005 -2009*, October 2011.

[7]Rubber Manufacturers Association, *U.S. Scrap Tire Management Summary 2005 -2009*, October 2011, p. 2.

[8]Rubber Manufacturers Association, *U.S. Scrap Tire Management Summary 2005 -2009*, October 2011, p.2.

[9]Rubber Manufacturers Association, *U.S. Scrap Tire Management Summary 2005 -2009*, October 2011.

[10]Kentucky Division of Waste Management Annual Report Fiscal Year 2011, p.10, http://waste.ky.gov/Annual%20Reports/DWM%20Annual%20Report%20for%202011.pdf

[11]2002 Think Kentucky, *Automobile Production in Kentucky*.

[12]Kentucky Cabinet for Health and Family Services, Department for Public Health, West Nile Virus, http://chfs.ky.gov/dph/epi/westnile.htm

[13]USGS Disease Maps 2011, http://diseasemaps.usgs.gov/index.html

[14]U.S. Census Bureau News, November 17, 2011, http://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

[15]Ohio Environmental Protection Agency, Division of Solid and Infectious Waste Management, State Solid Waste Management Plan 2009, p. 76, http://epa.ohio.gov/LinkClick.aspx?fileticket=7dqcFOrOZg0%3D&tabid=1763

Appendix A: Advice and Input from the Waste Tire Working Group

ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-6716
http://waste.ky.gov

Leonard K. Peters
Secretary

November 18, 2011

Dr. Leonard K. Peters, Secretary
Energy and Environment Cabinet
500 Mero Street
12th Floor, Capital Plaza Tower
Frankfort, KY 40601

RE: October 31, 2011 Waste Tire Working Group Meeting

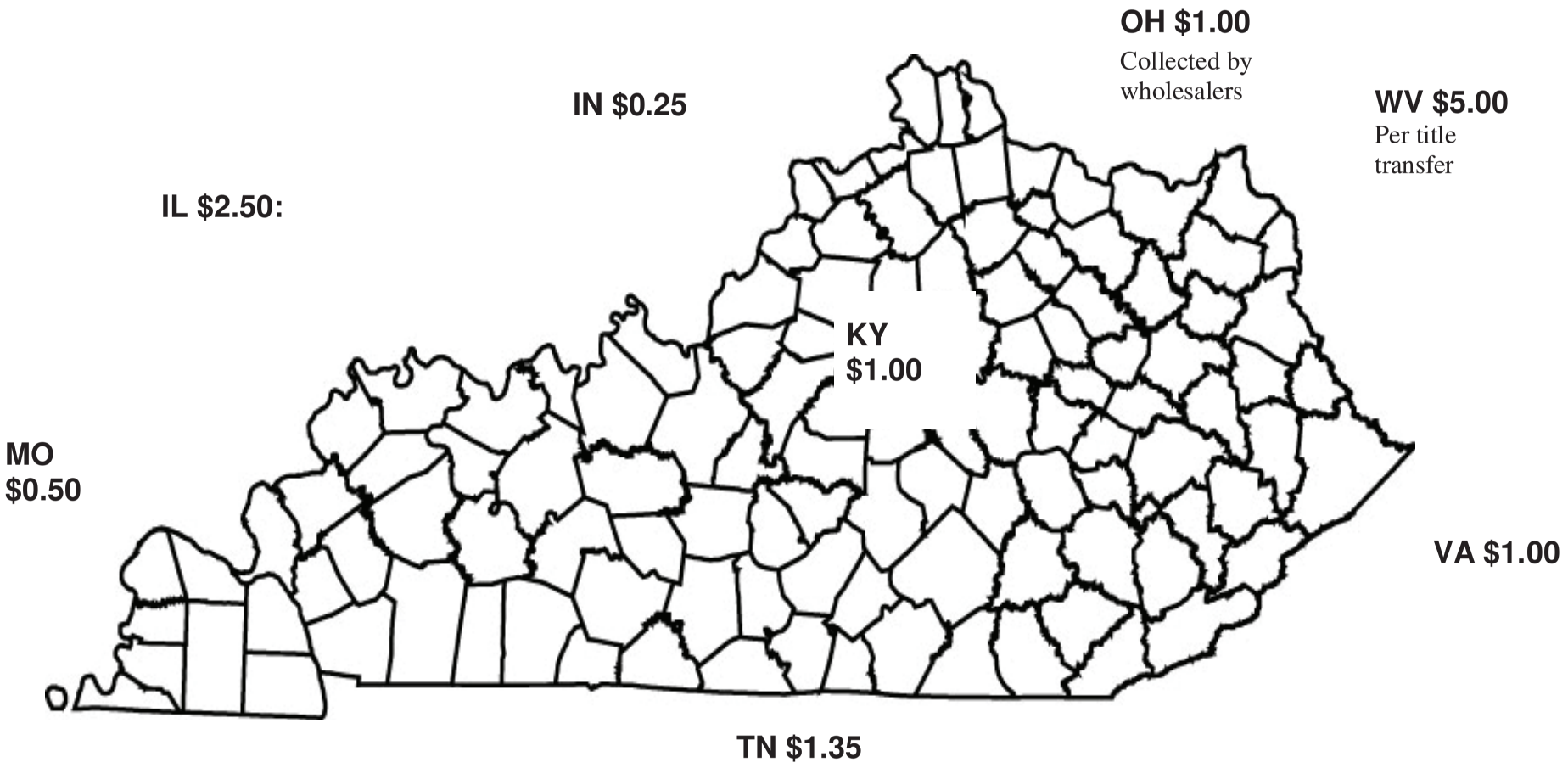
Dear Dr. Peters:

