

# Tennessee's Waste Reduction Goal



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# Why Is A Waste Reduction Goal Important?



## **Environmental Factors**

- 1. Conservation of Tennessee's resources**
- 2. Environmental Impact**
  - ✓ **Reduce landfilling**
  - ✓ **Carbon Footprint/Greenhouse Gas Emissions**
  - ✓ **Net energy and money savings**

# Why is A Waste Reduction Goal Important?



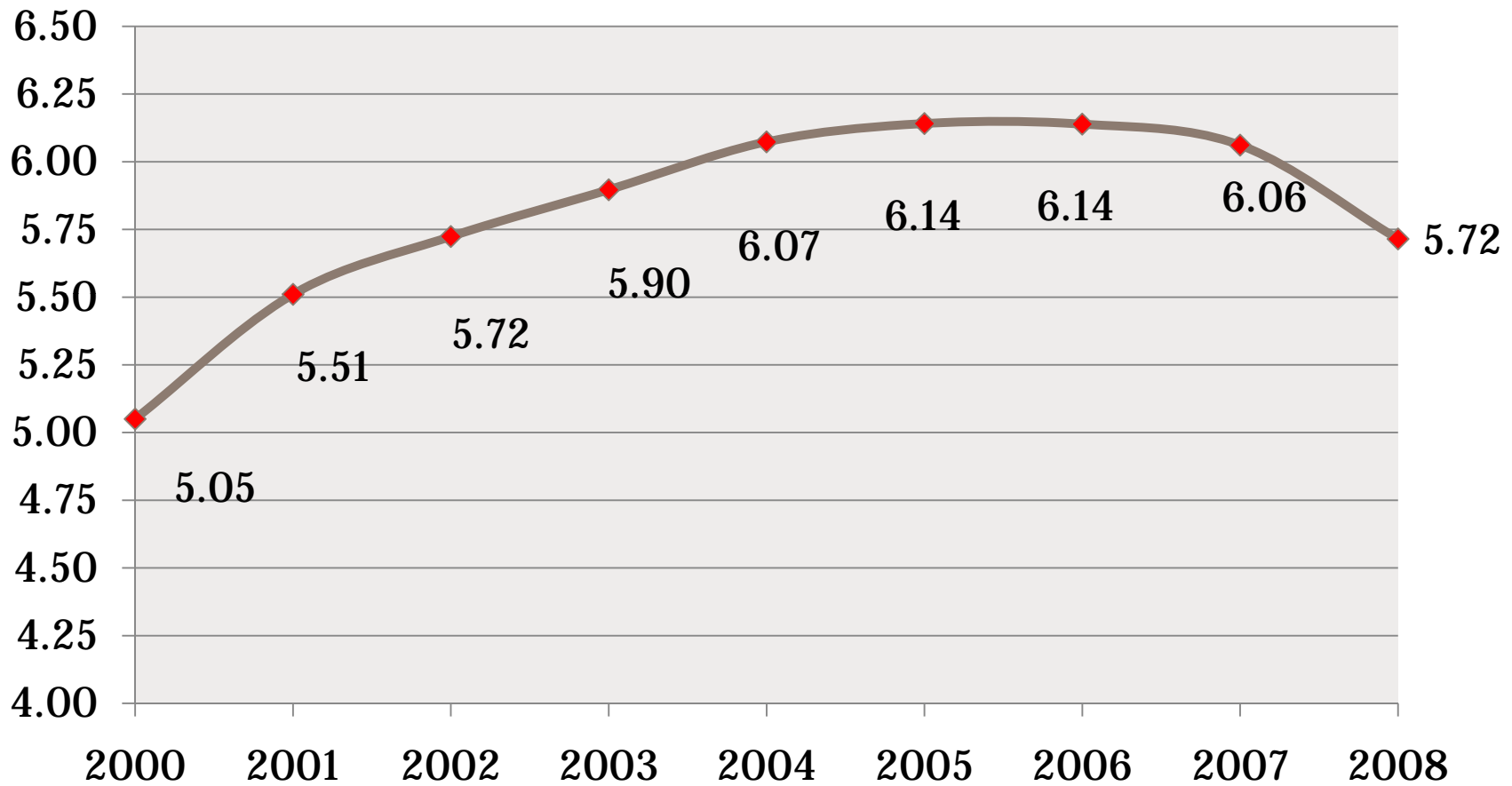
## **Economics**

- In 2008 local governments spent **\$218,172,368** on landfill disposal
- In 2008 local governments lost possible revenue of **\$612,992,634** in recyclables not reclaimed

## **Job Creation/Retention**

- 1 ton of Garbage creates 1 job
- 1 ton of Compost creates 4 jobs
- 1 ton of Recycling creates 7-10 jobs
- 1 ton of Reuse material creates 20-40 jobs

## Pounds of Waste Placed in Class I Landfills by Tennesseans Per Capita Per Day 2000-2008



Source: TDEC Municipal Solid Waste Planning Regions Annual Progress Reports 2000-2008

# Increasing Disposal



- **Increased population coupled with increase economic growth between 1997 and present.**
- **Since the late 90's per capita disposal trend has been steadily increasing.**
  - 1997 per capita disposal 0.94 (Low)
  - 2008 per capita disposal 1.04 (10 % Increase from 1997 – Bad Economy)

