



2017 Economic Development Through Energy Efficiency Conference

Bob Alexander

Doug Pence

 **Ply Gem**[®]
WINDOWS

Agenda

- **Ply Gem – Leader in the Industry**
- **History of Simonton Windows & Doors**
- **Energy Efficiency in the Production Facilities**
 - **Launched / In-process Projects**
 - **Future Projects**
- **Energy-efficient Products**



Ply Gem Products **Lead the Industry**



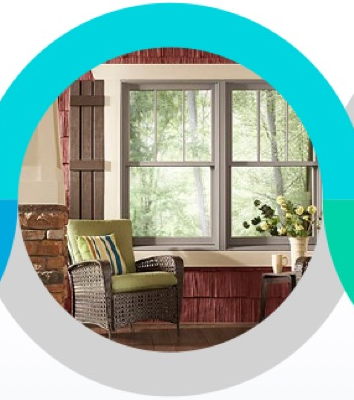
#1

**Vinyl Siding In
North America.**



#1

**Aluminum
Accessories In the U.S.**



#1

**Vinyl & Aluminum
Windows In the U.S.**



#3

**Overall Windows
In the U.S.**



#1

**Windows In Western
Canada**

SOURCE: INDUSTRY ASSOCIATIONS AND PUBLIC REPORTING

INDUSTRY LEADERSHIP

MANUFACTURED MORE THAN
7.5 BILLION SQ. FT.
OF SIDING IN THE
LAST DECADE.

THIRD LARGEST OF PVC RESIN
PROCURER IN NORTH
AMERICA.

140 PRODUCED
MILLION LFT. ANNUALLY
OF METAL WRAPS
THE GLOBE

SOCIAL MEDIA FOLLOWERS:
195,245
MORE THAN 40 MILLION
IMPRESSIONS IN 2016

30 
MILLION WINDOW
UNITS SHIPPED
OVER THE LAST
5 YEARS

TRUSTED PROVIDER OF
RESOURCES TO **25,000**
MORE THAN PROFESSIONALS NATIONWIDE

DELIVERING WHEN &
QUALITY WHERE YOU
AND VALUE NEED IT

#1 IN ALUMINUM
ACCESSORIES
IN THE US

2016 TRAINING
150 
PRO COURSES
20,000
HOURS
4,000
PROFESSIONALS

HOUSEWORKX MOBILE TRAINING SHOWROOM

 **1 MILLION**
MILES TRAVELED

#1 IN VINYL
SIDING IN
NORTH
AMERICA

BROADEST
PORTFOLIO
WITH MORE
THAN **20**
PRODUCT
CATEGORIES

#1 IN WINDOWS
IN WESTERN
CANADA

9,000
DEDICATED ASSOCIATES
ACROSS NORTH
AMERICA

65+ LOCATIONS
ACROSS NORTH
AMERICA



DOING BUSINESS
SINCE **1943**

#1 IN VINYL &
ALUMINUM
WINDOWS
IN THE US

SOURCE: INDUSTRY ASSOCIATIONS AND PUBLIC REPORTING



The Ply Gem **Advantage**

Working with an industry leader in building products makes good business sense.



We're where you need us.

Maximize operations, save time and lower logistics costs through Ply Gem's state-of-the-art manufacturing and supply network backed by 30 North American manufacturing locations, and 31 Canadian distribution centers.

Stable and efficient.

We are a publicly-traded company with over \$1.9B in annual sales and one of the top procurers of PVC resins in North America. We are financially stable and committed to leveraging our purchasing power to drive cost savings.

It begins with our people.

Get support at every stage of the manufacturing life-cycle with products and services backed by Ply Gem's dynamic and highly skilled workforce of 9,000 associates.

We've been through it all.