The Waste Tire Working Group (WTWG) conducted a meeting on October 31, 2011. During the meeting the group acted by motion and vote regarding KRS 224.50 Section 1(5)(a)(2) which sets forth its responsibility to provide advice and input to the Cabinet regarding development of the concept of a core fee for waste tires. Therefore, in my capacity as chairman, the WTWG hereby submits to the Cabinet the attachment entitled "Core Fee Proposal: Example in Action" as advice and input in the development of a core fee concept for waste tires.

Sincerely,

Anthony R. Hatton, P.G.,
Chairman

Waste Tire Fee: Surrounding States



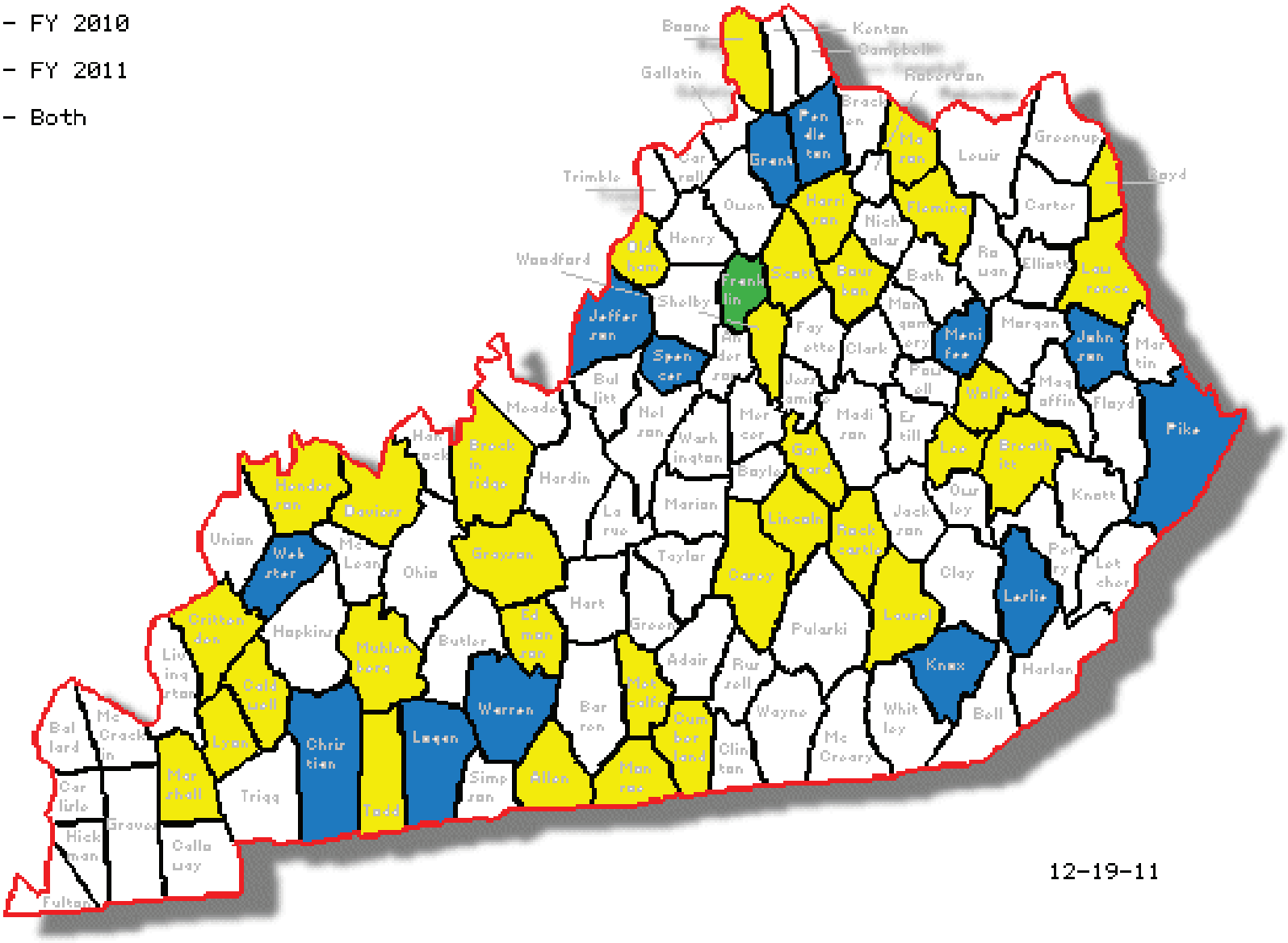
Appendix C: List of Crumb Rubber Grants

FY 2010 Crumb Rubber Grants					
COUNTY	**APPLICANT**	**LOCATION**	**AREA**	**REQUESTED**	**AWARDED**
Christian	Pennyroyal Mental Health-Mental Retardation Board	Pennyroyal Center	Playground	$ 5,100.00	**$ 5,100.00**
Franklin	Frankfort Independent Schools	Second Street School	Playground	$ 8,758.62	**$ 8,758.00**
Grant	Grant County Board of Education	Elementary Schools	Playgrounds	$ 74,250.00	**$ 24,360.51**
