

THE BUSINESS OF BIOREACTORS

AN INDUSTRY VIEW



ED SKERNOLIS

DIRECTOR OF GOVERNMENT AFFAIRS

EPA BIOREACTOR WORKSHOP 2/27/03



THE STRATEGIC LANDSCAPE







THE WASTE STREAM



- >80% ORGANIC
- >60% BIOGENIC
- >50% OF MOST BIOGENICS RECYCLED (newsprint, corrugated, yard waste)



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RECYCLING



- > THRIVING
- > LOW-HANGING FRUIT
- > SPECIAL ITEMS
- > TOXICS CONTROL

ECONOMIC
PUSHBACK



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POLICY CHOICES: BEYOND RECYCLING



- THE EURO APPROACH
- WTE
- COMPOSTING



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THE LANDFILL



- ~ 5,000 MMt ORGANIC WASTE IN PLACE
- >150 MMt/YR FOR THE FORESEEABLE FUTURE
- WITH 100% FOOD WASTE DIVERSION, REDUCE BY 25 MMt/YR



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THE LANDFILL

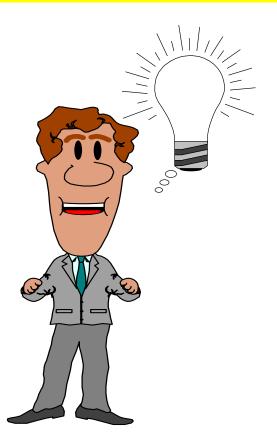


• EVEN WITH AN **IDEAL ORGANICS DIVERSION PROGRAM AT SOME** FUTURE POINT WE MAY STILL BE LANDFILLING >50MMt ORGANICS/YR



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QUO VADIS?



• HOW DO WE **BEST OPERATE** THE LANDFILL TODAY AND FOR THE FORESEEABLE FUTURE



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OUR MUTUAL EDUCATION



THE LESSONS OF **REGULATION:** CONTAINMENT **•LCS AND LEACHATE QUALITY** •LFGCS •PC CARE **METHODOLOGY**



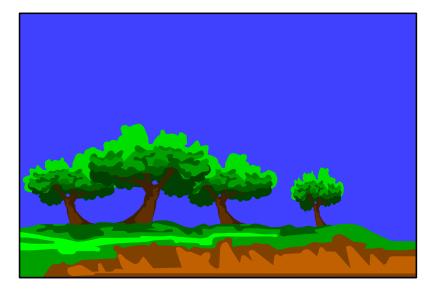
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A BETTER WAY?

STABILIZE – TREAT!– THE WASTE MASS THROUGH ACCELERATED DEGRADATION

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BENEFITS



- LEACHATE /TOXICS TREATMENT
- GAS/ENERGY RECOVERY
- LAND USE EFFICIENCEY AND REVITALIZATION
- NON-HW LIQUIDS AND BIOSOLIDS MANAGEMENT
- THE RECYCLABLE LF



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WIN-WIN!

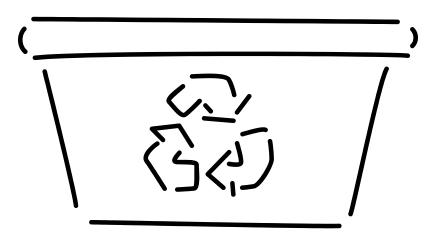


- > POST CLOSURE CARE PREDICTABILITY
- > AIR SPACE EFFICIENCY
- > LEACHATE CONTROL
- DEFERRED CONSTRUCTION COSTS
- > ENERGY SALES
- LIQUID WASTE STREAM REVENUES



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MYTH AND REALITY!

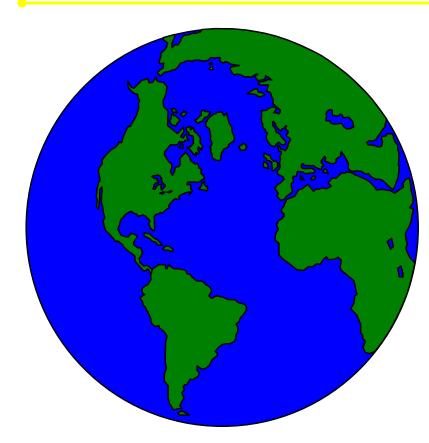


- BIOREACTORS V. COMPOSTING & RECYCLING
- LEACHATE/EMISSIONS TOXICITY
- ENGINEERING
- STATE COMPETENCE
- THE 30-YEAR ISSUE
- **RESPONSIBILITY**



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PROGRESS AND PURPOSE



- HONEST DEBATE
- **OPPORTUNITY**
- FOCUS
- DECISION RULES
- ACTION!



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