



Westlake Chemical Corporation

UBS Grass Roots Chemical Conference

Polyvinyl Chloride (PVC)

Presented by:

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VP & General Manager

North American Pipe Corporation

Westlake Chemical Corporation

February 16, 2005

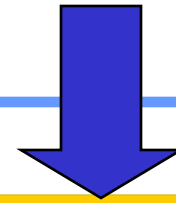


Agenda

- Westlake Company Overview
- PVC Market Summary
- PVC Pipe Industry Overview
 - Impacts on the Market
 - North American Pipe Corp.
- PVC Fence & Window Overview



Company Overview



Westlake Chemical Corp (data LTM 9/30/04)

Sales	\$1,788 million
EBITDA	\$275 million
Net Income	\$84 million

Mission Statement

- Profitable growth,
- In businesses we understand,
- Globally in areas we can gain an edge,
- In a disciplined and opportunistic manner

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Olefins

Sales	\$1,119 million
<i>% of Total</i>	63%

Product Annual capacity

■ Ethylene	2,400
■ LDPE	850
■ LLDPE & HDPE	550
■ Styrene	450



+

Vinyls

Sales	\$669 million
<i>% of Total</i>	37%

Product Annual capacity

■ PVC	1,400
■ VCM	1,900
■ Chlorine	410
■ Caustic soda	450
■ Ethylene	450
■ Fabricated products	900
■ China JV - PVC	286
■ China JV - Fab. prod.	79





Highly Integrated Producer

Raw materials

Benzene

Naphtha

Ethane
Propane
Butane

Chlorine

Power
and Salt

End Uses

Styrene
450 million lbs

Tires, latexes for
paint & coatings

Polyethylene
1,400 million lbs

Flexible Packaging
Shrink wrap
Trash bags

Ethylene
2,850 million lbs

Polyester
Antifreeze
Plastics

Chlorine
410 million lbs

VCM
1,900 million lbs

PVC

PVC
1,400 million lbs

Construction Materials
Packaging

PVC Fabricated Products
900 million lbs

Fence
Pipe
Windows & Doors

Caustic Soda
450 million lbs

Pulp & Paper
Alumina

■ Olefins

■ Vinyls

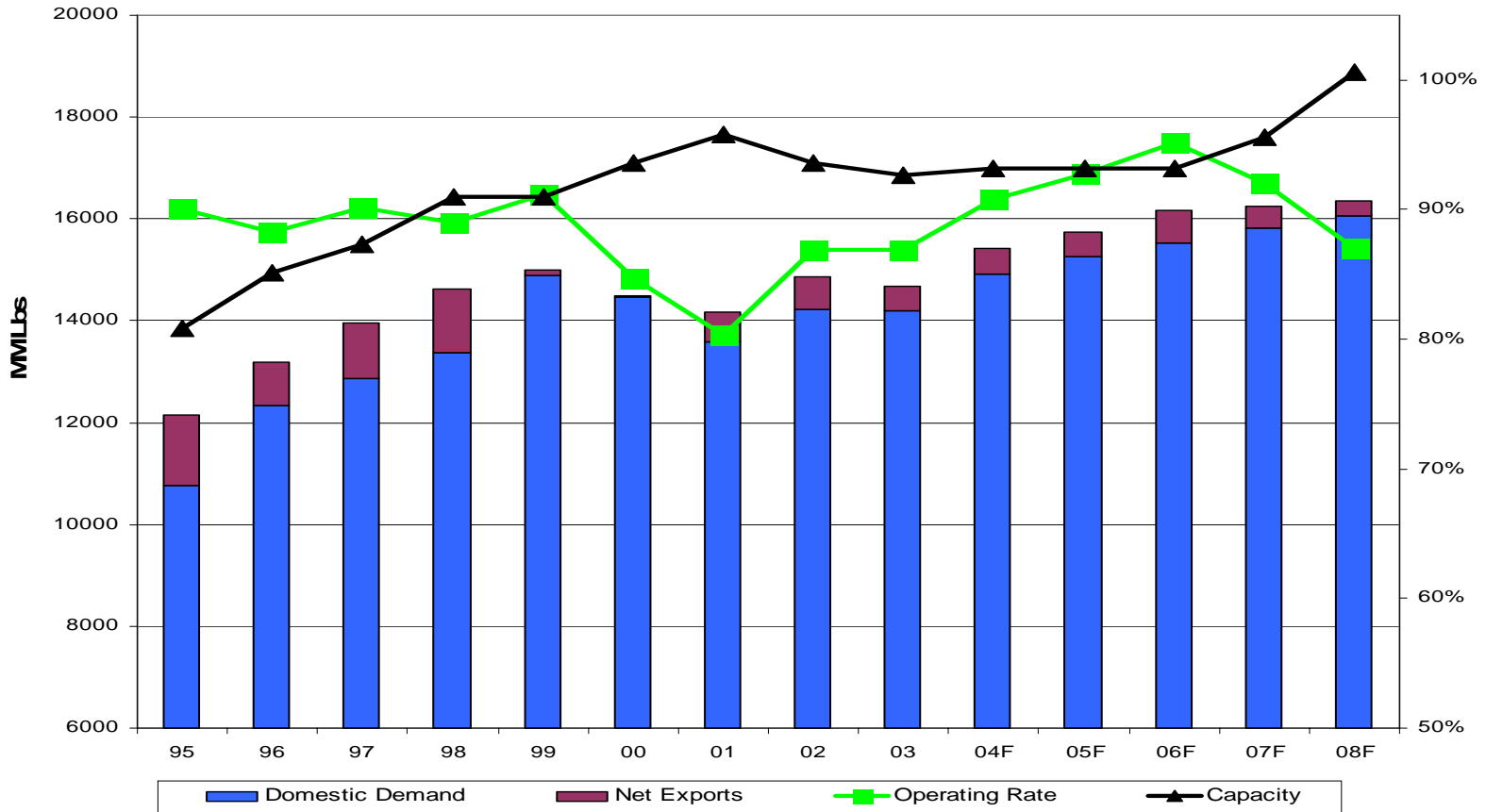
■ Olefins & Vinyls

Note: NAPHTHA capability is a future opportunity



PVC Overview

U.S. and Canada PVC Supply/Demand Balance



Source: Chemical Market Associates, Inc. (CMAI)

(07&08 Capacity and Operating Rate adjusted for announced capacity additions)



Tight Future PVC Supply in the U.S.