Jefferson	Jefferson County Board of Education	Pleasure Ridge Park High School	Baseball Field	$ 55,451.25	**$ 35,000.00**
Johnson	Paintsville Board of Education	Paintsville High School	Multi-Use Athletic Field	$ 22,500.00	**$ 22,500.00**
Knox	Knox County Board of Education	Jesse D. Lay Elementary School	Playground	$ 29,981.25	**$ 29,981.00**
Leslie	City of Hyden	River Front Park	Playground	$ 33,786.34	**$ 33,786.00**
Logan	City of Russellville	Russellville-Logan County Memorial Park	2 Playgrounds	$ 16,384.49	**$ 16,384.49**
Menifee	Menifee County Board of Education	Botts Elementary School	Playground	$ 44,310.00	**$ 29,355.00**
Pendleton	Pendleton County Schools	Southern Elementary School	Soccer Field	$ 31,125.00	**$ 31,125.00**
Pike	Pike County Board of Education	East Ridge High School	Football Field	$ 22,500.00	**$ 22,500.00**
Spencer	Spencer County Public Schools	Taylorsville & Spencer County Elementary Schools	2 Playgrounds	$ 19,254.00	**$ 19,254.00**
Warren	Family Enrichment Center	Wee Care Childcare Center & Family Enrichment Center	2 Playgrounds	$ 7,646.75	**$ 7,646.00**
Webster	City of Wheatcroft	Wheatcroft Community Park	Playground	$ 14,250.00	**$ 14,250.00**
				$ 385,297.70	**$300,000.00**

