



# Long-Term Post-Closure & Corrective Action Financial Assurances

## **An Overview of Issues Associated With the Term of Post-Closure Care**

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# How Long Is the Postclosure Maintenance Period?

## By the Book:

- Federal Subtitle D Regulations
  - 30 years
  - Can Be Shortened Or Extended by Director
  - Financial Assurance required throughout Postclosure Maintenance Period
- California Solid Waste Management Law
  - Minimum 30 years
  - Until waste no longer poses a threat

# Process Followed to Extend Financial Assurances

- Began with paper reviews and workshops in 2003
- Discussion progressed to Board Member level with public meetings and proposals
- In 2006 the California Legislature passed Assembly Bill 2296 requiring continued efforts

# AB 2296 Requirements

- **Adopt regulations** (referred to as Phase I) **by January 1, 2008**, that specify that closure and postclosure maintenance cost estimates be based on reasonably foreseeable costs the State may incur if it should assume responsibility for those activities due to an owner/operator's failure to do so;
- **Conduct a study by January 1, 2008**, to define conditions that potentially affect solid waste landfills and study various financial assurance mechanisms that would protect the State from long-term postclosure maintenance or corrective action costs;
- **Adopt regulations** (referred to as Phase II) **by July 1, 2009**, to implement the findings of the study; and
- **Develop recommendations for needed legislation by July 1, 2009** to implement findings of the study.

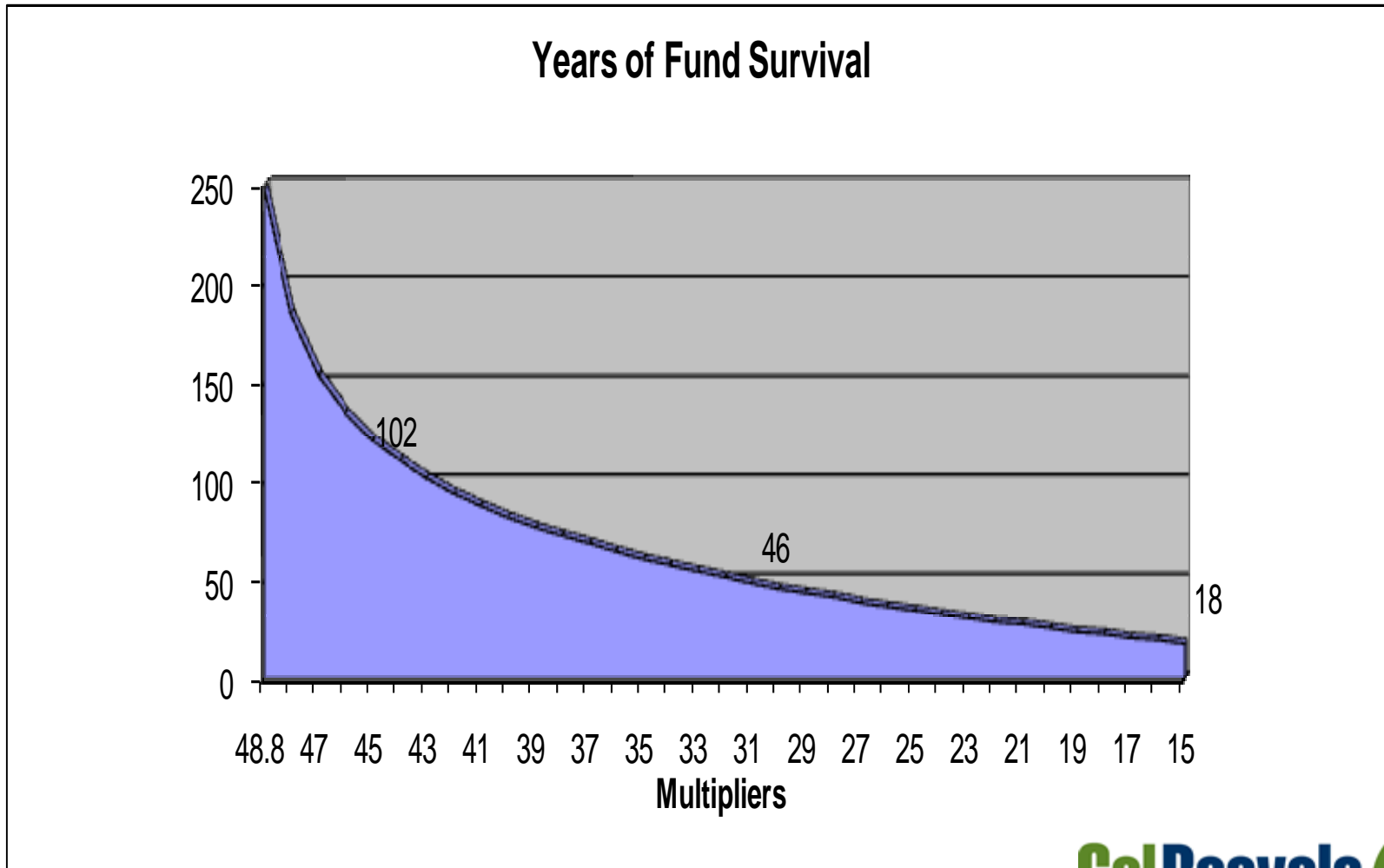
# California's Basis For Assumptions Used In Financial Exposure Modeling