North American Capacity Additions

Period	CAGR in PVC Supply
1980-1989	2.4%
1989-1999	4.7%
1999-2004	0.5%
2004-2008	2.5%

Source: North American Capacity Growth – CMAI
2004 – 2008 CAGR Adjusted for recent capacity announcement

Historical Underinvestment

- Energy Price Volatility
- Industry Consolidation
- Expansion Focused in Asia
- Capital Investment Requirements

Announced Capacity Additions

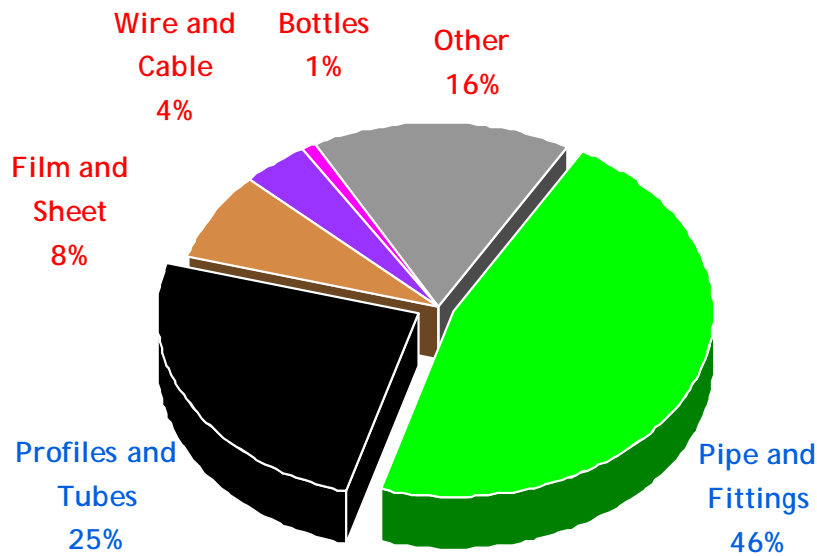
- New capacity is needed to meet projected demand growth
- Cyclical business – capacity expansion expected as margins approach reinvestment levels
- Significant investment is an endorsement of the N.A. Vinyls market



PVC Industry Overview

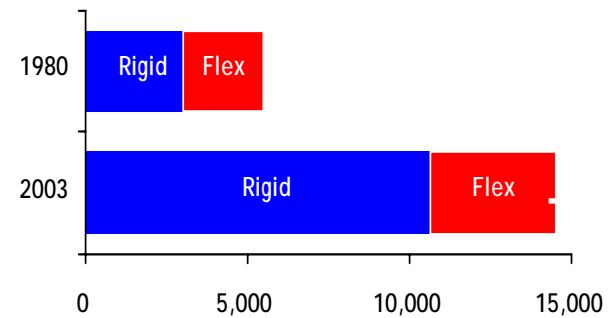
Growing Rigid PVC Market

2003 North American PVC Consumption by End Use



Total = 14,504 million pounds¹

North American PVC Demand (mm lbs.)

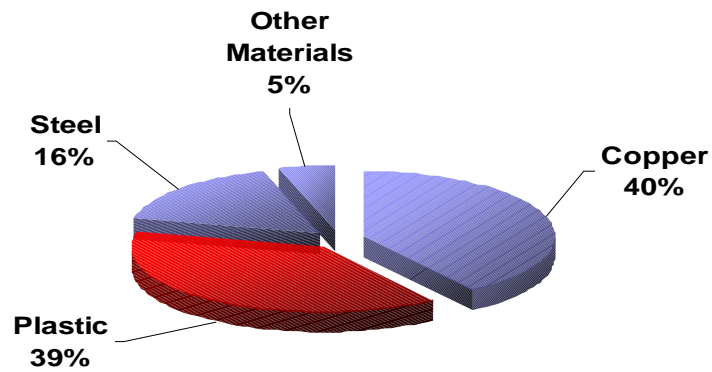


Source: CMAI ¹ Excludes consumption related to exports

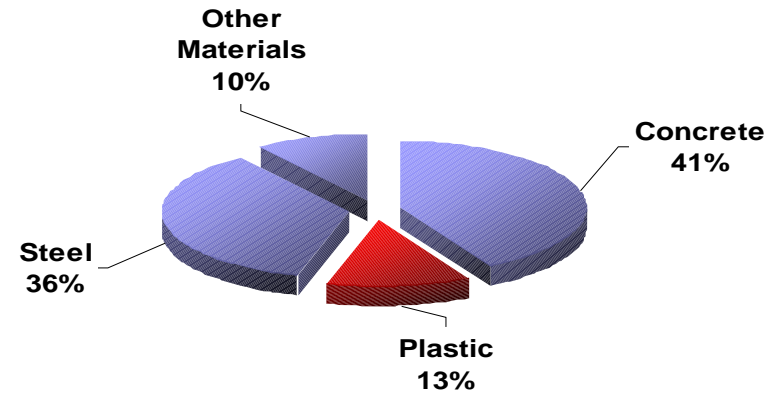


US Pipe Demand by Material, 2002

By Linear Footage (13.7 billion feet)



By Poundage (65.1 billion pounds)