# Green House Gas and Energy



- **Tennessee's recycling efforts have lowered green house gas emissions by approximately 6 Million tons in 2008 based on EPA's WARM model.**
- **Tennessee's recycling is the equivalent of 1.5 million, million BTU's of energy savings.**

# Solid Waste Management Act 1991



- **Established the Solid Waste Management Fund**
- **Established Planning Regions to develop and maintain comprehensive, integrated SW programs**
- **25% Waste Reduction and Diversion Goal**
- **Statewide Services**
- **Technical Assistance**
- **Financial Assistance**

# Planning



- **68 Planning Regions**
- **25% Waste Reduction & Diversion by December 31, 2003**
- **Needs Assessments/10 Year Plans**
- **Annual Progress Reports (due March 31)**
- **Sanctions for failure to provide approvable plan.**
- **Establish and maintain a statewide database.**

# Accomplishments



- **36 Class I landfills**
- **72 Class III/IV's**
- **506 permitted convenience centers assuring Tennesseans access to disposal service.**
- **All 95 counties provide recycling services.**
- **Achieved 21% waste reduction and diversion in 2008. Qualitative assessment of 5 solid waste planning regions not meeting the goal.**
- **\$100 million for 17 grant programs for planning, recycling initiatives, equipment and recycling facilities.**