FY 2011 Crumb Rubber Grants					
COUNTY	**APPLICANT**	**PROJECT**	**AREA**	**REQUESTED**	**AWARDED**
Allen	Allen County Fiscal Court	Road Side Park	Playground	$23,440.00	$23,000.00
Boone	City of Florence	Stringtown and Boone Co. Veterans Mem.	Fit./Landscape	$15,280.00	$13,400.00
Bourbon	Room to Grow Learning Center	Room to Grow Learning Center, Inc.	Playground	$17,649.00	$13,200.00
Boyd	Rose Hill Christian School	Rose Hill Christian School	Playground	$21,700.00	$14,500.00
Breathitt, Lee & Wolfe	Middle Kentucky Community Action Partnership, Inc. Head Start	Middle Kentucky Community Action Head Start	4 Playgrounds	$23,780.00	$23,700.00
Breckinridge	City of Hardinsburg	Hardinsburg City Park	Playground	$3,670.00	$3,600.00
Caldwell	City of Princeton	Princeton City Park	Playground	$16,500.00	$16,500.00
Casey	Casey County Board of Education	Jones Park Elementary	2 Playgrounds	$117,161.00	$10,200.00
Crittenden	Crittenden County Fiscal Court	Riverside Park at Dam 50 Rec. Area	Playgrounds	$8,625.00	$8,600.00
Cumberland	Cumberland County Fiscal Court	Salem Park	Playground	$8,800.00	$8,800.00
Daviess	Daviess Co. Board of Education	Meadow Lands Elementary School	Playground	$29,250.00	$10,200.00
Edmondson	Edmonson County Fiscal Court	Bee Spring Park	Playground	$43,000.00	$42,200.00
Fleming	City of Flemingsburg	Flemingsburg City Park - Foxspring Park	Playgrounds	$14,250.00	$14,200.00
Franklin	Franklin County Public Schools	Early Learning Village School	Playgrounds	$20,300.00	$6,500.00
Garrard/Lincoln	Garrard/Lincoln Solid Waste	Logan Hubble Memorial Park	Playground	$18,309.00	$18,300.00
Grayson	Grayson Co. Board of Education	Caneyville Elementary School	2 Playgrounds	$15,000.00	$15,000.00
Harrison	Cynthiana and Harrison County	Flat Run Veterans Park	Playground	$7,630.00	$7,600.00
Henderson	City of Robards	Robards City Park	Playground	$5,598.00	$5,500.00
Laurel	Little Rays of Sunshine	Little Rays of Sunshine	Playground	$2,900.00	$2,900.00
Lawrence	Trinity Christian Academy	Trinity Christian Academy	Playground	$13,820.00	$13,800.00
Lyon	Lyon County Board of Education	Lyon County Preschool/Head Start	Playground	$9,120.21	$9,100.00
Marshall	City of Calvert City	North Park	Playground	$9,275.00	$9,200.00
Mason	City of Maysville	January Park	2 Playgrounds	$9,972.30	$9,900.00
Metcalfe	Metcalfe Co. Board of Education	Summer Shade Elementary School	Playground	$6,018.75	$6,000.00
Monroe	Monroe County Schools	Joe Harrison Carter Elementary	Playground	$23,187.00	$23,100.00
Muhlenberg	Muhlenberg County Fiscal Court	Paradise Park	Playground	$12,820.00	$3,400.00
Oldham	Oldham County Fiscal Court	Wendell Moore Park	Playground	$16,796.38	$16,700.00
Rockcastle	Christian Appalachian Project	Family Life Child & Family Development	Playground	$11,000.00	$10,700.00
Scott	City of Sadieville	Angle Avenue Park & Pike Street Park	Playgrounds	$17,335.50	$17,000.00
Todd	Playschool Child Care, LLC	Playschool Child Care, LLC	Playground	$8,162.00	$8,000.00
Woodford	Woodford County Schools	Woodford County Early Childhood Center	Playground	$15,200.00	$15,200.00
				$565,549.14	$400,000.00

FY 2010-2011 Crumb Rubber Grants

- FY 2010
- FY 2011
- Both



12-19-11

Appendix D: Waste Tire Amnesties and other Remediation FY 2010-2011:

Waste Tire Amnesties and Other Remediation FY 2010-2011			
ADD	**# PTEs**	**Cost**	
FY 2010			
Lincoln Trail	301,868	$298,366	
Lake Cumberland	409,438	$391,518	
Subtotal 2010	**711,306**	**$689,884**	
FY 2011			
Lincoln Trail	301,868	$298,366	
Lake Cumberland	409,438	$391,518	
Subtotal 2010	**711,306**	**$689,884**	
Gateway ADD Spring 2011	121,504	$114,092	
FIVCO Fall 2010	69,630	$65,383	
Buffalo Trace Fall 2010	124,922	$117,302	
Big Sandy Spring 2011	174,703	$164,046	
N. Kentucky Spring 2011	163,266	$153,307	
Kentucky River Spring 2011	90,774	$93,400	
Subtotal 2011	**744,799**	**$707,530**	
FY 2011 County Grants			
# Counties			**Returned**
117	249,312	$256,461	$94,538
FY 2010 Pile Remediation	0	$0	
FY 2011 Pile Remediation			
County & Site			
Boone: Gosney	12,217	$13,730	
Lee	20,509	$19,258	
Subtotal 2011 Remediation	**32,726**	**$32,988**	

Appendix E: WASTE TIRE MANAGEMENT PROGRAM CLOSURE – PRECEDENTS/EXPERIENCE IN OTHER STATES

BACKGROUND

Kentucky's waste tire management program is generally recognized as one of the successful programs in the United States. The program, implemented by the Kentucky Department for Environmental Protection, has successfully abated most major stockpiles, established a regulatory framework that discourages new stockpile formation, and encouraged constructive applications for most of the waste tires generated annually in the state. In addition, the program has decreased dumping of waste tires by supporting regional tire collections during amnesty periods.

The program has made substantial progress towards its initial objectives. As programs mature, lawmakers in other states have initiated waste tire program modifications to reflect perceived changes in needs. Some other states have initiated program changes or allowed the program (or major provisions) to sunset because it had fulfilled its objectives and was no longer viewed as necessary. This brief summary of their subsequent experience is intended to provide perspective for Kentucky's consideration.

SUNSET EXPERIENCE IN OTHER STATES

Programs have been allowed to sunset in Oregon, Minnesota, Wisconsin, Idaho, Missouri, Texas and Washington, the first four of which were generally considered to be exemplary. Exhibit 1 summarizes major components of each of these state programs, as well as the impact of program termination, as discussed below. Washington and Missouri reinitiated waste tire management programs as a result of problems encountered without working programs.

Each program (except Idaho) regulated, licensed and monitored haulers and processors. Licensing continued in some states after sunsetting, paid for by residual tire trust funds for several years in Oregon and general/fee revenues in most other states, but monitoring is limited by available resources and by diminished administrative attention. In some cases, monitoring and enforcement shifted to counties by default with poor and non-uniform results due to financial, manpower, knowledge and political constraints. Each state completed stockpile abatement activities by declaration, rather than reality, so remaining or new stockpiles have become the unfunded responsibility of local governments. Some processor inventories have increased significantly as a result of inadequate monitoring and may become public liabilities.

Minnesota initially attempted to create crumb rubber processors and applications through aggressive loans and small grants, but repeated failures led to a practical focus on TDF and civil engineering uses. Minnesota was proactive in encouraging market development, funding studies and one-time grants/loans to identify and initiate new applications. Minnesota did not provide on-going subsidies, so processor and user economics were not negatively impacted by sunsetting. However, tire processing has consolidated into two major companies. Tipping fees have increased for tire stores not covered under national contracts. The two remaining companies are active in market development, but one of the companies has promoted civil engineering applications that represent thinly disguised monofill disposal to maintain market balance.

In contrast, Oregon, Wisconsin and Idaho controlled market development, providing on-going subsidies of $20/ton to end-users. Towards the end of its program, Wisconsin provided an additional subsidy of $20/ton to processors to consume residual trust funds. As a result, market and processing economics were significantly impacted by subsidy elimination when the programs sunsetted. Numerous processors failed and some end users abandoned TDF usage due to decreased economic incentive. Other end users encountered technical problems and abandoned usage rather than attempting to overcome the obstacles. In all three states, constructive use of waste tires has declined, as processors were unable to support problem solving at existing customers or develop new markets to replace lost customers. The constructive utilization rate has dropped from virtually 100% to about 60% in Oregon, with most of this usage attributable to one large molded rubber products manufacturer, periodic civil engineering projects and TDF export to the Pacific Rim. The decline prompted formation of a stakeholders group to explore new waste tire program alternatives to support additional market development efforts. One such proposal involved a state fee of $3.00/tire to subsidize crumb rubber producers and markets. It was not adopted, but some revised program may be considered in the future if recycling objectives are not achieved. Wisconsin's usage rate has also declined and is dependent on one major processor and two TDF users.