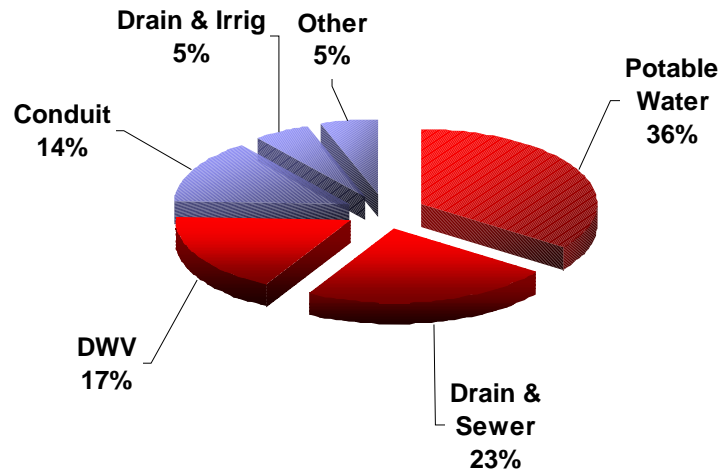


Source: The Freedonia Group, Inc., Plastic & Competitive Pipe Industry Study, Sep 2003

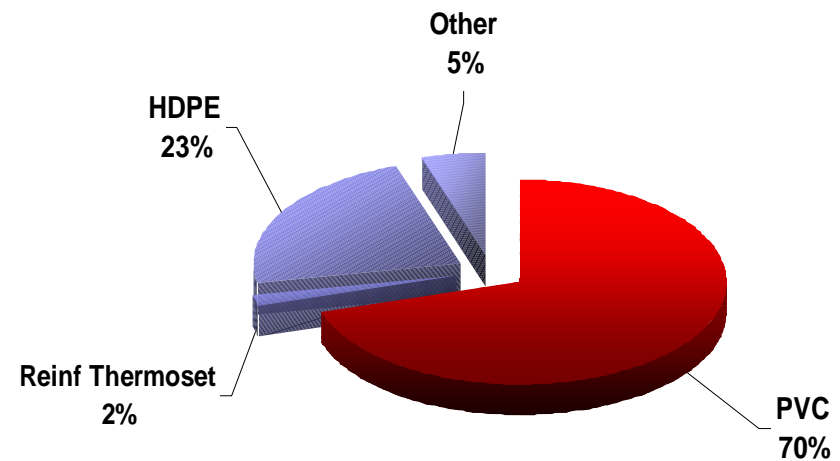


US Plastic Pipe Demand, 2002

PVC pipe market
6.5 billion pounds



Plastic pipe market
8.25 billion pounds



Source: The Freedonia Group, Inc., Plastic & Competitive Pipe Industry Study, Sep 2003



Aging and Deteriorating U.S. Infrastructure Impacts Pipe Demand

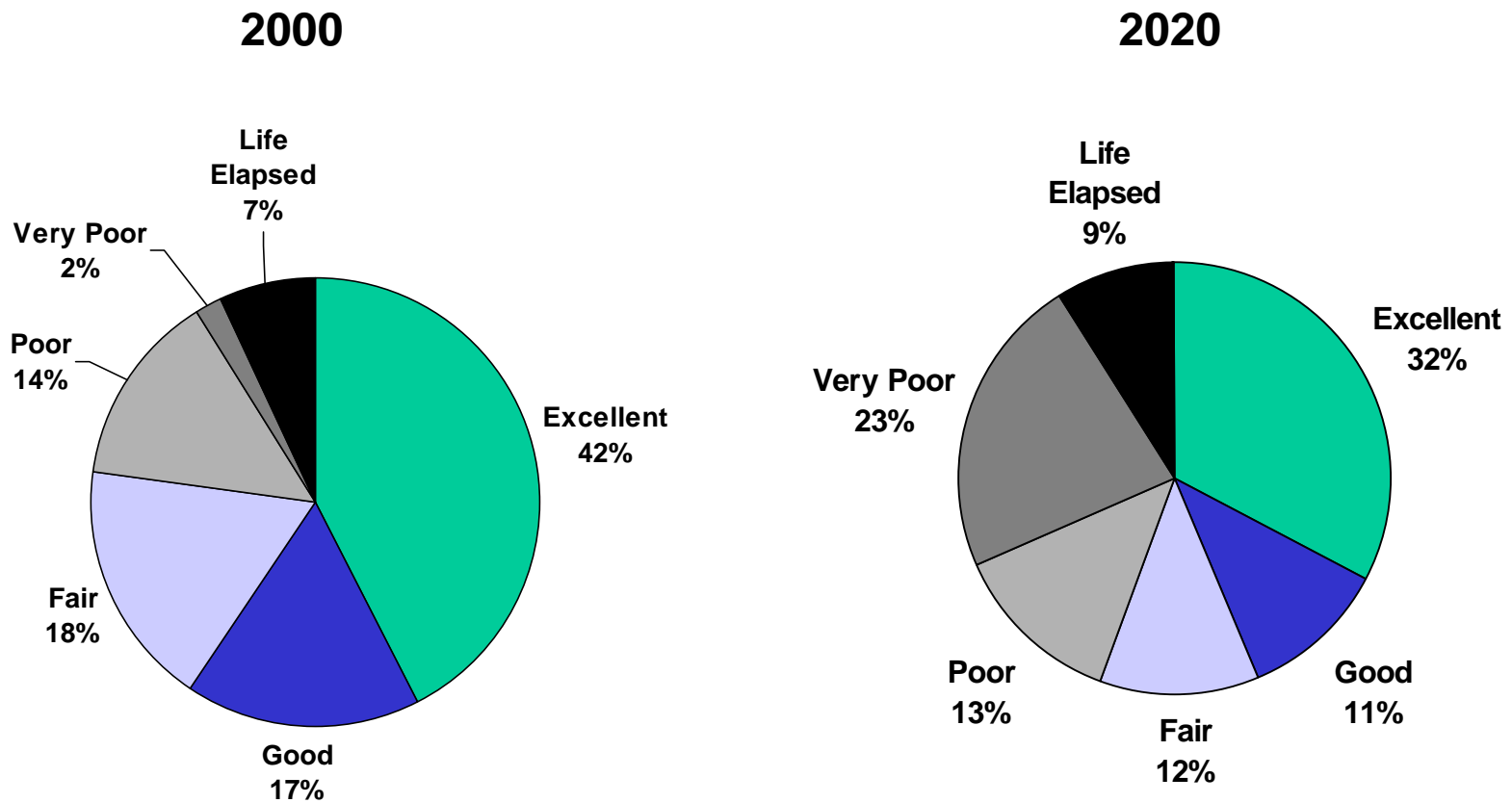
Condition of Water and Sewer Systems Deteriorates