## Conceptual Approach:

- Consider the **Time-Value of Money**
  - 49X provides funding indefinitely
  - 43X provides funding for 100 years
  - Below 30X compounding diminishes, by 15X essentially year for year
- Increasing above current levels may prompt **early defaults** especially by single private landfills
- Below 15X **default resulting from divestiture** becomes problematic
- Most **single private** landfills will ultimately permanently default
- Some **rural public** landfills will temporarily default
- Some level of default exposure is **inevitable** regardless of the required level of financial assurance

# How Long Will \$\$ Last?

Surplus Monies Investment Fund Rate  $\sim 4.59\%$



# Postclosure Maintenance Financial Assurance Options

## Individual Demonstrations

- Perpetual (49x Multiplier)
- 100 Years (43x Multiplier)
- Rolling 30 (30x Multiplier)
- Rolling 30-15x Multiplier
  - w/Stepdown
    - Good maintenance record
    - No CA during period
    - Enhanced monitoring
  - w/Drawdown
- Prior State Rule Allowing Reduction Over 30 Years

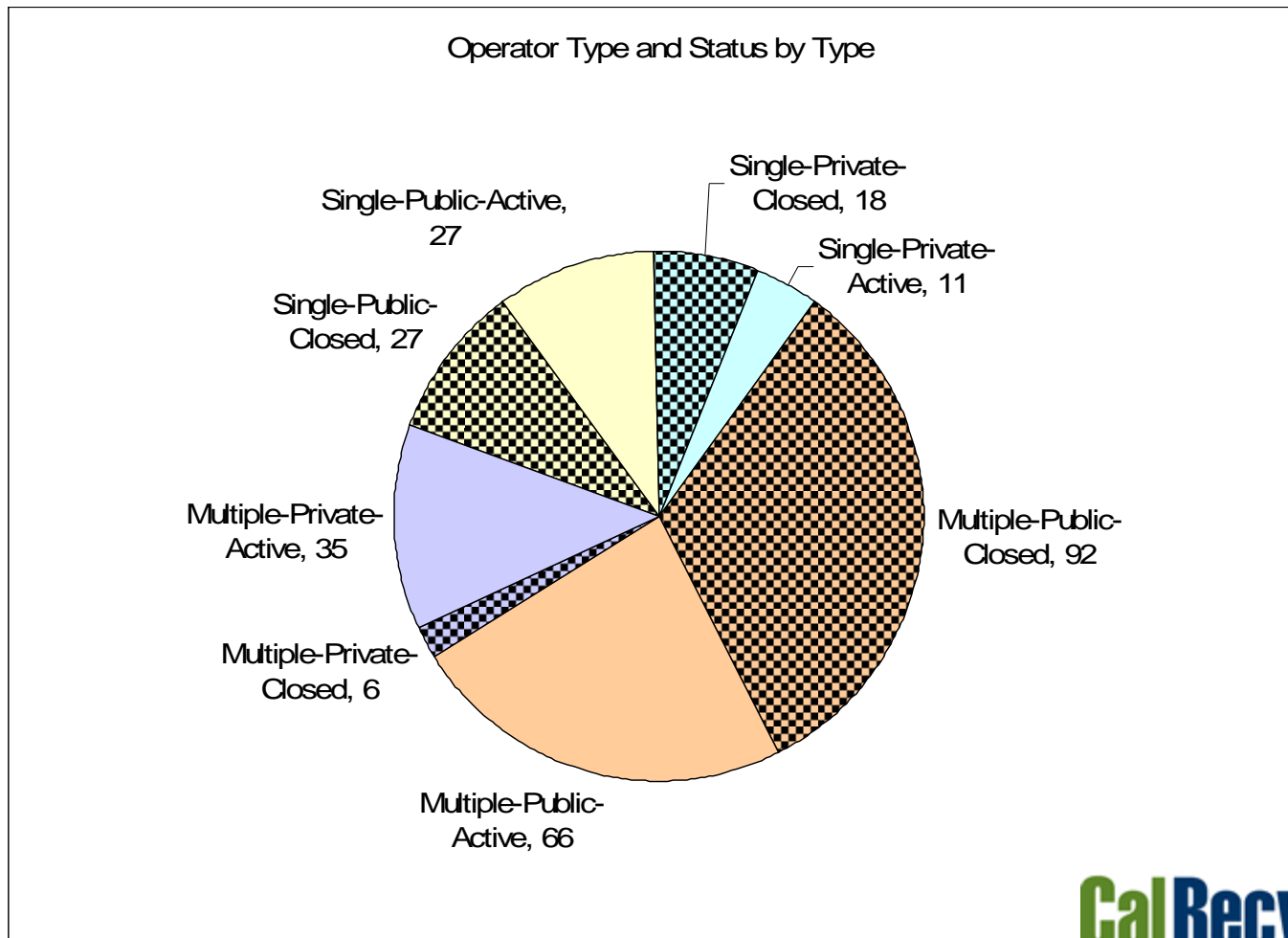
