

Overview of Plastics Recycling in North Carolina

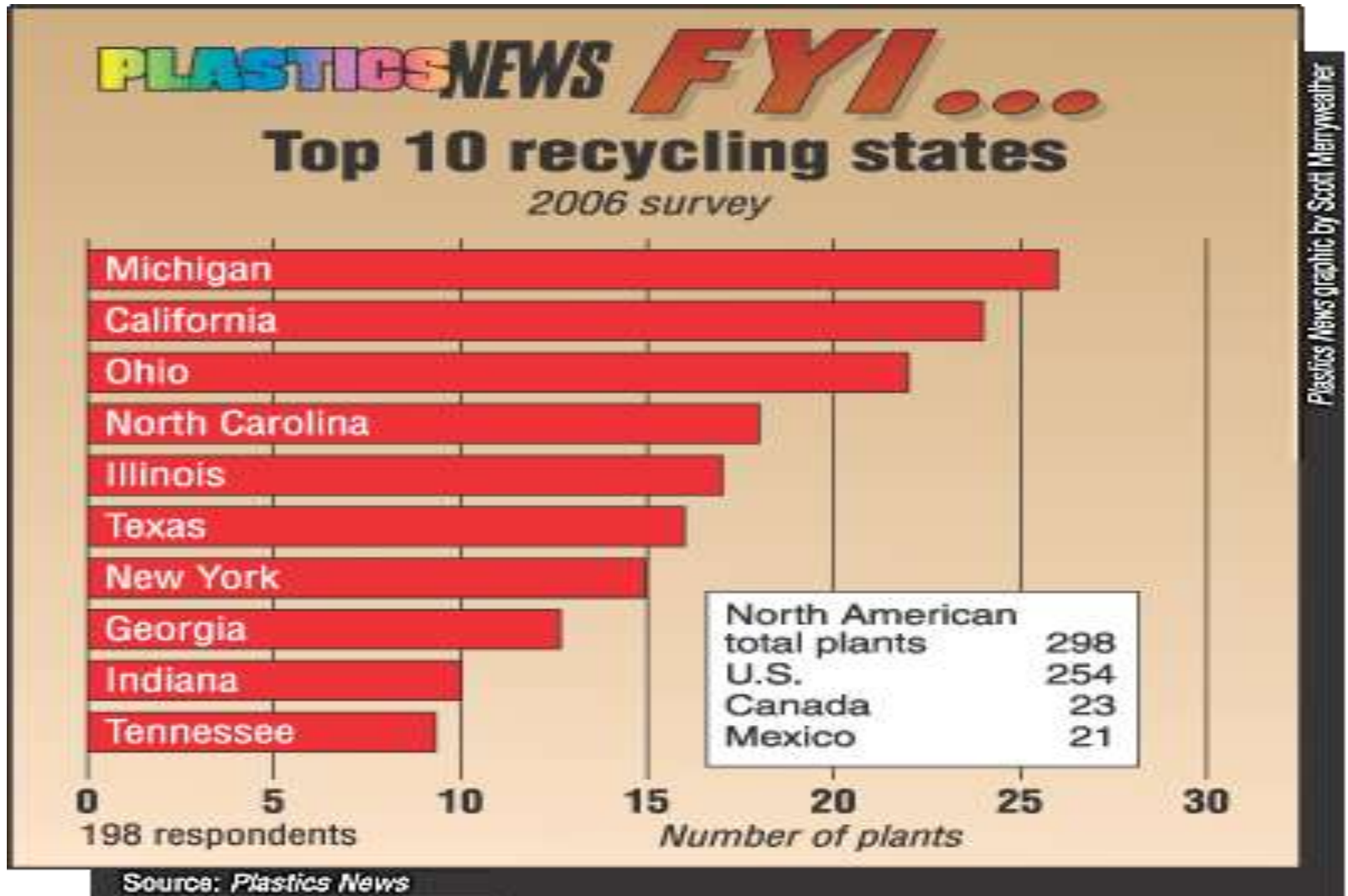
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NC DPPEA

Profile of Regional Plastics Recycling Infrastructure

- Major national players in PET and HDPE (bottle) recycling in the Carolinas.
- Recent additions of very large facilities representing well over \$100 million in investment.
- Very healthy network of post-commercial and post-industrial plastics recyclers.