	<u>2001 Grade</u>	<u>2003 Trend</u>		<u>2001 Grade</u>	<u>2003 Trend</u>
Roads	D+	↓	Wastewater	D	↓
Bridges	C	↔	Dams	D	↓
Transit	C-	↓	Solid Waste	C+	↔
Aviation	D	↔	Hazardous Waste	D+	↔
Schools	D-	↔	Navigable Waterways	D+	↓
Drinking Water	D	↓	Energy	D+	↓

Source: *2003 Report Card for America's Infrastructure*, American Society of Civil Engineers



Water System Aging Impacts Pipe Demand!



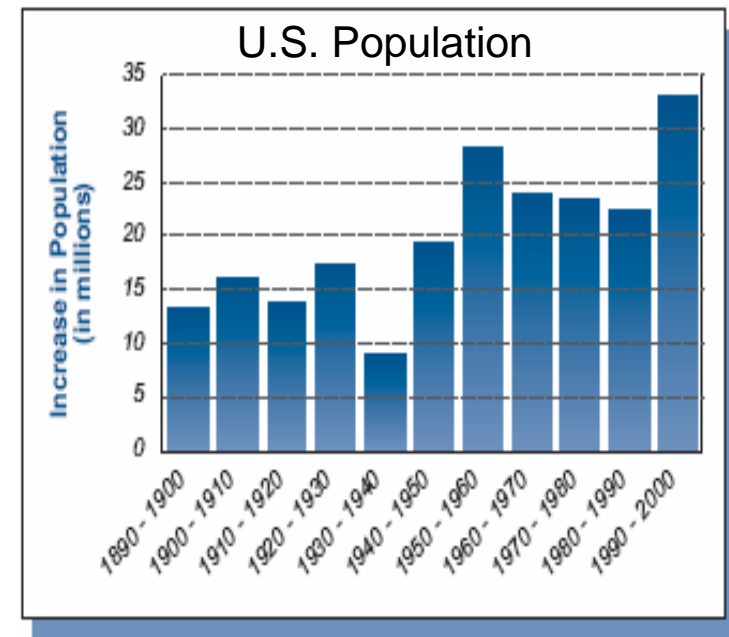
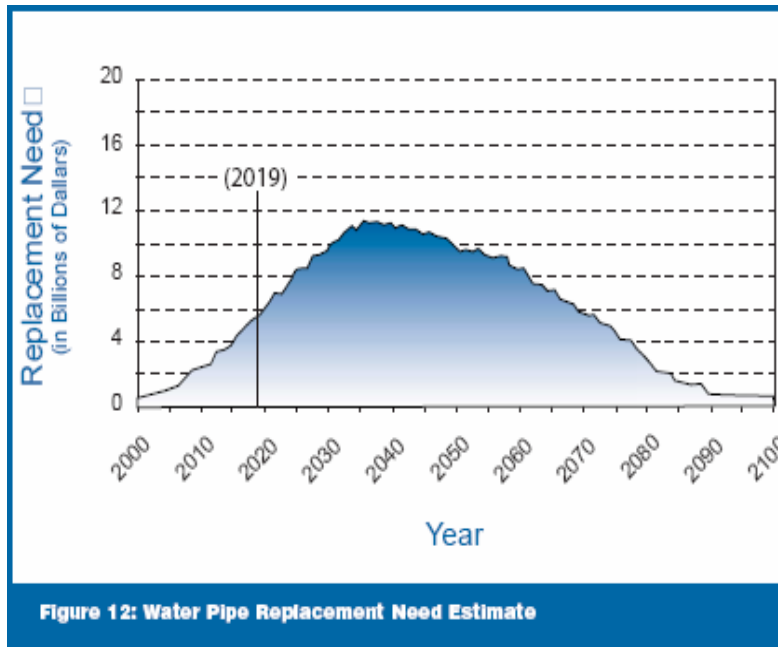
Source: "The Clean Water and Drinking Water Infrastructure Gap Analysis," Office of Water, US EPA, Report, September 2002



Population and GDP Growth Impact Pipe Demand

Replacement Needs will Continue to Grow Tremendously

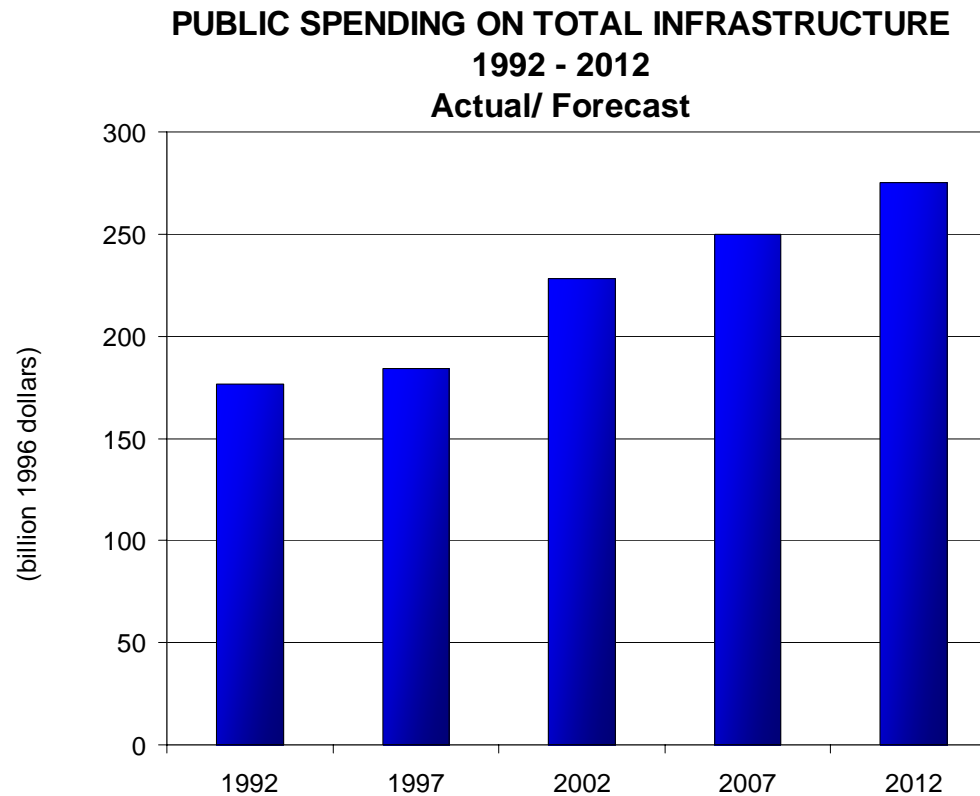
Population Expected to Grow from 281 Million to 325 Million by 2020!



