

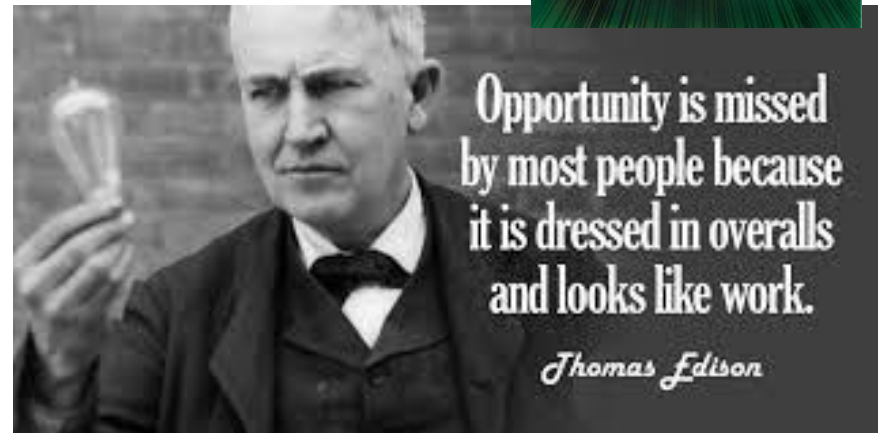
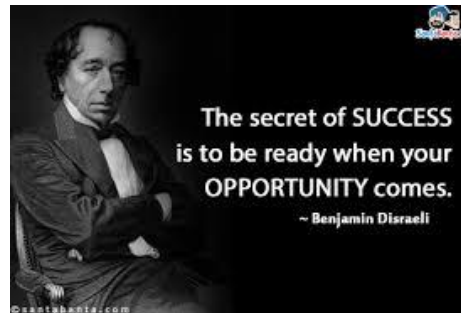
Brownfields Redevelopment Downstream from Shale



Pennsylvania Brownfields Conference 2018
Matt Ward / Sustainable Strategies DC

Overview of Presentation

- * Downstream opportunities for communities & the private sector
- * Public-private sector collaboration
- * Resources for shale-manufacturing redevelopment



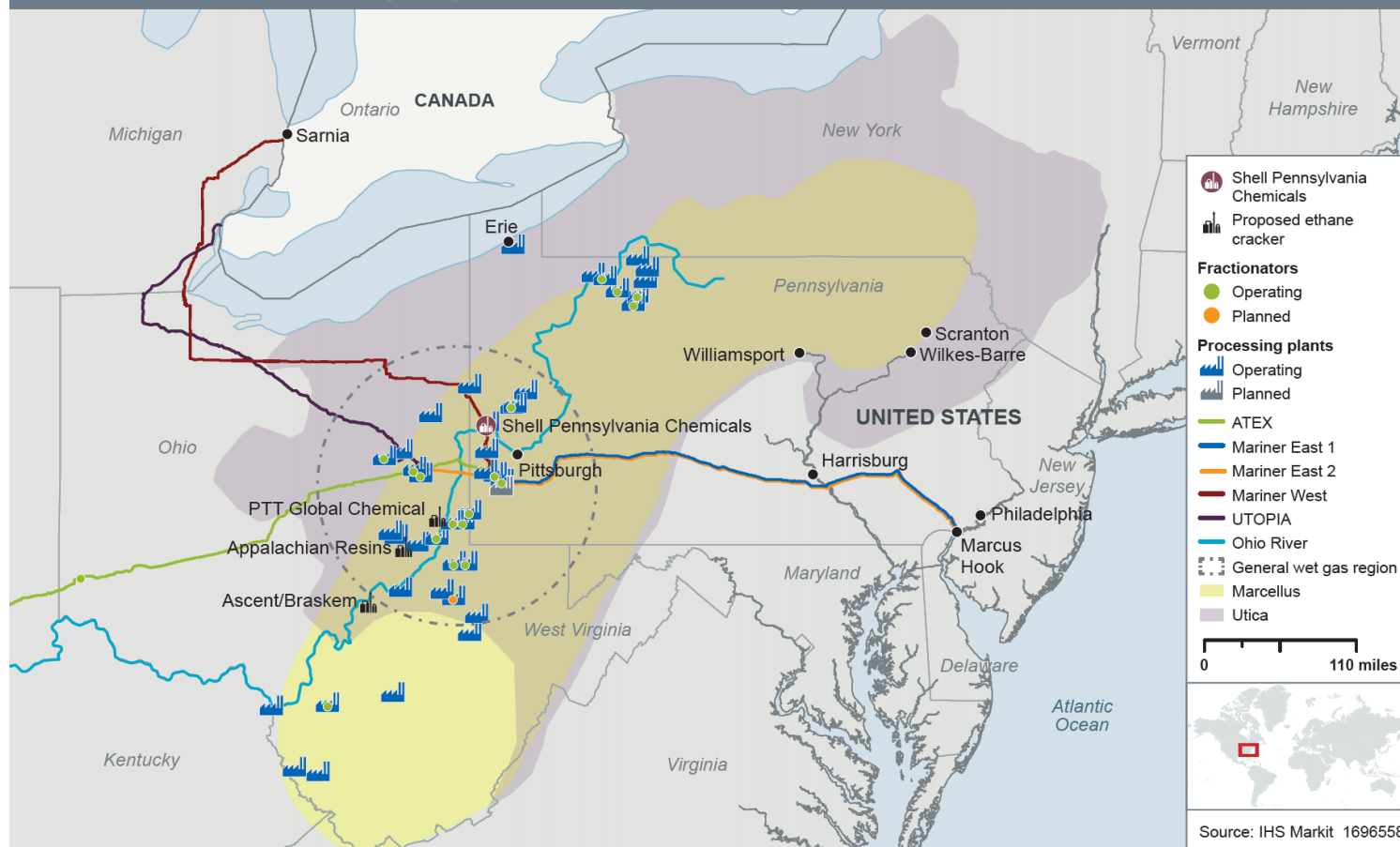
Scope of the Shale-Manufacturing Opportunities

