Low-Slope Commercial Roofing: 2000 - 2010

- *Market Survey*
- *Current Conditions*
- *Future Trends*

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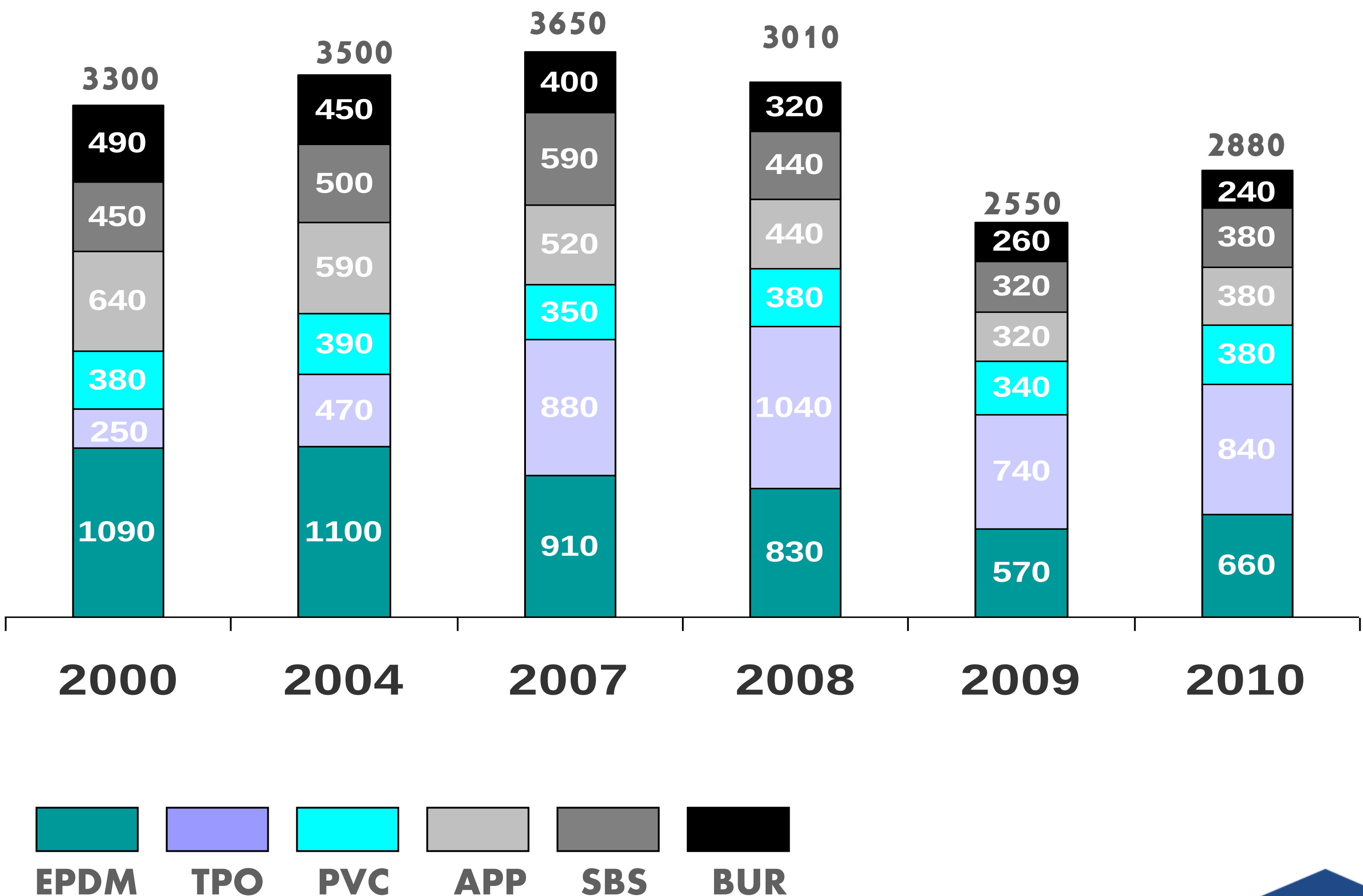
TEGNOS Research, Inc.
www.tegnos.org
317-679-1542

U.S. Low-Slope Commercial Roofing Market

2000 – 2010

(Millions of Square Feet)