Source: "The Clean Water and Drinking Water Infrastructure Gap Analysis," Office of Water, US EPA, Report, September 2002



Public Spending Needs Are Recognized



Source: PUBLIC SPENDING ON INFRASTRUCTURE (billion 1996 dollars) 1992-2012

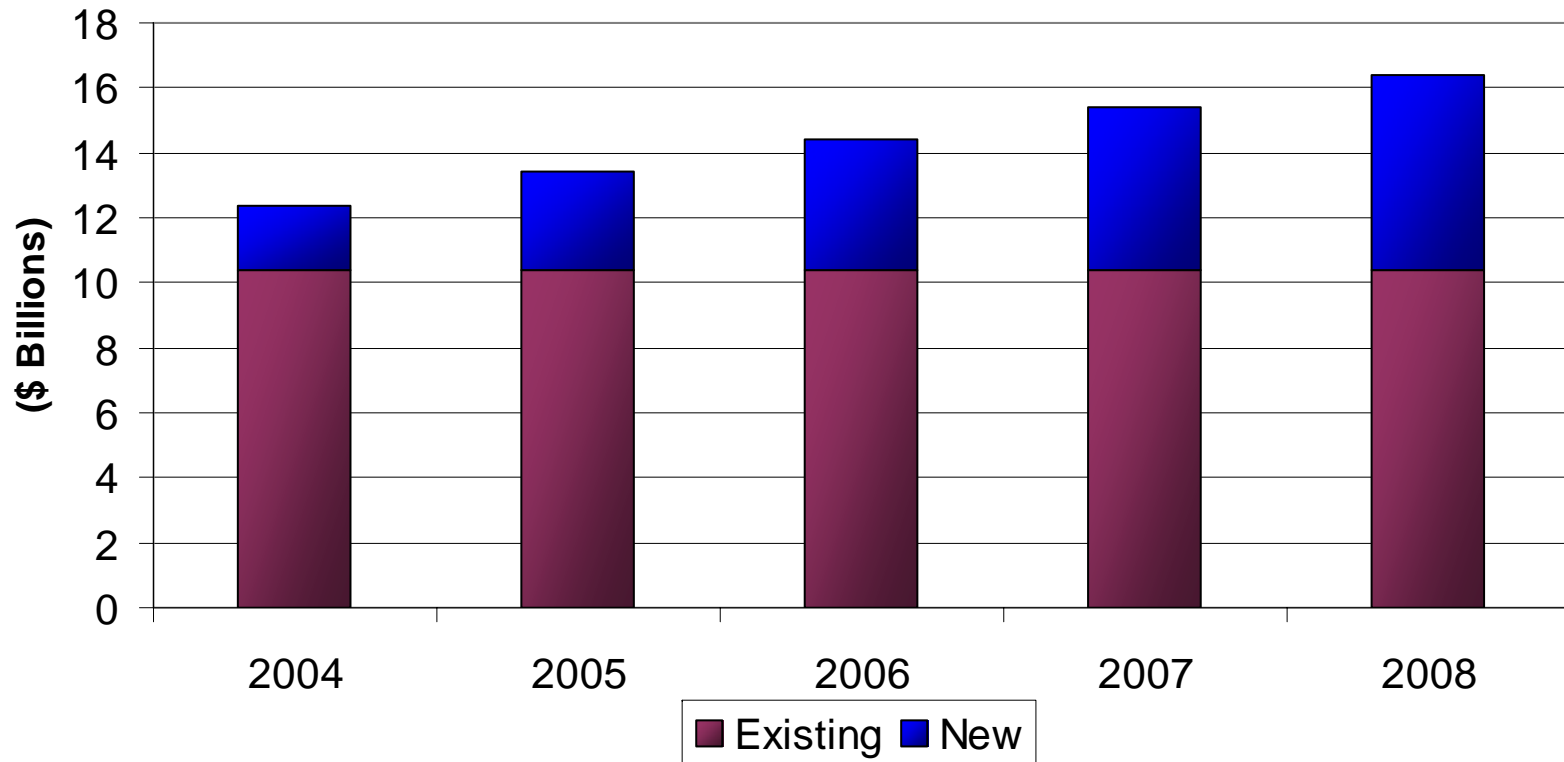
Chapter: MARKET ENVIRONMENT Report: LARGE DIAMETER PIPE TO 2007 Publisher: Freedonia Publication
Date: 01-Feb-2003



