



# Reducing Emissions Across a Business Value Chain

Examples from the Pulp and Paper Sector

EPA Climate Leaders Conference

December 2, 2009



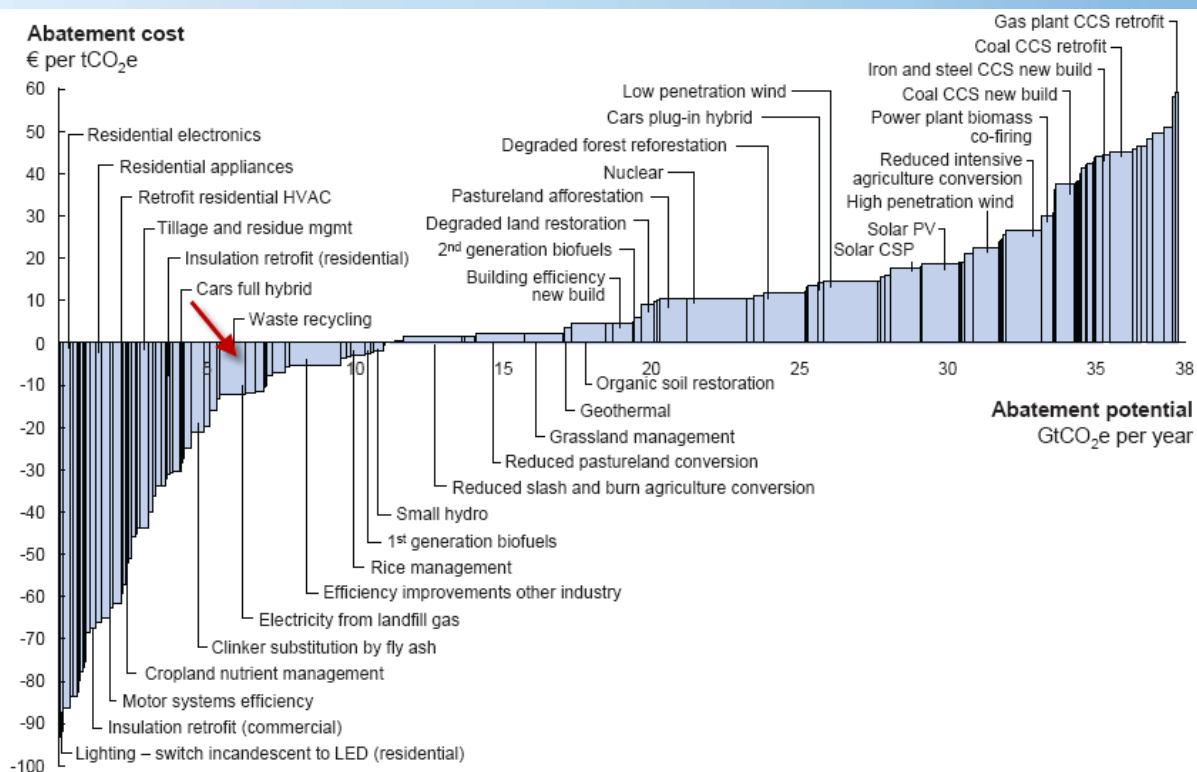
# Waste: Harmful to Environment



- 3% of total global emissions come from the waste sector
- Almost all of waste emissions could be eliminated – the majority through recycling
- Recycling reduces emissions through landfill avoidance, energy efficiency and preservation of natural resources
- Recycling could eliminate GHGs at a fraction of the cost of other traditional sources of emission abatement
- Paper is a major driver of the potential emissions reductions