# Accomplishments

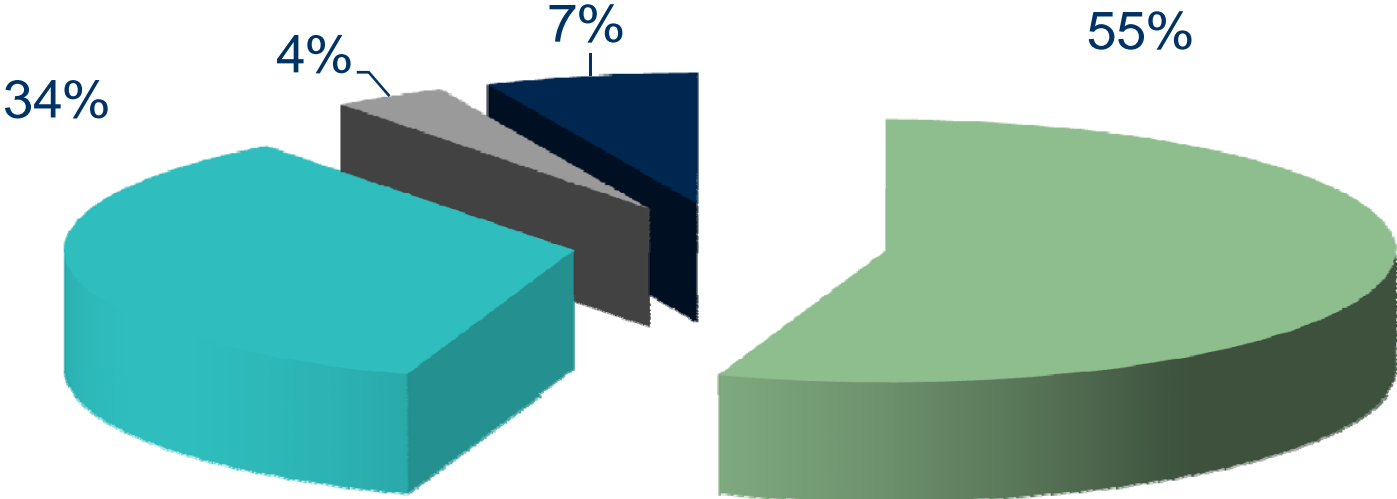


- **7.0 million tons recycled or reused in 2008**
- **1.7 million tons diverted in 2008**
- **62,778 tons of tires recycled and beneficially used annually**
- **Over 4,000 tons of electronic scrap recycled**
- **4 Permanent HHW facilities, Chattanooga, Knoxville, Nashville and Shelby Co.**
- **50 mobile HHW events/yr, serving 17,000 households with 1.2 million pounds of HHW materials properly disposed**

# Commodities Recycled in 2008 by Weight

excluding Commercial and Industrial in-house programs

■ Paper ■ Metal ■ Plastic ■ Glass



Source: 2008 TDEC Municipal Solid Waste Planning Regions Annual Progress Reports

# Accomplishments



- **Established data system to capture statewide generation, recycling, waste reduction and diversion.**
- **Established TN Materials Exchange to assist businesses to exchange materials.**
- **Established the Recycling Markets Directory to assist in locating recyclers for specific materials.**
- **Full cost accounting required to allow local governments to better determine true costs of solid waste management.**

# Accomplishments



- **Tennessee's recycling efforts reduced green house gas emissions by 6 Million tons in 2008 based on EPA's WARM model.**
- **Tennessee's Recycling efforts equal :**
  - **948,703 Passenger cars removed from roads**
  - **587,959,541 Gallons of gas saved**
  - **12,046,333 Barrels of oil saved**
  - **36,129 acres of standing forest**
  - **471,330 Homes annual emissions saved in energy usage**

## Accomplishments (Office of Environmental Assistance)



- **24,500 state employees at 114 facilities recycle mixed office papers, aluminum and steel cans.**
- **75% of State Parks have recycling programs.**
- **TNSWEP provided educational materials and training for K-12 teachers**
- **34 School Lab Chemical Cleanouts removed over 10,000 lbs of lab chemicals including mercury and formaldehyde.**

## 2007 Amendments (Public Chapter 462)



- **Solid waste handling is very dynamic**
- **Market factors and technology affect recycling and waste reduction activities**
- **Population, commercial and industrial activity and proximity to markets affect county programs**
- **SWDCB authorized to adopt rule promoting recycling and waste reduction**