Funding is there for Infrastructure Replacement

Drinking Water Quality Financing Act of 2003

Proposed Increase in Appropriations



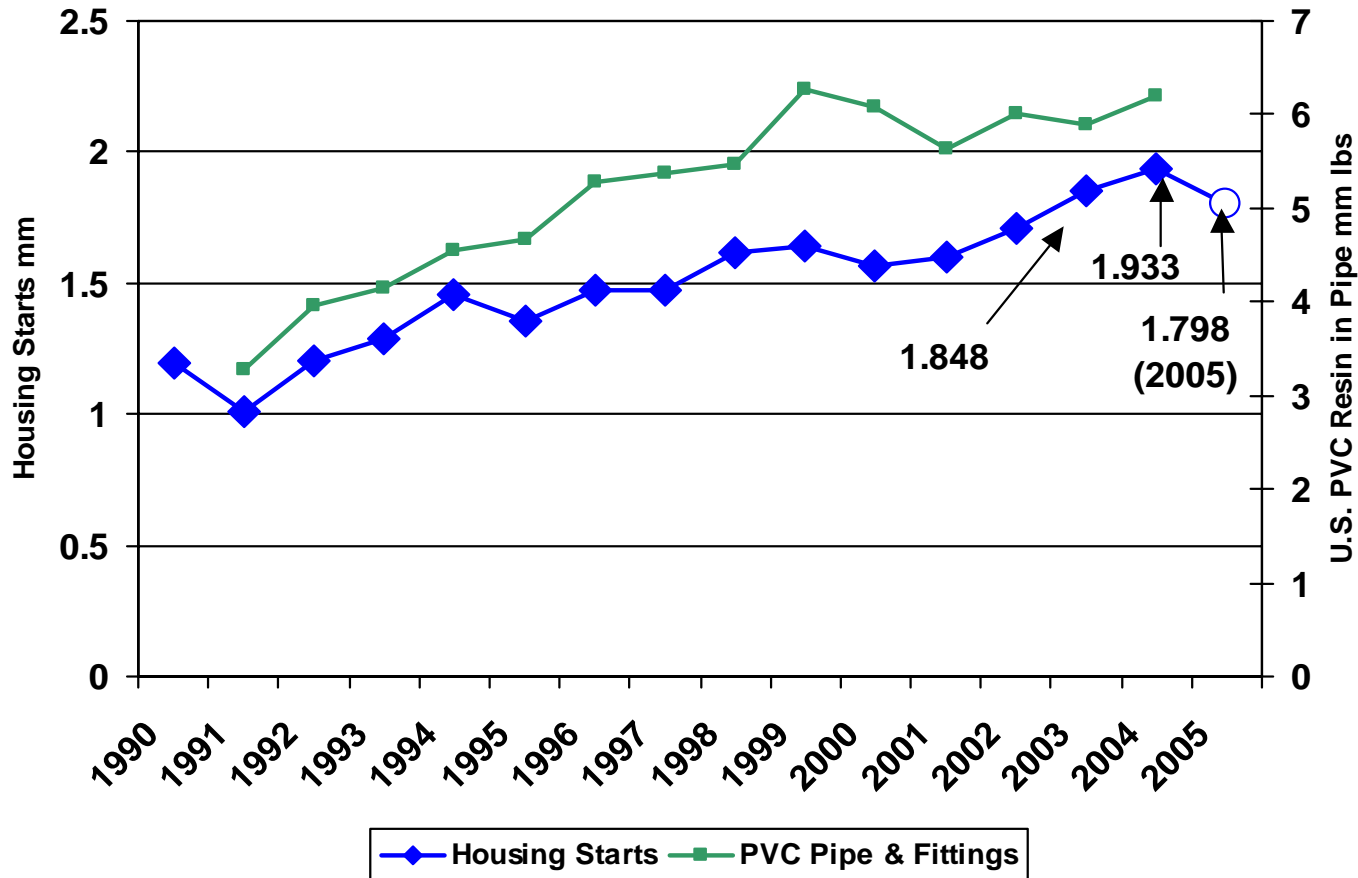
“Capital spending for drinking water estimated at \$10.4 billion per year.”

Source: “The Clean Water and Drinking Water Infrastructure Gap Analysis,” Office of Water, US EPA, Report



U.S. Monthly Housing Starts Impact Pipe Demand

(Millions of units)



Source: Reed Construction Data – Construction Forecast Monthly – November 2004
CMAI – PVC resin in rigid pipe & fittings



PVC Pipe Demand Summary

- **New Residential Construction Slowing, But Still Strong**
- **Infrastructure Deteriorating**
- **Population Growth Continues**
- **Enormous Investments to be Made**
- **Funding Sources Appear Sound**



North American Pipe Corporation

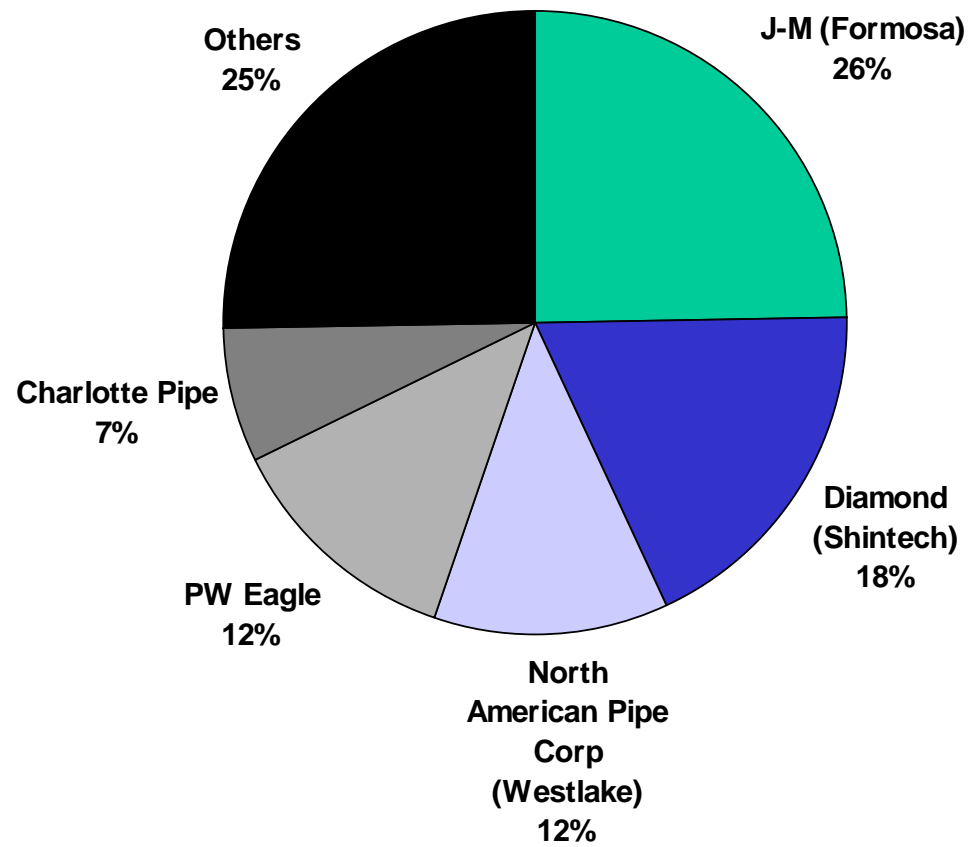
- Eight PVC pipe plants; 810 mm pound capacity
- #1 in geographic regions served
- Focused in water pipe segments 1/2 inch diameter and above
- 500 plus Associates