- * Scope of regional investment
- * Beyond the big cornerstones of shale formations, crackers, storage hubs, and \$84.3 billion Chinese commitments
- * Studies project downstream manufacturing at 10x the rate of cornerstone infrastructure
 - McKinsey's "Forge the Future" report projects 100,000 jobs & \$35 billion in next decade
 - Eastern OH study shows 162 projects worth \$18B
 - NAM & ACC project 1.41 million jobs by 2040, particularly in chemicals and metals
 - WV MAVS Project
- * Shale-manufacturing development will require supply chain diversification, transportation infrastructure upgrades (roads, bridges, rail, river freight, pipelines, utilities), workforce housing, R&D, service & support sectors and more
 - Diversification in Monaca, Johnstown, Weirton, Wheeling±



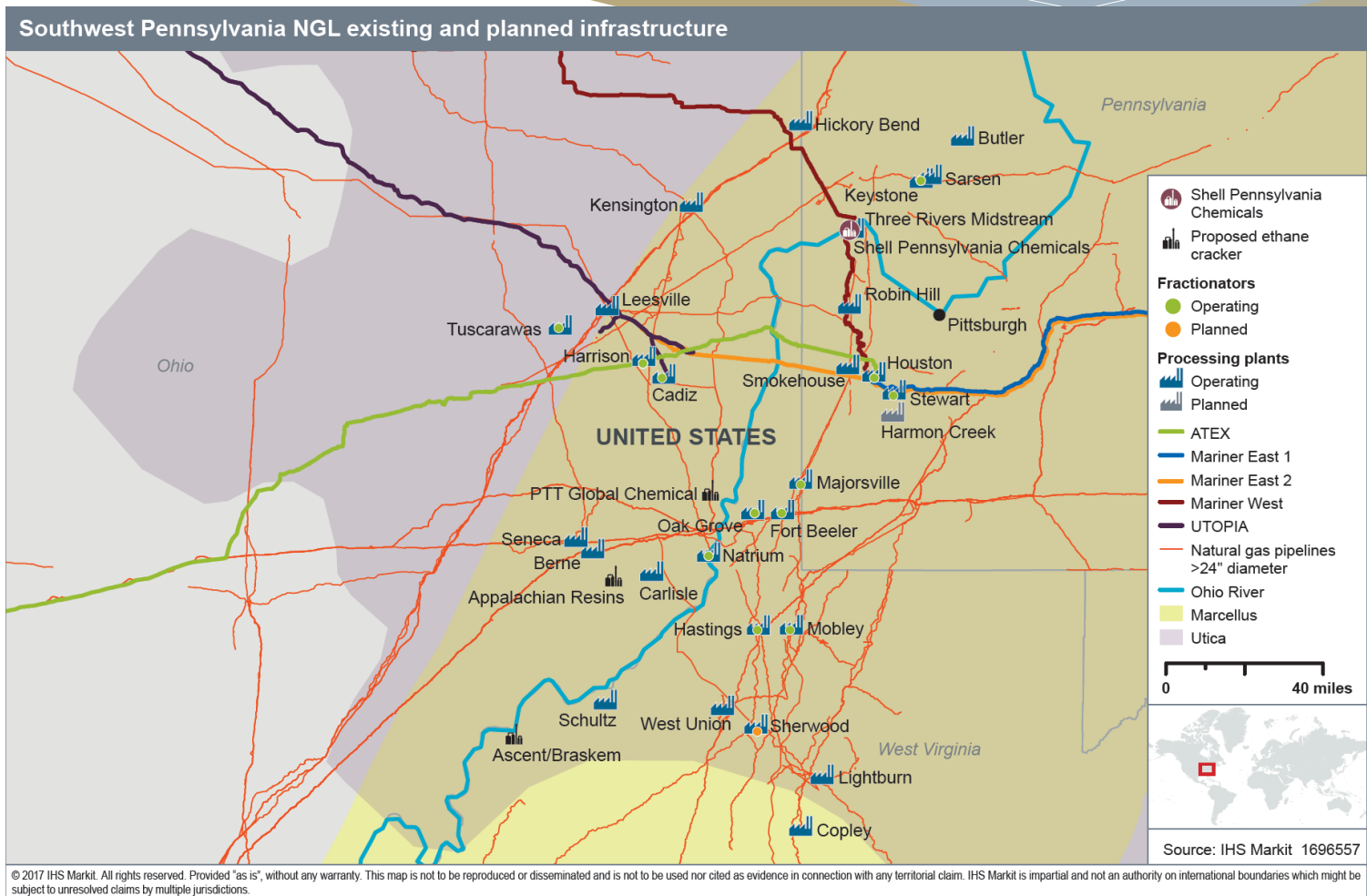
Regional Scope

Marcellus and Utica NGL existing and planned infrastructure



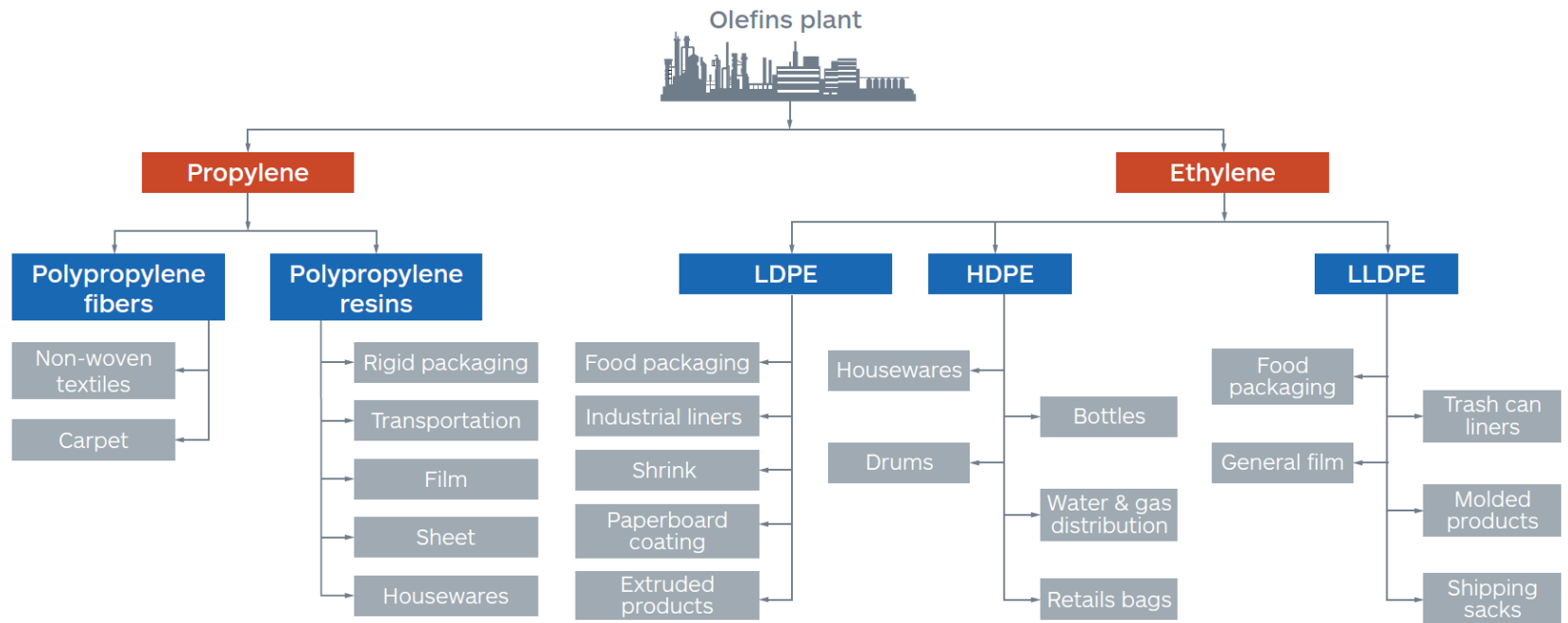
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SW Pennsylvania Scope



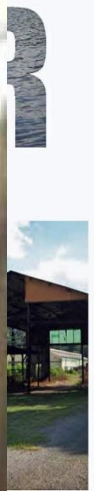
Downstream Sectors

Roadmap for Pennsylvania's petrochemical value chain



Need for Public-Private Collaboration

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Resources for Redevelopment

1. Identify Assets, Sites & Promising Projects

- Inventory the assets & advantages in your community/region
- Identify investment-ready sites
- Align other incentives
- Create a compelling “pitchbook”, prospectus, or on-line package



2. Reduce Brownfield Barriers with “Front-Loaded Due Diligence”

- Create a community-supported vision for reusing brownfields for shale-manufacturing redevelopment
- Address environmental issues with assessment resources
- Conduct market research
- Align planning & zoning approvals
- Make infrastructure plans & upgrades
- Clean up contamination



3. Leverage Resources

- EPA, PA DEP
- EDA, ARC, PA DCED
- Opportunity Zones
- Resource Roadmaps & Roundtables

Thank you!



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