## 2007 Amendments (Public Chapter 462 continued)



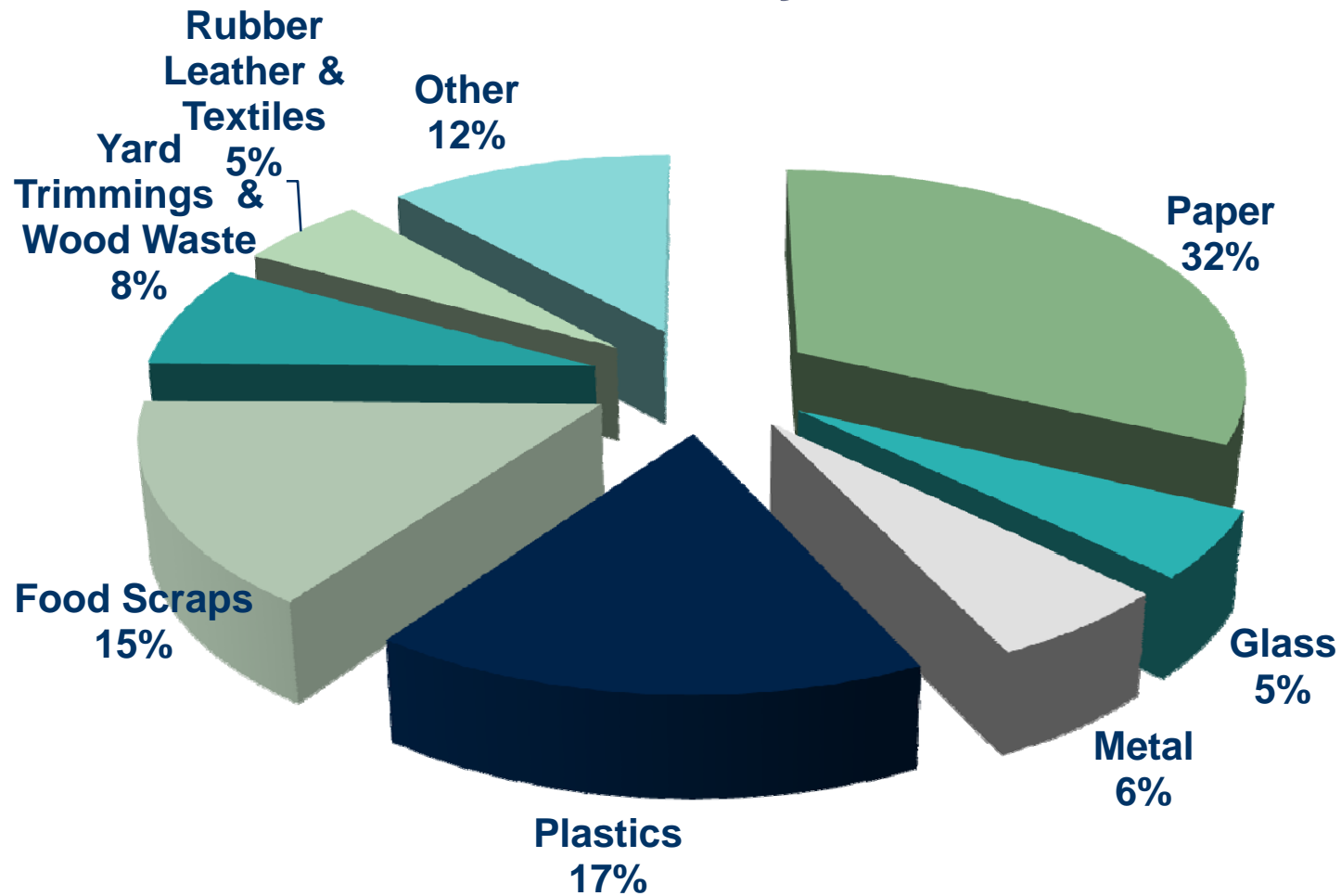
- **SWDCB shall consider incentives, disincentives, public education, costs and benefits of recycling and waste reduction**
- **Existing 25% waste reduction and diversion goal repealed when new waste reduction and recycling rules promulgated**

## Other 2007 Legislation (Public Chapter 584)



- **Municipal SWAC directed to develop recommendations by December 31, 2009.**
- **Find higher value uses for materials in the waste stream.**
- **Reduce/eliminate from landfills food waste, yard waste, radioactive waste, household hazardous waste, chemicals or other materials that decompose into a liquid or gas.**
- **Recommendations incorporated in rules for the Solid Waste Disposal Control Board**