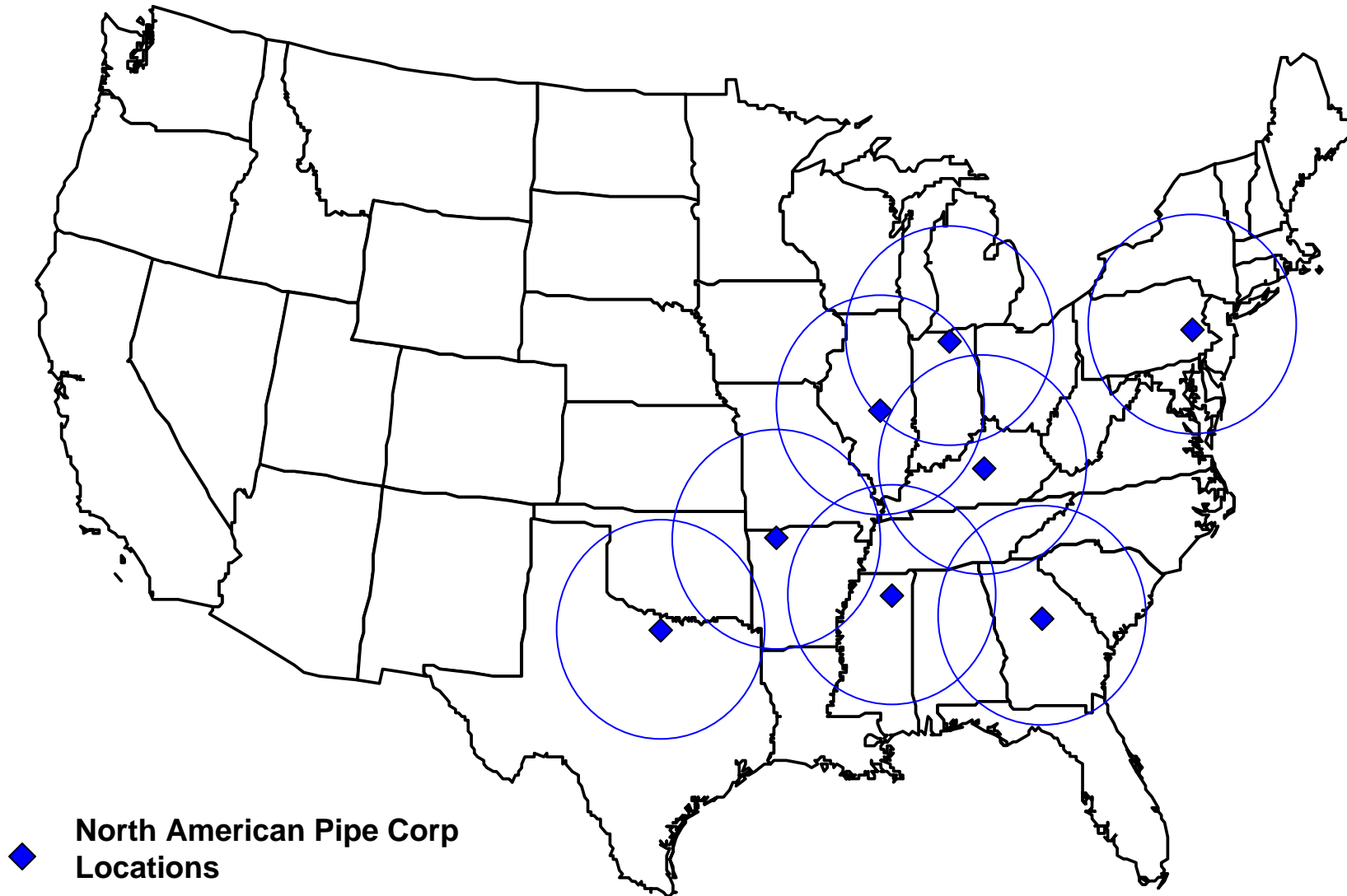
2005 PVC Pipe Market Share

Source: North American Pipe Corporation Estimate





Shipping Costs Constrain the Pipe Business





Downstream Integration

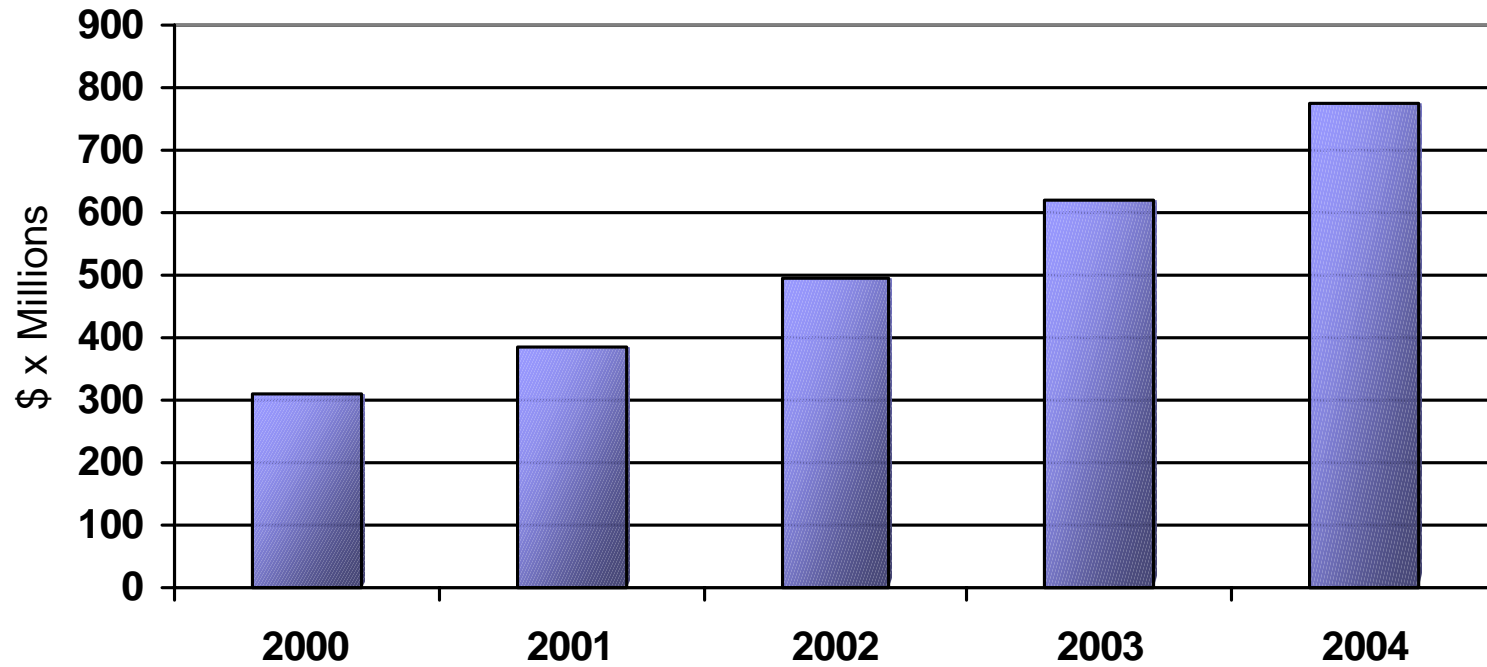


- 60 mm lbs capacity
- Second largest producer of PVC fence, deck and railing
- Industry growth of 23% CAGR since 1997; Westech CAGR 32%
- Forecasted to grow 14.2% through 2006 (Source: Freedonia Group, Inc)





Vinyl Fence Industry Growth



CAGR 25.99%

Source: PureStrategy, Plastic and Composite Lumber, Decking, and Fencing, 2001