# Recycling Benefits

## McKinsey Study: “Pathways to a Low Carbon Economy” Abatement Cost and Potential



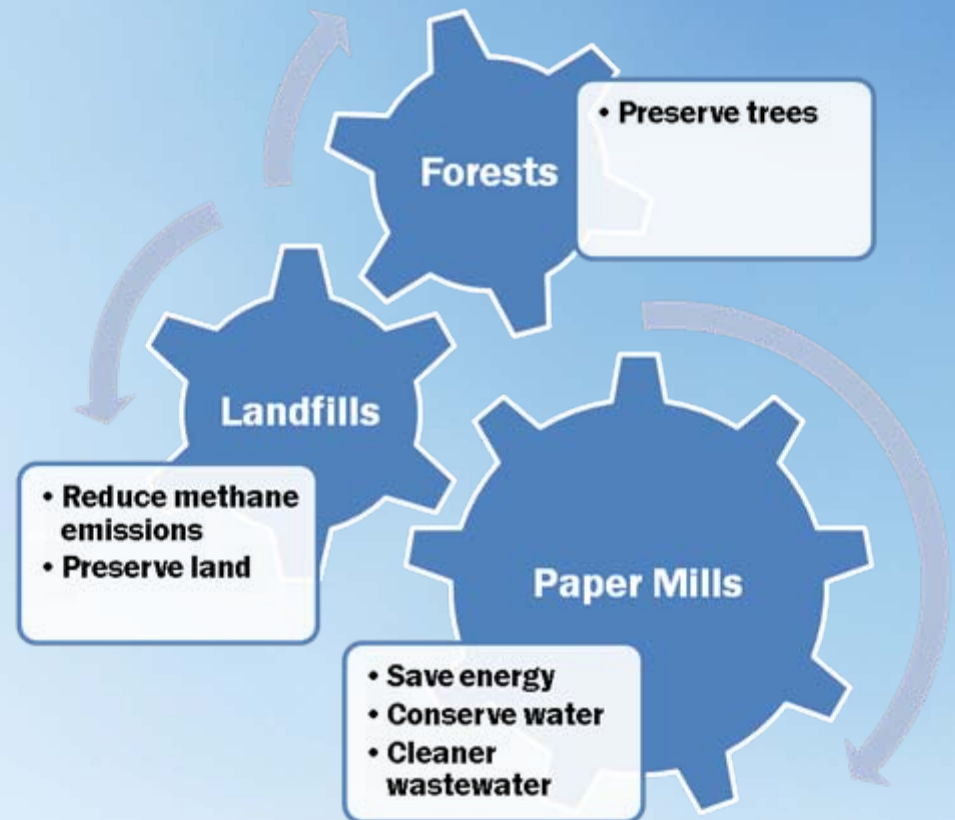
# Paper: Benefits of Recycling



**Emissions Savings:** 3.5 million MTCO<sub>2</sub>E per million tons recycled

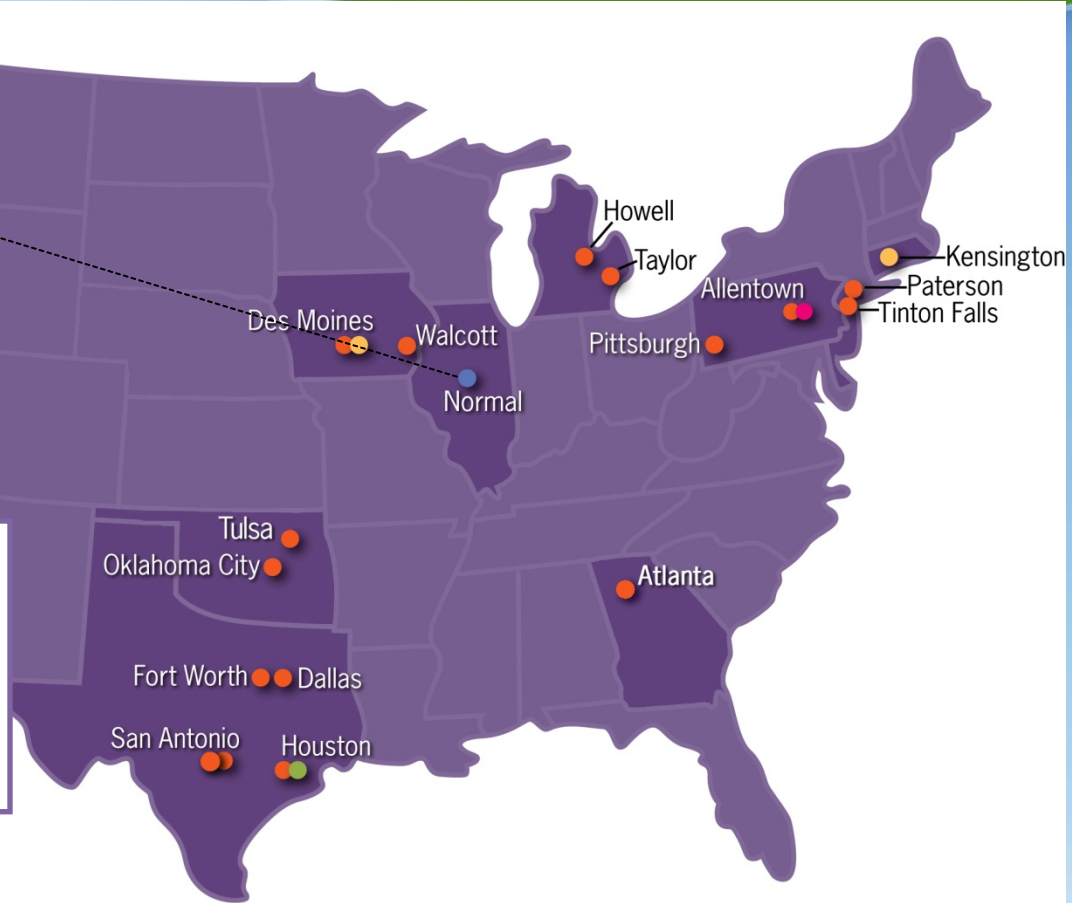
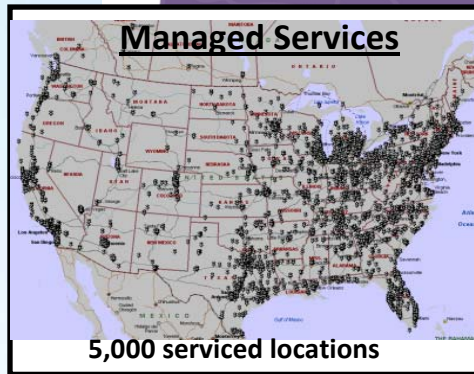
- 841,000 cars off the road
- 122,400 households' energy
- 4 million barrels of oil
- 185 million gallons of gasoline
- 2 million cubic yards of landfill