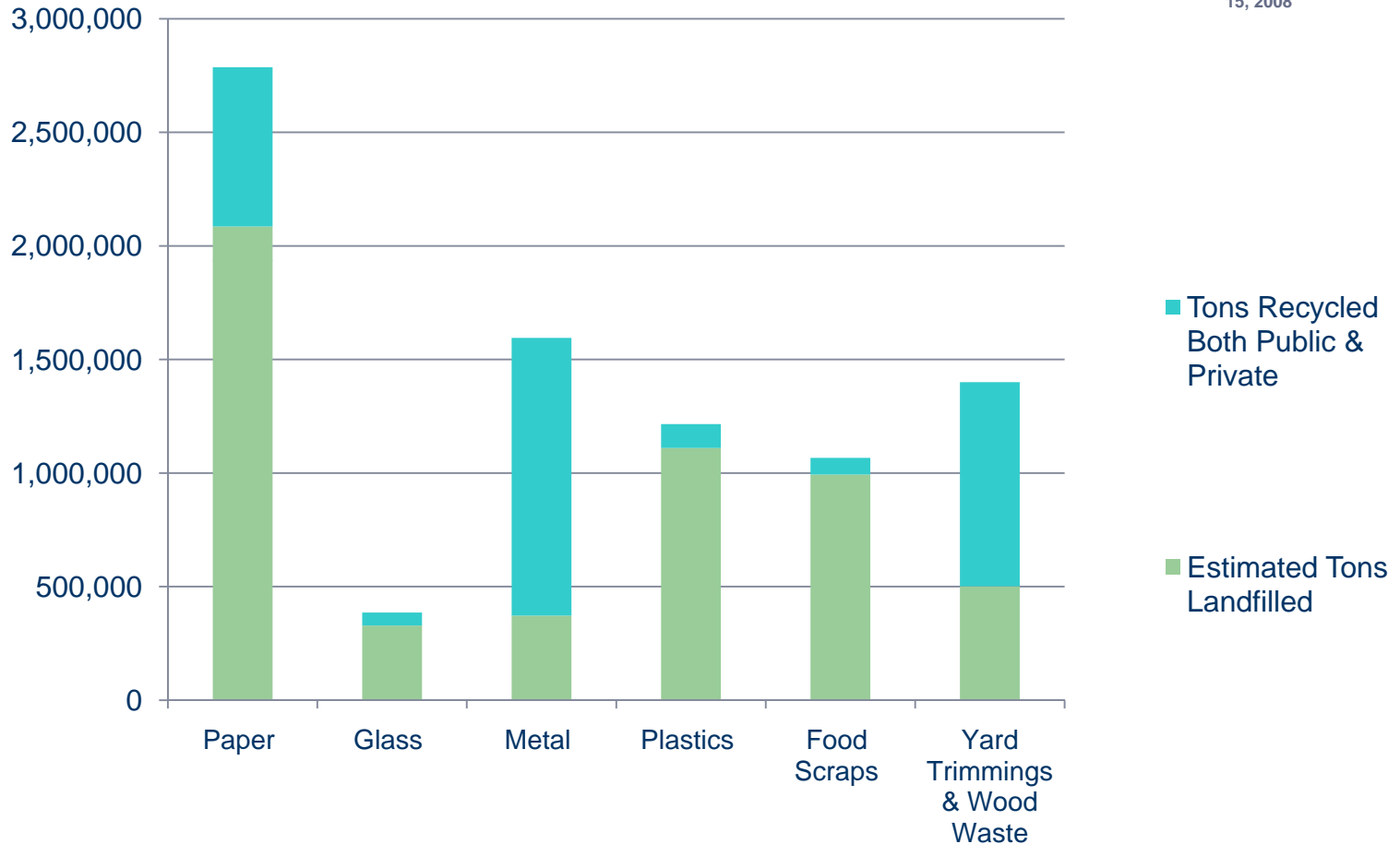
# Tennessee Class I Landfill Waste Stream Analysis



2008 Tennessee Waste  
Characterization Study  
Tennessee State University  
Department of Civil and Environmental  
Engineering  
December 15, 2008

# 2008 Tons of Waste Landfilled in Class I Landfills vs. Recycled Materials

Source: TDEC 2008 Municipal Solid Waste Annual Progress Reports & 2008 Tennessee Waste Characterization Study, Tennessee State University, Department of Civil and Environmental Engineering, December 15, 2008



**Note:** As reported to the Department, an average of 92% of all recycling originates from commercial and industrial sources. Residential recycling accounts for only 8% of all reported recycling; yet recyclable commodities accounts for over 50% of Class I disposal (source TSU study figure 5.2).