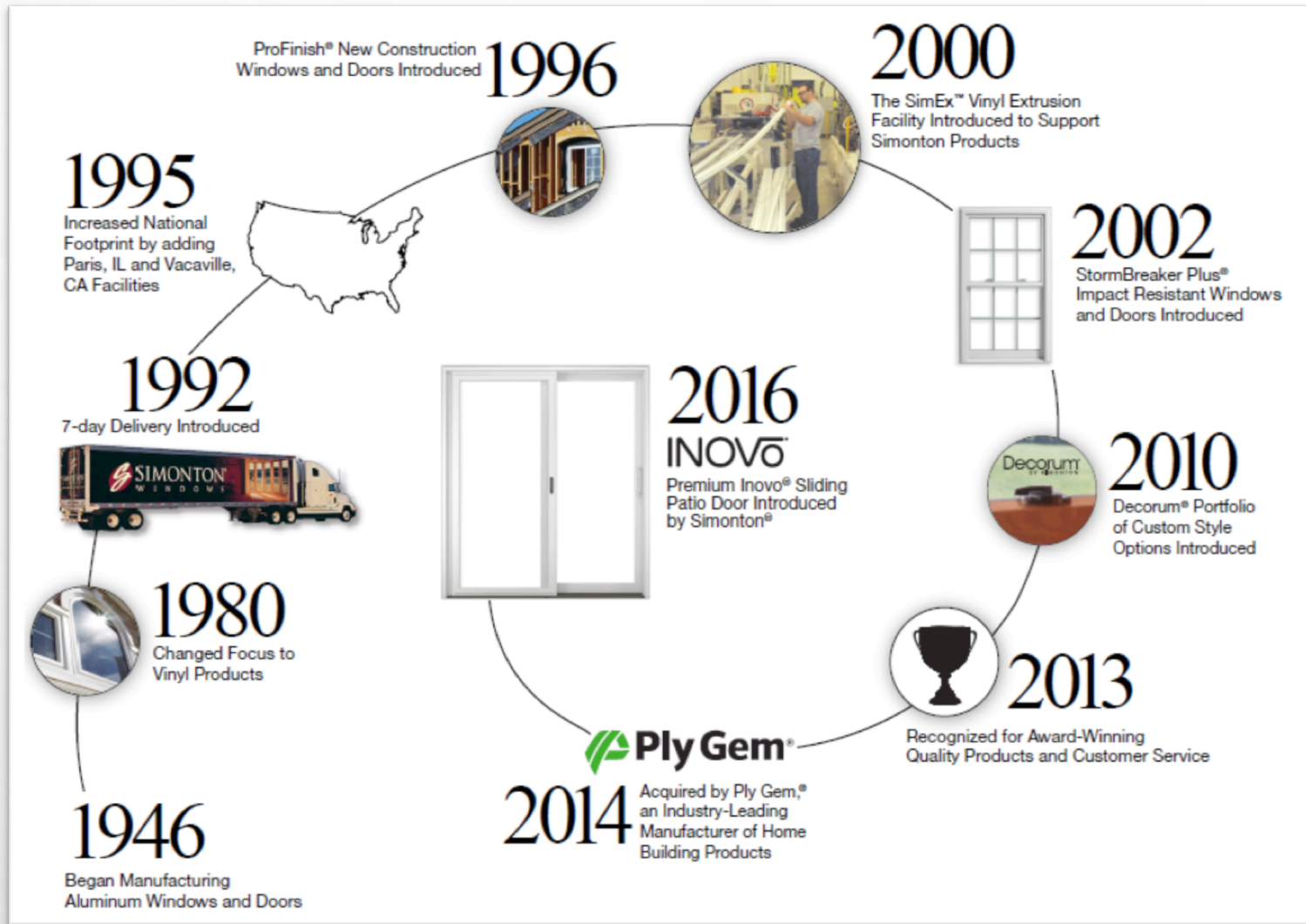
Serve your customers confidently with cutting edge products backed by Ply Gem's 75-year heritage in building products innovation and industry-leading warranties.

And we're still growing.

You're looking for the products and services for a new generation. So Ply Gem is continuing to create new products and services for our customers. As a result, we're not only one of the largest in the industry -- we're also one of the fastest growing.



History of Simonton Windows & Doors



Another Leading Brand from Ply Gem Building Products

6 Facilities support Simonton branded windows and doors

- **West Virginia Facilities**

- SimEx- (Extrusion Operation) St. Marys, WV
- Window/Door manufacturing in Ritchie County: Pennsboro, WV; Ellenboro, WV and Harrisville, WV

- **Additional Locations**

- Paris, IL
- Vacaville, CA






Energy Efficiency Partnership with West Virginia University

- Dr. Gopola and his team performed energy audits within the facilities in WV
- Team recommendations have moved forward to become a viable project

INDUSTRIAL ASSESSMENT CENTER
ENERGY CONSERVATION / MANAGEMENT ASSISTANCE FOR INDUSTRY

A U.S. DEPARTMENT OF ENERGY SPONSORED PROGRAM
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
ADVANCED MANUFACTURING OFFICE

Industrial Assessment Center Report

WV0524

ASSESSMENT DATE	:	5 th February, 2016
LOCATION	:	Ellenboro, WV
PRINCIPAL PRODUCTS	:	Products of Purchased Glass
NAICS CODE	:	327215
S.I.C. CODE	:	3231
REPORT DATE	:	28 th March, 2016

ASSESSMENT TEAM

<p>Principal Assessor</p> <hr style="width: 100%;"/> <p>Dr. Ashish D. Nimbarte</p>	<p>Students</p> <p>Lead Student – Amir Abolhassani Safety Officer – Hari Jammulamadaka John Kaiser</p>
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WEST VIRGINIA UNIVERSITY
INDUSTRIAL AND MANAGEMENT SYSTEMS ENGINEERING DEPARTMENT
MORGANTOWN, WEST VIRGINIA 26506

(304) 293-9478

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Industrial Assessment Center Report