**83 million tons of paper generated per year;  
45% still goes to landfill**



- Greenstar is America's fastest growing recycler backed by one of the world's largest private recycling companies
- Headquartered in Houston; largest recycler in the State of Texas
- Currently processing 2 million tons/year in the US with 16 material recovery facilities and 5,000 managed retail and commercial locations across all 50 states
- Successful parent company business model with more than 30 years of experience: focus on renewable energy and recycling
- Innovative recycling solutions for paper, plastic, glass and metals
- Greenstar difference: No competing landfill, or paper mill assets – recycling is the core business

# Established Platform



**Doing Business with Major Customers**

**Municipalities:** San Antonio, Dallas, Austin, Pittsburgh, Des Moines, Monmouth County (NJ)

**Businesses:** Wal-Mart, Bank of America, Office Depot, Kohl's, Merrill Lynch

- Material Recovery Facilities
- Commodity Marketing
- Managed Services
- Recycled Products
- Greenstar Headquarters

# Parent Company: NTR plc



**Toll Roads in  
Ireland**

**Infrastructure  
in Ireland**

**Infrastructure  
in New  
Markets**

**Intl. Renewable  
Energy &  
Recycling**

**1980 - 1998**

**1999 - 2002**

**2002 - 2006**

**2006 →**

Applying experience from its heritage to today's global challenges

# \$710 Million Invested in US



- Controlling stake in April '08, a leading mid-west wind energy developer
- 350 MW wind capacity built; pipeline of 2,000 MW



- Controlling stake in May '08; concentrating solar generation technology and utility-scale developer; split into development and manufacturing companies



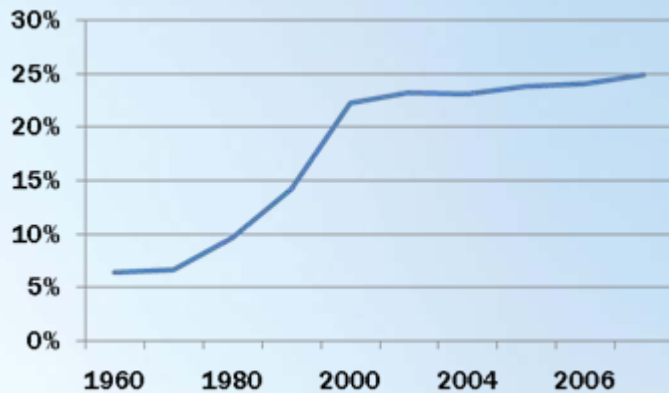
- Bought out Virgin's stake in VBV and merged with Green Plains Renewable Energy (NASDAQ: GPRE) October '08; 4<sup>th</sup> largest ethanol producer
- 330 million gallons capacity of corn-based ethanol per year



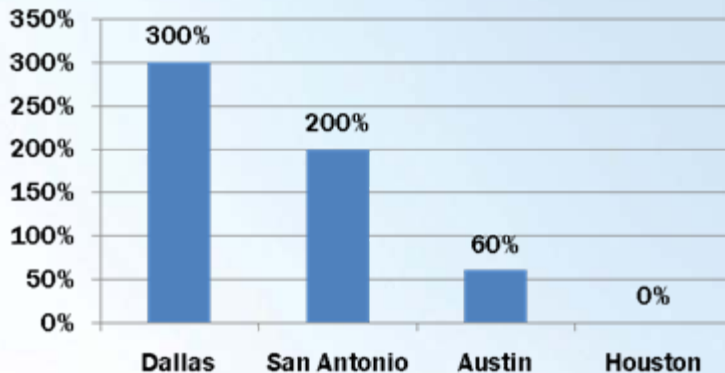
- Fastest growing recycler in US
- 3 million+ tons per annum of recycling capacity

# Recycling in Texas

## National Recycling Rate: Flat



## Texas Recycling: Growing



### Greenstar Single Stream Markets

## Greenstar Opens Largest Recycling Facility in Texas



# Conclusion



- Recycling is one of the best ways to preserve the environment and fight climate change
- Value chain works: processors, paper mills and retailers have established methods of turning old paper into new
- Recycling needs support: no black liquor subsidies, recognition of environmental benefits, inclusion in Climate Bill and similar support for other energy efficiencies
- Recycling is an established approach to reducing greenhouse gases and one of the most fiscally responsible