# The Process For Change



- **June 2007 SWAC appointed Waste Reduction Task Force**
- **26 Solid Waste Professionals and Local Government Officials**
- **Identified and prioritized key waste reduction issues for consideration and discussion**
- **Presentations and resources provided by national, state and local professionals**

# The Process for Change



- **Meetings - 9 Task Force, 22 Workgroup**
- **80% Consensus on all recommendations presented to SWAC**
- **June & July 2008-SWAC heard Task Force recommendations and made final recommendations to TDEC.**
- **TDEC drafted waste reduction rules**

# The Process for Change



- **September 2008- SWDCB suggested SWAC re-review draft rules due to current economic conditions**
- **March-May 2009-SWAC reviewed and recommended revised rules**
- **June 2009 - SWDCB approved draft rules for public hearing/comments**
- **February 2010 – SWDCB requested technical meetings statewide.**

# The Process for Change



- **March 2010-Conducted statewide meetings, answering questions about draft rules.**
- **June 2010-SWDCB meeting to consider approval of draft rules.**

# Waste Reduction Goal



- **The goal of the state is to reduce annually the amount of solid waste going to Class I, and Class III/IV landfills.**
- **Any generator of Municipal Solid Waste shall reduce annually its waste going to landfills to reach a level of the maximum practicable reduction.**

# Waste Reduction Goal



- **All covered local governments shall meet a 20% recycling goal and reduce waste going to landfills annually. They shall accomplish this goal within five (5) years of the effective date of the rule.**
- **The Department shall complete a survey of the private sector, to be conducted in years ending in zero (0) and five (5), to establish initially a baseline index for waste reduction and recycling activities in the private sector and then to monitor change.**

# Waste Reduction Goal



- **The Department shall review the waste reduction goal every five years and recommend amendments to this rule to provide a challenging, but reasonable, waste reduction goal.**
- **All Class I and III/IV landfills shall submit reports to the Department as required by the rule.**

# Waste Reduction Plan



- **All covered local governments shall prepare and implement a waste reduction plan.**
- **A covered local government's waste reduction plan shall be consistent with T.C.A. § 68-211-815, the municipal solid waste planning region's plan, the guidelines issued by the Department.**
- **The county waste reduction plan shall be the aggregate of the county government and all the covered local governments' waste reduction plans within the county.**

# Waste Reduction Plan



- **All municipal solid waste planning regions shall submit a waste reduction plan that is an aggregate of all covered local governments' plans within the planning region.**
- **Waste reduction plans in accordance with T.C.A. §68-211-815 will also contain at a minimum:**
  - Specific waste reduction programs currently offered;
  - A schedule of waste reduction programs and services to be offered with the implementation dates;
  - Plan for marketing commodities collected for recycling;
  - An assessment of infrastructure needed to implement the plan; and
  - A plan to manage debris during disaster situations that provides for waste reduction and diversion of material from landfills resulting from such disasters.