# California Postclosure Maintenance Exposure at Various Assurance Levels

Financial Assurance Multiplier	Assured Risk	Unassured Risk (PCM only)	Std	Rural Publics	Sgl Pvt	Default	Divestiture	Total
43X	\$5,590	0	\$11	\$41	\$263	\$315	0	\$315
30X	4,562	\$1,232	29	41	41	111	0	111
15X	2,972	2,748	60	41	84	185	0	185
5X	2,153	2,955	75	41	103	219	578	797
Reduction to 0X	1,822	3,172	83	41	120	244	667	911



# Landfill Profiles

## Number of Landfills (Total 282)



# Average Annual Postclosure Maintenance Costs

Landfill Size	Number	Capacity (cy)	Cost
Small	54	<0.5M	\$50,000
Medium	184	0.5-30M	\$155,000
Large	44	>30M	\$1,100,000

# Postclosure Maintenance or Corrective Action?

## Postclosure Maintenance

- Regular and Periodic Activities to Monitor and Maintain the Integrity of the Containment and Environmental Control Systems
- Listed in Postclosure Maintenance Plan
- Repair or replacement of existing items
- Add Maintenance of Known Corrective Action

## Corrective Action

- Active or Passive measures taken to constrain a release of waste, to eliminate its effects, or to prevent or minimize additional releases of waste from a landfill
- One time or unanticipated, but reasonably foreseeable
- Formal enforcement action