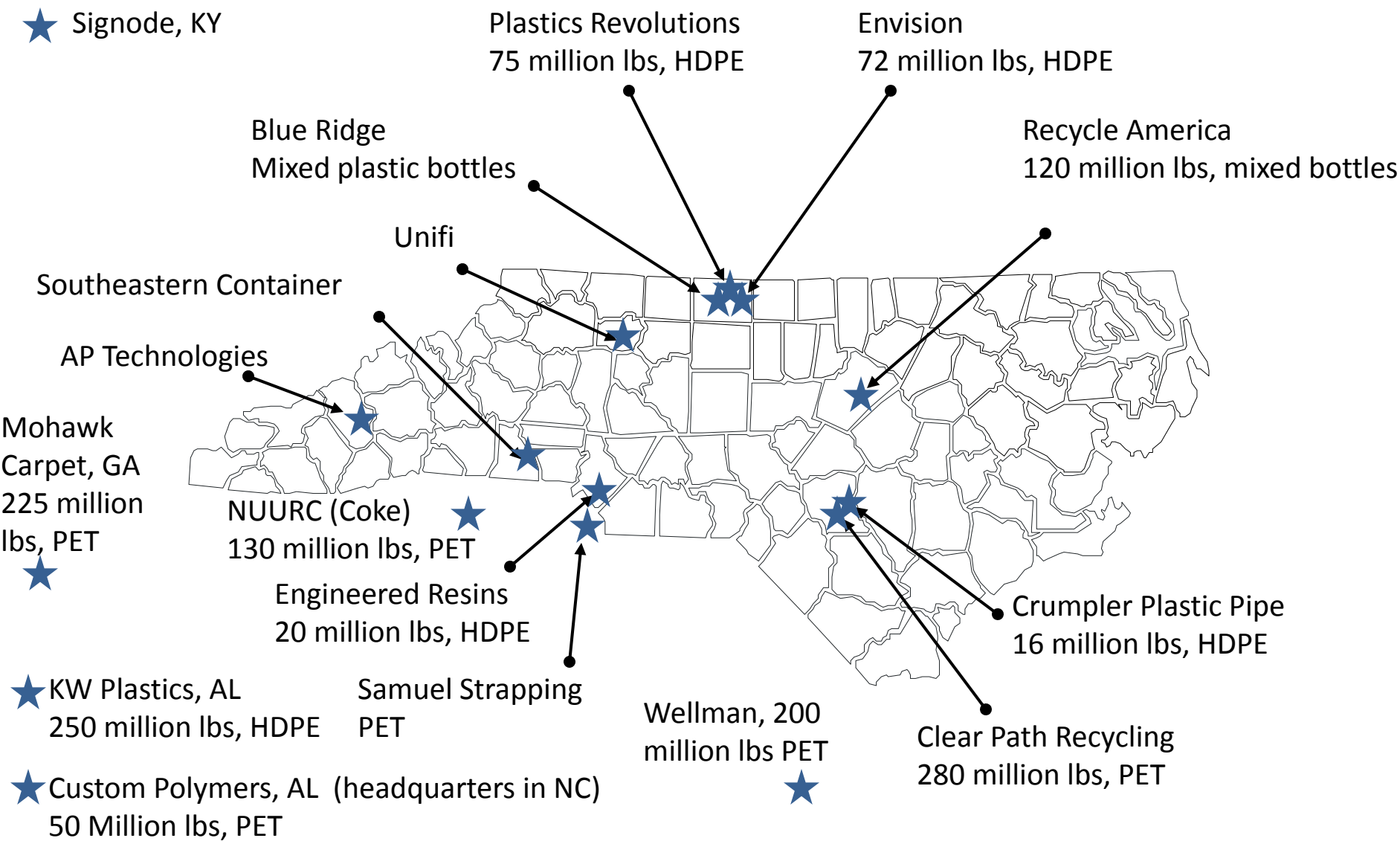
North Carolina a Leader in Plastics Recycling