WV0530

ASSESSMENT DATE	:	6 th June, 2016
LOCATION	:	St. Marys, WV
PRINCIPAL PRODUCTS	:	Vinyl Extrusion
NAICS CODE	:	326199
S.I.C. CODE	:	3089
REPORT DATE	:	27 th July, 2016

ASSESSMENT TEAM

<p>Principal Assessor</p> <hr style="width: 100%;"/> <p>Dr. Ashish D. Nimbarte</p>	<p>Students</p> <p>Lead Student – Amir Abolhassani Safety Officer – Hari Jammulamadaka Vivek Komarina Nathaniel Smith</p>
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Energy Efficiency Projects – *Plant Lighting*

- **Plant Lighting Upgrade (Pennsboro, WV) Replaced 400W MH with T5 HO Fluorescence lights**
 - Reduced Power consumption from 455 Watts to 270 Watts on each Fixture
 - Eliminate restrike time delay with power interruptions
 - Better uniform lighting throughout the facility
- **In Process Plant Lighting Upgrade (Ellenboro, WV) Replaced 400W MH with LED High Bay Lighting**
 - Converting lighting when MH light ballast fail
 - Reduced Power consumption from 455 Watts to 230 Watts each Fixture
 - Eliminate restrike time delay with power interruptions
 - Better uniform lighting throughout the facility

Energy Efficiency Projects – *Variable Frequency Drives*

- **Glass Tempering Oven – Air Handling Blowers Variable Frequency Drives**
 - Eliminate Dampers and control air quench speed with VFD controls (2 250 HP Blowers)



Energy Efficiency Projects – Air Compressors

- **Reduced Operation Pressures to 110 PSI
(rule of thumb 2 PSI reduction save 1% Energy)**
- **Ellenboro Compressor systems
Communicate to Trim as necessary**
- **Heat Recovery is utilized in the
Pennsboro facility**
- **Added compressed air Storage tanks
in Ellenboro and Pennsboro**
- **Upgraded air Piping to 4" Aluminum smooth wall**



Energy Efficiency Projects – *Future State*

- Upgrade Air Compressor System with VFD units (SimEx)
- Considering Purchasing Compressed air as a utility to reduce capital cost
- Upgrade Plant lighting (High Bay LED) with occupancy sensor
- Develop air leak detection program
- Developing a Preventative Maintenance program using ultrasonic equipment

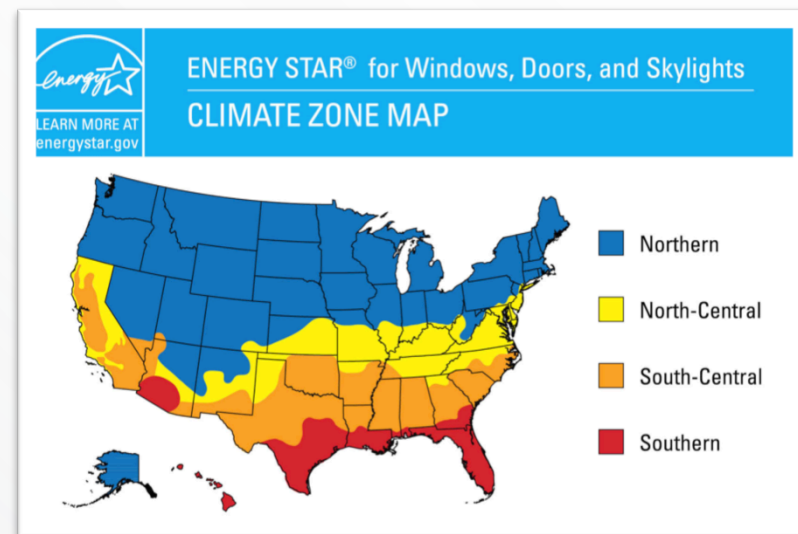


ENERGY STAR Partner Since 1999

- As an ENERGY STAR partner, Simonton is committed to meeting the strict criteria of the U.S. Environmental Protection Agency to help conserve energy and reduce heating and cooling costs for all of our customers.



- Simonton branded vinyl windows and doors can be ordered to meet ENERGY STAR® guidelines, for optimum energy efficiency and comfort wherever you live.



Benefits of ENERGY STAR Windows & Doors?



Reduce Heating and Cooling Costs

Purchasing ENERGY STAR windows and doors can help you save money on heating and cooling throughout the year.



Interior Comfort

ENERGY STAR windows can help create a consistent temperature throughout the house season after season.



Reduce Your Carbon Footprint

With ENERGY STAR qualified windows and doors, you will use less energy, which reduces greenhouse gas emissions from power plants.

NAME | Bob.alexander@plygem.com

Manager Corporate Process Engineering

T: 614.532.3615 | C: 304.679.7030

3948 Townsfair Way, Columbus, OH 43219