Downstream Integration



Window and Door Profiles

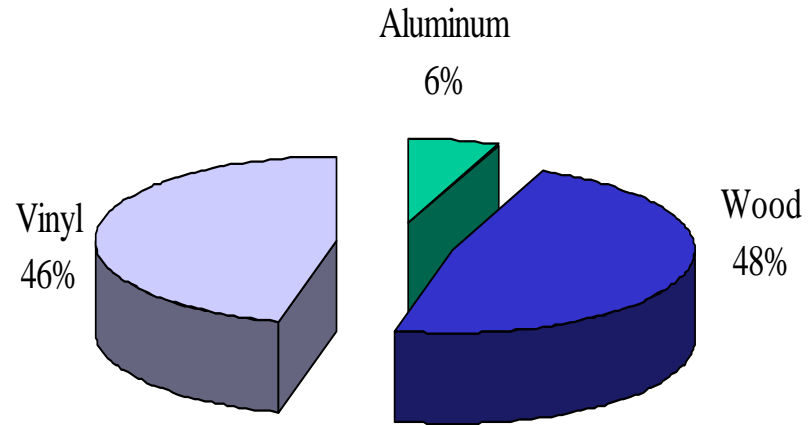
- 30 mm pounds capacity at two plants
- Industry CAGR of 29% since 1997
- Offering profile and window system design, window testing, die tooling, profile laminating and blending R&D
- Forecasted to grow 5.9% annually through 2007 (Source: Freedonia Group, Inc.)



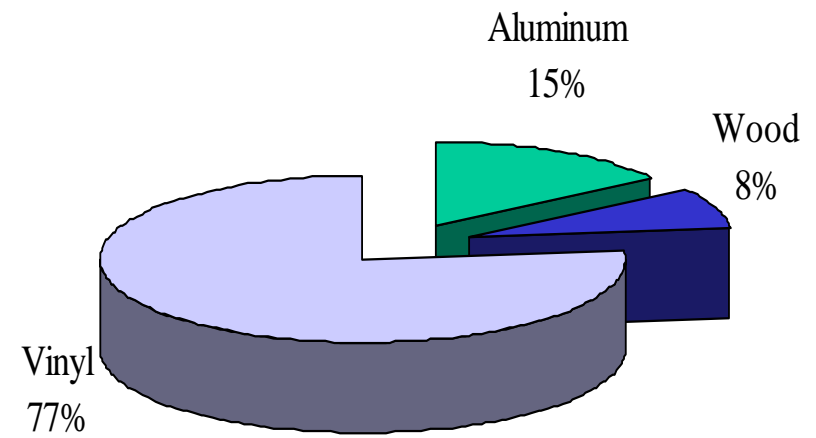


Windows Market

New Construction



Replacement



Source: Pure Strategy - Plastic Windows in the U.S. and Canada 2001-2005, July 2002



Thank You