Big Picture on Plastic Bottles

- Plastic bottle demand rising worldwide.
 - Broad range of product applications.
 - Domestic capacity fighting with China for supply.
 - Long-term rise in petroleum/natural gas costs will keep driving reliance on PCR (post-consumer resin).
- Southeast particularly rich in bottle plastic processing and end-use.
- Carolinas becoming “ground zero” for PET recycling in U.S.

Snapshot of In-state and Nearby Plastics Bottle Processing and End-use Capacity



Example of Material Flow: PET Plastic Bottle





Clear Path Recycling LLC



DAK Americas LLC - Highlights

- **Ownership** - Division of Alfa S.A.B. de C.V., Monterrey, Mexico
- **U.S. Employment** – 1,200 people
- One of the largest PET, Fiber, and PTA producers in the Americas.

- **Plant Startup Plan**

- **Phase 1** – 160MM lbs of postconsumer bottles consumed
- **Phase 2** - Additional 120MM lbs of postconsumer bottles needed.

- **Plant Operations (Permanent Jobs)**

- 80 jobs created by Q4 2010
- 29 additional jobs created in Phase 2

Shaw Industries - Highlights

- **Ownership** - Subsidiary of Berkshire Hathaway, Inc.
- **Employment** - 28,000 Employees
- One of the largest carpet and flooring producers in the world.