Texas and Washington were not considered to be successful. Texas' program had initial legislative flaws that resulted in expenditure of $75 million to process whole tire stockpiles into shredded tire stockpiles with an unfunded residual liability of over $20 million for ultimate abatement. Texas' program had been modified to encourage market development and prevent additional accumulation when renewal legislation became entangled in unrelated political debate along with over 100 other bills, resulting in failure to reauthorize and leading to program sunset. Years after sunsetting, the Texas legislature is still reluctant to revisit tire issues in spite of remaining stockpile problems, but authorized expenditure of $9.5 million from general revenue to abate two major stockpiles and support purchase of metering systems for two cement kilns. Texas claims a high rate of tire utilization, but includes "land reclamation" projects that are actually just tire monofills in abandoned quarries.

Washington's program created massive stockpiles by encouraging stockpiles as a landfill alternative, and then spent its resources attempting to abate these stockpiles (some through landfill disposal). Washington's problems were compounded by program delegation to counties, resulting in inconsistent implementation and increased vulnerability to promoters of unproven technologies as each county learned expensive lessons. Washington's program was allowed to sunset. Washington reinitiated a tire program in 2006 to avoid further environmental damage and public liability. The new program has focused on abating stockpiles, monitoring processors/haulers, enforcing tire regulations and exploring/encouraging market understanding. Kentucky's legislation, regulations and implementation avoided these pitfalls, so there is little to be learned from these sunsetted failures except the need to spend public funds for abatement, state licensing and enforcement even if there is no formal program.

Missouri's program made progress in registration, permitting, enforcement and stockpile abatement, but its renewal was stopped by legislative squabbling and special interests. For two years, there was no licensing, permitting, monitoring, or market development. The result was: (1) Remaining stockpiles grew and new ones formed, with several fires; (2) Processors accumulated large inventories of whole and processed tires with no financial assurance to prevent public liability; (3) Markets for scrap tire products decreased from 75% to 40% of annual generation with the remainder being landfilled or stockpiled. The program was reauthorized for 5 years in 2009 and is attempting to reestablish personnel and compliance with regulatory requirements as rapidly as possible. It may take 1-2 years just to restore regulatory and market conditions that existed prior to the sunset.

CONCLUSIONS

The general conclusion from the preceding discussion is that even states with successful programs have experienced difficulty in monitoring processors, controlling stockpiles, abating residual/new stockpiles, and maintaining high levels of constructive utilization after termination. In addition, processor failures and consolidation has led to decreased competition and higher tipping fees in some states. Additional funds are being provided from general revenue for abatement and monitoring in place of lost waste tire fees. States that have shifted monitoring and enforcement to

local county governments are generally experiencing poor and uneven results. Two states have chosen to reauthorize tire management programs and others are considering similar measures.

PROBABLE KENTUCKY IMPACT

Based on the preceding summary, the impact of program termination depends on altered program components. Kentucky has historically provided direct capital support to encourage new TDF users and on-going subsidies to initiate high value crumb rubber markets, so an initial assessment might indicate that the transition would not be simple. In addition, waste tire management fees provide the funding base for all waste tire related activities. The following is a brief summary of the critical issues and probable impact of program modification.

(1) Licensing, monitoring and enforcement of storage, hauling and processing operations. Based on historical experience, these functions must be maintained to prevent rapid return to pre-regulatory chaos and stockpiling. Experience in other states confirms that licensing and regulation are best performed on a uniform statewide basis. A combination of state, district and local enforcement has been effective in controlling multi-county collectors and processors, as well as efficiently implementing enforcement actions leading to abatement of identified stockpiles. In any program revision, resources should be maintained to adequately support these activities. Shortsighted savings will translate into much greater long-term public liability.