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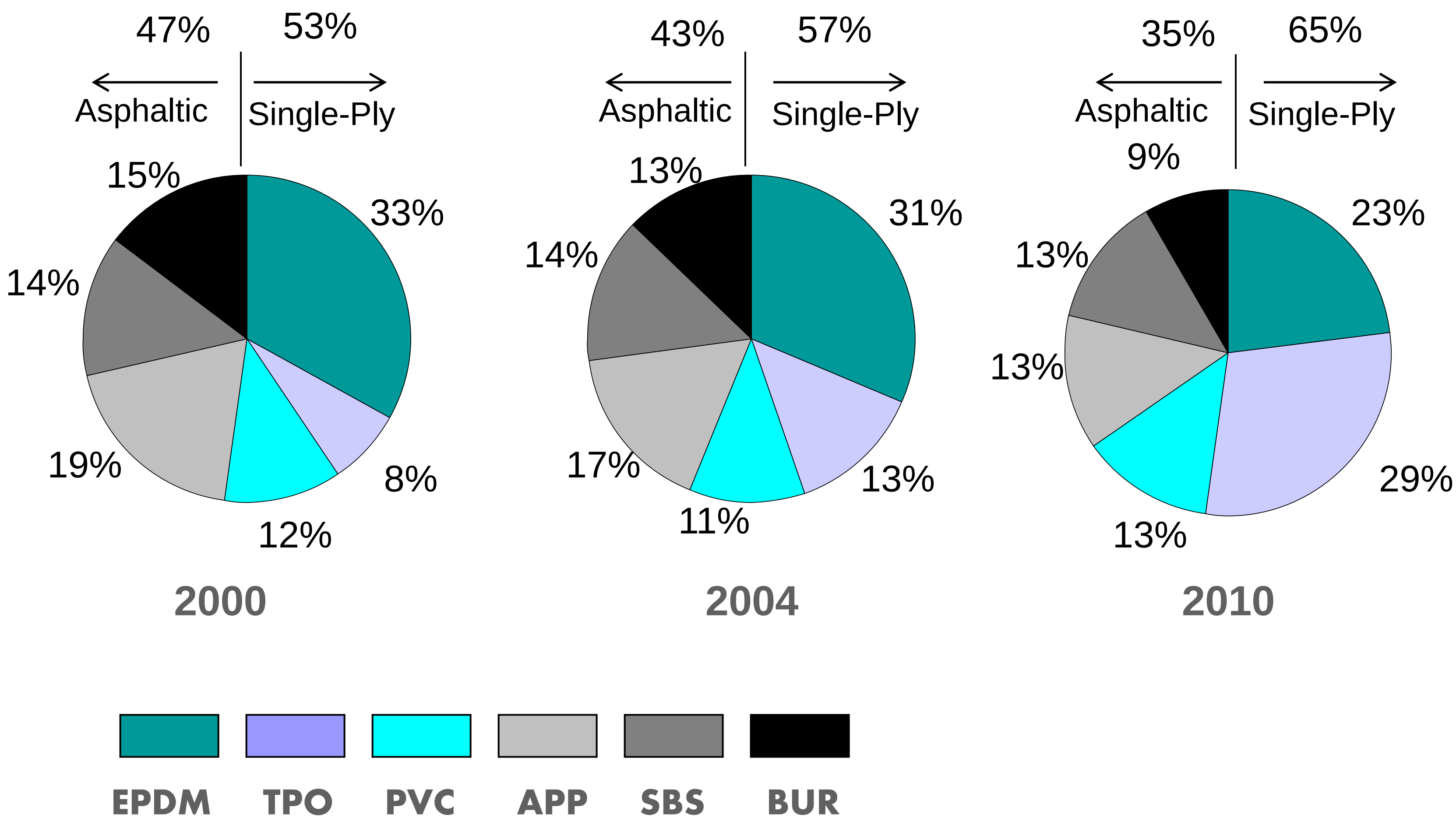
U.S. Low-Slope Commercial Roofing Market

2000 – 2010

(Percent Share)



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Historic Product Trends

- TPO resumes market share growth after a significant big-box downturn
- After stabilizing for a few years, EPDM is experiencing a dramatic decline
- After declining modestly for a few years, PVC has re-established its niche market share
- Asphaltic systems continue a steady historic decline

U.S. Low-Slope Commercial Roofing Market 2000 - 2010

TPO Growth Drivers

- Low installed cost
- Big box retail / wholesale preference
- White, heat-reflective membrane meets expanding "cool roof" requirements
- Increasing product confidence backed by leading manufacturers

U.S. Low-Slope Commercial Roofing Market 2000 - 2010

Behind the EPDM Decline...

- Economical ballasted EPDM systems supplanted by mechanically attached TPO - at little or no cost differential.
- Fully adhered EPDM systems holding their own as a trade-up system, but only in North & Mid-West
- Increasing demand and regulation for cool roofing makes black EPDM look like yesterday's technology
- Firestone has closed one plant, eliminating 30%+ of its manufacturing capacity. Entry of Johns Manville into EPDM manufacturing beginning in 2012 may force more capacity reductions
- A significant portion of EPDM membrane production is now targeted to non-roofing applications (pond linings, geomembranes, etc.)

U.S. Low-Slope Commercial Roofing Market 2000 - 2010

Behind the Asphalt Decline...

- **Industry rationalization brings supply more in line with demand**
- **Torch application continues to diminish due to regulation and insurance requirements**
- **Technologies for meeting "cool roof" surface standards are now available, but they add a significant price premium (Field-applied coatings or higher-priced reflective roofing granules)**
- **Low-VOC and cold-applied systems are not as cost-effective as traditional hot asphalt / torch-applied systems**

U.S. Low-Slope Commercial Roofing Market 2000 - 2010

PVC Stabilization Factors

- Niche market with focused suppliers
- Enduring specification preference
    - Proven track record in Europe and U.S.
    - Effective PR campaign by the Vinyl Institute
    - White, heat-reflective membrane
- But environmental concerns about halogens remain

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Trends to Watch

- Cool roofing regulations continue to expand across the country.
- EPA currently reviewing ground level ozone standards, which may lead to further requirements for low-VOC adhesives and sealants
- Expanding specification and regulation for building air barriers will drive significant demand for adhesive attachment technologies, especially for roofing membranes and roof insulation.
- New International Green Construction Code and green product certification initiatives will favor roofing materials with few inherent emissions (fumes, VOCs, fire retardants, plasticizers, etc.)
- Significant increases in roof energy efficiency beyond current standards will be very difficult without a recognized cost for carbon
- Green is becoming an established business strategy rather than a tactical trend, but significant opposition may surface from conservative interest groups (e.g., Congressional "Bulb Act" legislation)