# Waste Reduction Plan



- **Each municipal solid waste planning region shall submit the aggregated waste reduction plan and an annual progress report to the Department as required by the Act and waste reduction rule.**
- **To implement the new waste reduction goal, the Department shall require an update of all solid waste plans to be completed by June 30, 2015.**
- **This waste reduction plan shall be a component of the region's municipal solid waste plan.**

# Comparison



## 1991 Waste Reduction Goal

- Region's as primary player
- Waste Reduction/Diversion Goal of 25%
- Class III/IV is diversion
- Vague enforcement not leading to goal attainment
- No incentives
- Businesses included
- Not centered on infrastructure

## Proposed Goal 2010

- All Tennesseans (municipal and county)
- Recycling goal of 20% (Statewide waste reduction)
- Landfilling is landfilling
- Leveled enforcement approach leading to attainment of goal
- Incentives
- Separate business goal
- Infrastructure guidance

# Waste Reduction Website

<http://tdec.net/swm/prwr/taskforce.shtml>

The screenshot shows a Microsoft Internet Explorer browser window displaying the Tennessee Department of Environment & Conservation website. The browser's address bar shows the URL <http://tennessee.gov/environment/swm/prwr/taskforce.shtml>. The website header features the TN GOV logo and the text "Department of Environment & Conservation" with "Jim Fyke, Commissioner" below it. A navigation menu on the left lists various services such as "For Residents", "For Visitors", "For Business", "About Us", "Assistance", "Permitting", "Parks & Conservation", "Publications", "Air Quality", "Land Resources", "Water Quality", "Historical Commission", "Newsroom", "Sitemap", and "Contact Us". The main content area is titled "Division of Solid and Hazardous Waste Management" and features a section for the "Waste Reduction Task Force". This section includes a detailed paragraph about the task force's formation in response to 2007 legislation, its composition of professionals, county, municipal, industry, and environmental representatives, and its objectives. A "Contact" box lists Mike Apple, Director, with his address, phone number, and email. A "Rulemaking Information" box provides links to public comments, rule summaries, and hearing notices. A "Helpful Links" box lists various reports and information updates. The right sidebar contains a "Transparency" section with links to "INRecovery.gov" and "Open Government", and a "Featured Sites" section with links to "Outreach Initiatives", "Recovery Act", and "TYA Kingston Update". The browser's taskbar at the bottom shows the Start button and several open applications, including Microsoft PowerPoint and the Tennessee website. The system clock indicates the time is 10:36 AM.

**TN GOV** Department of Environment & Conservation  
*Jim Fyke, Commissioner*

Division of Solid and Hazardous Waste Management

### Waste Reduction Task Force

In response to legislation passed in 2007, the Department of Environment and Conservation sought advice from the Solid Waste Advisory Committee on all aspects of how Tennessee manages its solid waste disposal and waste reduction efforts. In response, the Solid Waste Advisory Committee (SWAC) convened a twenty-three member Waste Reduction Task Force (Task Force) of solid waste professionals, county, municipal, industry and environmental representatives to look into the big picture of how Tennessee manages its solid waste and recycle material streams to set future goals and establish methods used to measure it.

The SWAC gave the following objectives to be addressed by the Task Force:

- To develop recommendations for the SWAC for rules, to update, change, or revise the waste reduction goal for the State.
- To define methodology to measure new waste reduction goal.

### Contact

**Mike Apple, Director**  
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(615) 532-0780  
E-mail SWM

### Rulemaking Information

- [Audio of 9/1/09 Public Comments on Rule Changes](#)
- [Audio of 9/1/09 Public Rule Summary and Question & Answer Session](#)
- [Public Comment Information](#)
- [Notice of Rulemaking Hearing](#)
- [June 09 Draft Rule Changes \(Redline version\)](#)

### Helpful Links

- [Waste Reduction Task Force Info](#)
- [2008 APR Information](#)
- [07-08 Annual Report to the Governor](#)
- [Municipal Solid Waste Planning Region](#)
- [Qualitative Reviews](#)
- [Updates and Important Information](#)
- [Map of Solid Waste Regions](#)

From Governor Phil Bredesen's Desk

- [Bredesen's Webpage](#)
- [Health Care for Kids](#)

Transparency

[INRecovery.gov](#)  
[Open Government](#)

### Featured Sites

- [Outreach Initiatives](#)
- [Recovery Act](#)
- [TYA Kingston Update](#)

### Agency Services

- [Radon Program](#)
- [Revolving Loan Fund](#)