(2) County grants currently support collection facility operations, amnesty days, and small-scale cleanups. If state funding ceases, these activities will either stop or be funded by county revenues. If small-scale cleanups are not conducted, these accumulations may become larger ones. Without adequate resources, DEP cannot conduct cooperative programs with counties to remove small tire accumulations representing health hazards to residents due to West Nile Virus, Eastern Equine Encephalitis and other mosquito-born diseases as it has through amnesty program tire collections. Each reduction has a counter-balancing impact.

(3) Market development grants currently support purchases of products made from waste tires. These purchases provide the market base for the state's struggling crumb rubber producers. Sudden termination of these grants may result in failure of these companies, loss of many manufacturing jobs and a step backwards in the utilization hierarchy for waste tires. These applications have popular appeal and high exposure, so their elimination may have a negative impact on public perception. Loans for capital costs associated with initial testing and use of TDF have enhanced development of this major application in Kentucky. This funding mechanism may be used to reduce obstacles to development of other major market segments such as molded rubber products and rubber modified asphalt potentially capable of consuming significant quantities of high value ground rubber.

In summary, elimination of waste tire revenue will require development of alternative funding sources to support critical functions in order to avoid a return to pre-regulatory stockpile accumulations and low market utilization. Reduction of grants from this funding source will impact local tire tipping fees, enforcement, amnesty days, small scale cleanups, product markets, crumb rubber producers/workers/ investors and public perception of recycling applications. Changes in the waste tire program and allocations should be carefully evaluated and gradually implemented to avoid irreversible impact or disproportional long-term public liability.

EXHIBIT 1
SUNSETTED WASTE TIRE MANAGEMENT PROGRAMS

	Oregon	Washington	Idaho	Minnesota	Wisconsin	Texas	Missouri
Initiated	1987	1988	1991	1982	1986	1992	1996
Source of Funds	$1/tire	$1/tire	$1/tire	$4 added to vehicle transfer fee	$2/tire added to first vehicle registration	$2/tire	$0.50/tire
Annual Tire Generation(PTE)	4 million	6 million	1.2 million	5 million	5 million	24 million	5.5 million
Program sunsetted	1992	1994-2007	1996	1989	1997	1997	2006-08
Fee Status	Stopped	Stopped	Stopped	Continued	Stopped	Stopped	Stopped
Stockpile Abatement							
During program	Declared completed, but small piles remained	Left 1 large pile, several mid-size	Declared completed, but piles remained	Declared completed, but small piles remained	Declared completed, but small piles remained	Converted piles of whole tires into piles of shredded tires (85 million PTE remained)	Removed about 75% of known stockpiles
Since sunset	Few small piles	New piles	New large and small piles	Some large processor piles	Stockpiling at processors	Abating some piles as funds allow	New stockpiles and processor piles
Permitting/licensing							
During program	Licensed haulers, processors, storage (with financial assurance)	Loose permitting, county by county	None	Registered haulers, processors	Permitted processors	Detailed hauler/ processor registration and manifest system	Licensed haulers, processors, storage (with financial assurance)
Since sunset	Continued	Little	None	Limited, local	Permit processors, no enforcement	Same	None
Market development							
During program	$20/ton subsidy to end users	None	$20/ton subsidy to end users	Loans. Grants	$20/ton to user, added $20/ton to processor	Nothing at beginning, but grants and loans at end of program	Playground grants and market support
Since sunset	None	None	None	None	None	Two grants authorized for cement metering systems	None
Market status (% used)							
At sunset	100%	100%	100%	100%	100%	35%	75%
Current	60%	60%	40%	80%	80%	60%	40%
Funding Source since sunset	Residual Tire Fund	None	None	None	Solid waste fund	General revenue	None
Legislative Status	Task group formed to make future recommendations	Reauthorized program	Proposed legislative program, didn't pass	No activity	No activity	Authorized additional $2.0 million for grants, $7.5 for removal of 2 largest piles	Reauthorized program until 2015

PTE means passenger tire equivalent and equals 20 pounds by definition

Appendix F:

Rumpke
Cincinnati OH

Major Tire Processors