# California Landfill Corrective Action Survey - Summary Results

## Most Common Corrective Actions

1. Ground Water (47%)
2. LFG Migration (29%)
3. Slope Failure
4. Surface Water
5. Liner Issues
6. Waste Boundaries
7. Fires (underground and surface)
8. Erosion

# Combined Exposure at Various Assurance Levels Over 100 Years

Financial Assurance Multiplier	Assured Risk	Unassured Risk (PCM only)	Std	Rural Publics	Sgl Pvt	Default	Divestiture	Total
43X	\$5,724	0	\$564	\$67	\$369	\$1,000	0	\$1,000
30X	4,696	\$1,232	582	67	147	796	0	796
15X	3,106	2,748	613	67	190	870	0	870
5X	2,287	2,955	628	67	209	904	787	1,691
Reduction to 0X	1,956	3,172	636	67	226	929	951	1,880

# CalRecycle Regulatory Amendments

- Postclosure Maintenance
  - Previously Closed Landfills
    - Draw Down From 30X to 15X
  - Currently Operating
    - Rolling 30X
    - Step Down (in 5-year increments) to 15X, With Conditions
  - Estimate Becomes a Part of Permit Application
- Corrective Action
  - Financial Assurance For Greater of Water or Non-Water Estimate
  - Non-Water Estimate Based on
    - Replacement of Final Cover, or
    - Site-Specific Cost Estimate
  - Estimate Becomes a Part of Permit Application

# Postclosure Maintenance

- Step down criteria

During the previous 5 years:

1. Operator not subject to an enforcement order
2. Operator continuously performs proactive monitoring
3. No disbursement for corrective action
4. Postclosure maintenance activities and costs are consistent with plan

- Caveat to #1:

- Operator in substantial compliance with the corrective action order as determined by the issuing agency and remaining activities are funded

# Transfer of Ownership

- Upon transfer of ownership, require all financial demonstrations below 30X to return to 30X
- Include a waiver process by which the new operator can petition to allow less than 30X down to the old operator level
- For all new operators allows the drop down option (in 5-year increments) to 15X based on performance



# Corrective Action

- Provide for combined use of water and non-water reasonably foreseeable corrective actions financial demonstrations
- CalRecycle can enforce against non-compliance
- Regulations require operators to replenish any funds drawn upon within 5 years - applies to Water and Non-water corrective action uses
- Site-specific plan development for water related estimate
- Final cover replacement or site-specific plan estimate for non-water
  - Financial demonstration due according to a schedule that begins one year after effective date of regulations and is completed within six years of the effective date of the regulations
- Known corrective actions continue to be regulated and assured as currently required, consistent with federal rules.

# Statutory Changes

- Creation of State Solid Waste Postclosure and Corrective Action Trust Fund
  - Participation Letters must be received by CalRecycle on or before January 1, 2012
  - Participation level must represent at least 50% of the 2010 solid waste disposal
  - Election to participate is by the land owner and is irrevocable
  - Solid Waste Disposal Fee will be increased by \$0.12 per ton disposed to fund the Trust

# Summary of California Actions to Provide Financial Assurances

- Postclosure Maintenance Financial Assurances will be provided until the waste no longer poses a threat
  - Assurance levels will be between 15X and 30X of the annual costs
- Corrective Actions for all reasonably foreseeable releases will be provided proactively.
- Known corrective actions will continue to be responded to and financially assured (same as federal rule)
- State Solid Waste Postclosure and Corrective Action Trust Fund legislation has been enacted and will become operative in 2012 if landowners representing at least 50% of the 2010 solid waste disposal elect to participate.

# Contact Information

- Website - <http://www.calrecycle.ca.gov/>
- 2007 Study -  
<http://www.calrecycle.ca.gov/SWFacilities/Financial/2007Study/>
- Current Solid Waste Regulations -  
<http://www.calrecycle.ca.gov/Laws/Regulations/>

- Presenter —

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