

Scrap Tire Removal in Mexico Best Practices or Practical Best?



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Topics to Be Covered

- Threats posed by scrap tires
- Extent of the problem
- Scrap Tire Management Challenges
- Border 2012 Program Goals & History
- SEMARNAT's border scrap tire pile efforts
- EPA's border scrap tire pile efforts
- Principles & Actions for Effective Programs
- Roles of Partnerships
- Conclusions



Threats Posed by Scrap Tire Piles

- Tire piles pose public health threats due to because they are used as habitat by mosquitos and other species
- Tire piles also pose threat due to fires



US and Mexico Scrap Tire Management History

- In 1990s - US begins to address its scrap tire problems
 - Then there were 1-2 billion tires in scrap tire piles and today about 250-300 million
 - Then about 25% of newly generated tires were reused/recycled and today about 80%
- Mexico has begun to address its scrap tire piles
 - Today Mexico probably has 1-2 billion tires in piles – where the US was 10-15 years ago
 - Mexico will likely benefit from US experiences



Extent of the Border Problem

- One large pile near Cd. Juarez – 5 million
- **Three large piles in Mexicali – 2 million**
- Medium to smaller size piles
 - Tijuana
 - Sonora border area
 - Scattered illegal dumping



INNOR Tire Pile - Mexicali



North view of INNOR

Northeast view of INNOR with Sempra plant in foreground →



Centinela - Mexicali

1.2 million tires



Scrap Tire Management Challenges in Controlling the Generation of Tires

- Good market for used tires in the border
- Illegally imported tires
- Illegally dumped tires
- Both US and Mexico need to improve enforcement and compliance programs



Scrap Tire Management Challenges in Increasing the Usage of Scrap Tires

- **Money** – tire fees, grants, etc. needed to operate programs and encourage alternative uses for scrap tires
- **Institutional capacity** – not enough experience people or written guidance
- **Markets** – not developed sufficiently
- **Transportation costs** – expensive to haul long distances

Role of Border 2012 Program in Scrap Tire Cleanup

- Ten year program created in 2003
- Evolved from earlier programs
- Created specific goals and objectives to address public health and the environment
- Goal 3 – Reduce Land Contamination
 - Cleanup three largest tire piles
 - Create programs to prevent new piles

Overview of the Border 2012 Scrap Tire Cleanup Programs

- Partners working together:
 - Federal, state, local governments
 - Industry, academics, and NGOs
- Committed/leveraged resources (\$0.9M)
- All border states involved
- Events held to promote cleanups
 - June 2004 in Tijuana - EPA, SEMARNAT, and others
 - November 2004 in Mexico City - sign letter of intent
 - Feb 2005 in Mexicali - commit to INNOR & Centinela

Border 2012 Contribution

- Investigate and gather information on wide range of scrap tire uses
- Provide information, technical assistance, etc. to SEMARNAT and Mexican states
- \$200,000 committed to western border scrap tire pile cleanup in 2004/2005
- EPA funded cleanup at INNOR and Centinela; efforts began in March'05 and completed in Nov'06

Border 2012 Considered a Variety Tire Reuse/Recycling Alternatives

- Stakeholders/Industry/Task Forces
 - Road paving - rubberized asphalt
 - Civil engineering
 - Crumb rubber products
 - Tire derived fuel (TDF)
 - Landfilling – least preferred
 - Many other options suggested

What did we do?

- Sent to CEMEX cement plant in Ensenada where they are shredded and used as fuel in the cement kiln
- EPA visited CEMEX Ensenada plant and found it to be a modern cement plant with technology consistent with cement plants in the US that use tire derived fuel
- CEMEX Ensenada is equipped with a fabric filter for particulate matter control, uses appropriate tire feed locations and mechanisms, and uses continuous monitoring systems

What did we learn?

- Transportation continues to be the biggest share of the cost
- Reduced costs by:
 - Using local labor, transportation (rail, trucks)
 - CEMEX did not charge for tires and worked closely with SEMARNAT and others to coordinate transfers
 - Strong political will to complete cleanup expedited work

Prevention of New Scrap Tire Piles

- Scrap Tire Management Strategy

- Cleanup will only be a temporary victory, unless newly generated scrap tires are properly managed
- If not properly managed, new scrap tires will undoubtedly end up in new tire piles
- Therefore, Border 2012 Work Groups developed a set of principles and recommend actions to ensure appropriate management of newly generated scrap tires and cleanup of existing scrap tire piles



Principles for A Scrap Tire Management Strategy

- Manage newly generated scrap tires in an environmentally sound manner
- Stockpiling tires is not a sustainable or desirable tire management outcome
- Reduce existing tire stockpiles to minimize disease threats and prevent tire pile fires
- Rely on a range of scrap tire uses and recycling to eliminate stockpiles and properly manage newly generated scrap tires
- Tire pile cleanup solutions should not create significant new environmental threats

Roles of Partnerships

- Support pilot demonstrations to encourage a wide variety of scrap tire reuse and recycling alternatives - *yancreto*
- These pilot demonstrations will benefit from active participation by stakeholder (governments, NGOs, industry, trade associations, academia) and funding sources, etc.
- Exchange knowledge and information at conferences and workshops such as this one
- **Thank you to CIWMB** for sponsoring past conferences, attendance of SEMARAT professionals, and border studies



Future Border 2012 Activities

- EPA and SEMARNAT signed Scrap Tire Management Partnership Initiative in 2006
- Work with stakeholders to implement the “Partnership Initiative” - including market development
- Complete cleanup of large tire pile (5 million tires) near Ciudad Juarez by 2010
- Continue to build institutional capacity

Conclusions

- SEMARNAT has made significant financial and resource commitments to cleanup scrap tire piles in the border region
- Cleanup of two of the largest tire piles in the border region has completed in past two years; one will take several years
- Preventing new tires piles requires working on the actions proposed in the Scrap Tire Management Partnership signed Nov 2006
- A variety of alternative uses for scrap tires is essential for a successful scrap tire program
- Participation by a variety of stakeholders is also essential for a successful program