Cedar Creek Site

Fayetteville, NC, USA

DuPont -Teijin Films

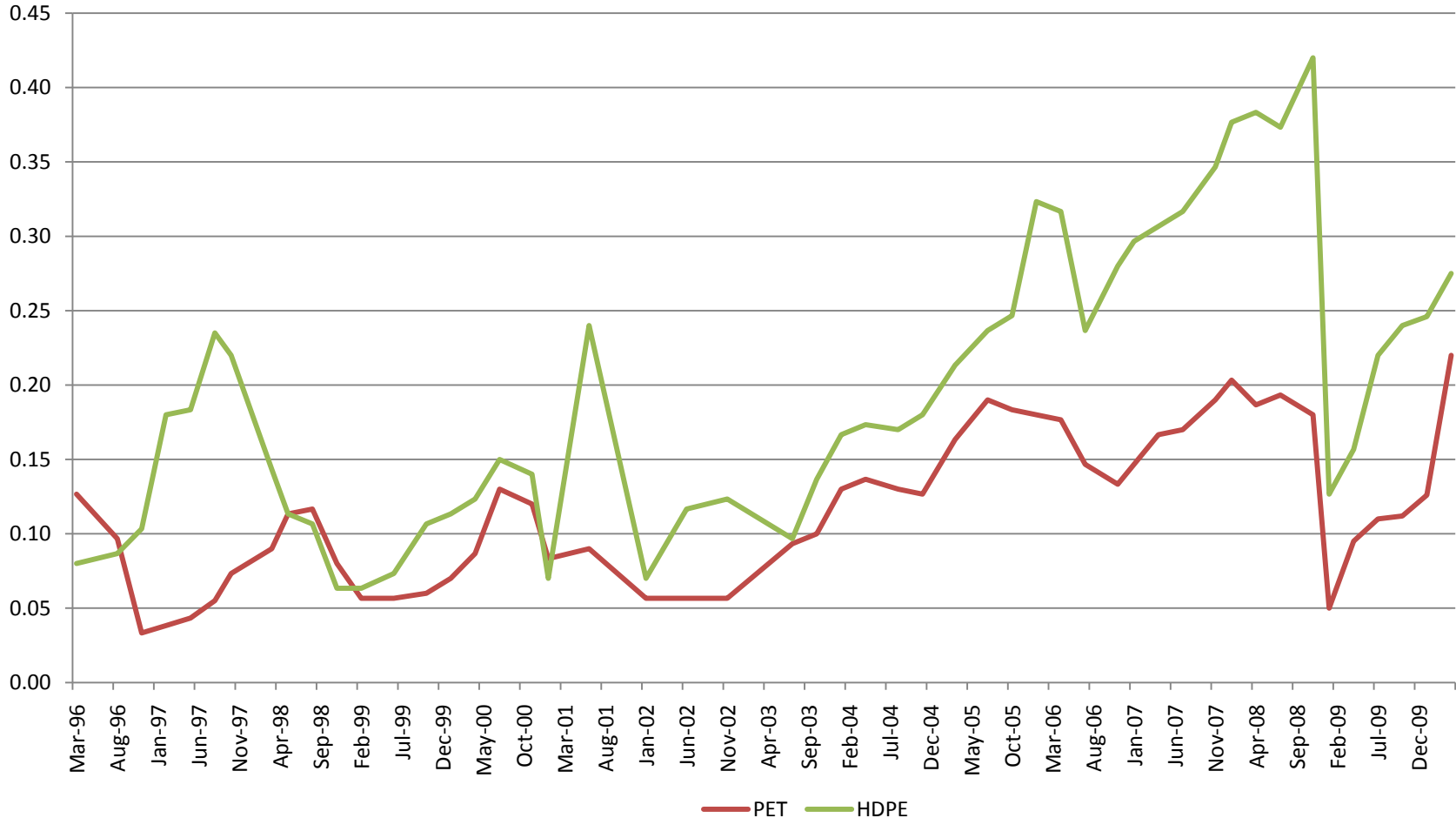
Vacant Production Plant

DAK Americas

Clear Path Recycling



Review of Bottle Resin Prices Received by NC MRFs



National Recycling Data

- ACC reported total pounds of plastic bottles recycled reached a record high 2.410 billion pounds in 2008.
- •NAPCOR reported 1.4515 billion pounds of PET bottles collected for recycling in 2008.
- •ACC reported 936.7 million pounds of HDPE bottles were collected for recycling in 2008

Issues and Developments in Bottle Recycling

- Increased use of automated sortation in MRFs and plastics recycling facilities.
- Increasing concerns over quality at plastics recycling facilities.
- Increased use of recycled plastic in food-grade applications.
- Interest growing in recycling non-rigid containers
 - issues about collection, sortation, and marketing

Example of MRF Sorting Technology



Example of Whole Bottle Sorter



Example of Flake Sorter

Moving Beyond Bottles

- Communities starting to move into non-bottle plastics collection:
 - Iredell, Orange, Haywood, Greensboro
- Two types of collectible plastics:
 - Non-bottle containers (tubs, cups, clamshells)
 - Large, rigid plastics – toys, buckets, trash cans, totes, tubs, bread racks, storage shelves, kiddie pools, flower pots, etc.
- Other types of recyclable plastic: carpet

Example of Non-Container Rigid Plastics



A Few Key Plastics Issues

- Plastics labeling and the #1 - #7 resin code
- Biodegradable and Oxo-degradable plastics
- Plastic Bags
 - Use ban in Dare/Hyde/Currituck counties
 - Plastic industry scrambling to improve recyclability and use of recycled content.
- Marine Debris

Factors That Make the Future Bright for Plastics Recycling

- Petroleum and natural gas prices will rise over time.
- Virgin plastic production moving increasingly overseas.
- Worldwide consumption of plastics increasing, especially in China.
- Major manufacturers and brand-owners taking more direct stake in plastics recycling.