

# PORTSFUTURE

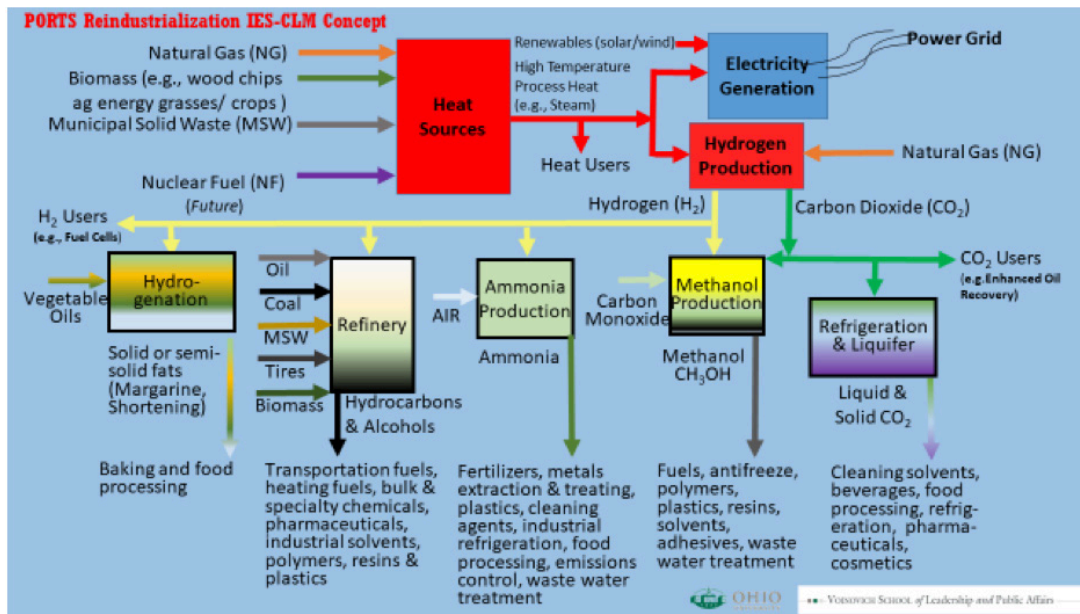
IMAGINING THE OPPORTUNITIES, GATHERING YOUR IDEAS  
THE FACILITY AT PIKETON, OHIO



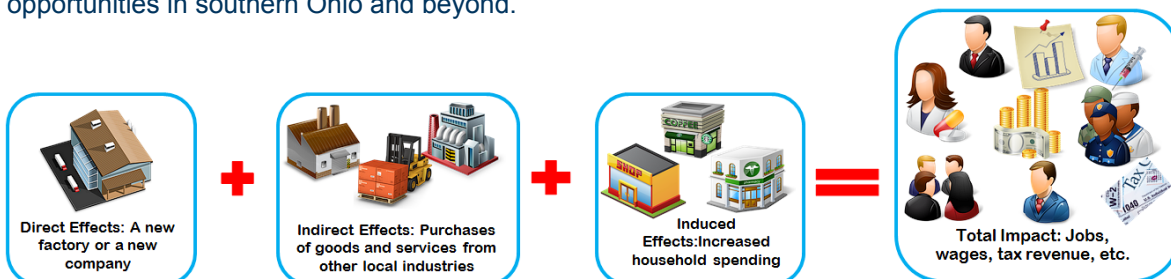
## ECONOMIC AND WORKFORCE IMPACT ANALYSIS FOR PROPOSED CRACKER FACILITY THAT LINKS TO AN INTEGRATED ENERGY SYSTEM-CLOSED LOOP MANUFACTURING COMPLEX AT PORTS

Ohio University's PORTSfuture project is supporting the Southern Ohio Diversification Initiative (SODI) efforts to develop an Integrated Energy System-Closed Loop Manufacturing (IES-CLM) complex at the US Department of Energy PORTS reservation in Ohio. An IES-CLM complex will strive to fully leverage the unique infrastructure and other assets of the site for regional economic growth by: attracting and expanding industries in the region; leveraging coal and shale resources in additive manufacturing applications; creating jobs; and growing the southern Ohio economy.

An IES-CLM complex results in: high efficiency; high reliability; low emissions; low/acceptable production costs; creation of more permanent, non-exportable, higher-quality jobs; and embodies a synergistic integration of an "all-of-the-above" energy strategy. Regional cluster development can occur with the growth of spin-offs from the core complex. Various industries can realize more effective production costs when tied into an IES-CLM complex to access heat, electricity, hydrogen, and other production outputs via transportation networks (e.g. roads, rail, waterways, and pipelines).



Developing an IES-CLM complex will further SODI's mission to diversify the regional economy by imagining possibilities beyond the immediate and existing economic realities in southern Ohio and will attract 21st century industries with enduring missions. Site reindustrialization will spur regional cluster and supply chain-related growth throughout the impacted counties and multi-state region, further advancing economic prosperity by growing both large and small business opportunities in southern Ohio and beyond.



The PORTSfuture project is funded by a grant from the US Department of Energy Office of Environmental Management Portsmouth/Paducah Project Office.

# Cracker Plant

**PROJECT SIMULACRUM:** Shell Cracker in Potter Township, PA (100,000 bpd of ethane)

**PROJECT STUDY AREA:** OVRDC region (i.e., Adams, Brown, Clermont, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties, Ohio)

**IMPLAN OVERVIEW:** IMPLAN is an acronym for IMPact analysis for PLANing and is a widely used tool for economic impact analyses. IMPLAN uses a general input-output model that uses secondary data from the BEA, BLS, and Census.

**KEY DEFINITIONS:** The Multiplier is the ratio of the Total Effect to the Direct Effect. Employment is annual average jobs of full and part-time employees and self-employed people. Labor Income is composed of both the wages and benefits paid to employees, and the profits earned by self-employed people. Value Added (or Gross Regional Product) is the combination of Labor Income plus corporate profits, interest income, rental payments, sales tax, excise tax, property tax, fees, fines, and licenses. Finally, Output is the combination of Value Added plus the materials and services (other than employment) required by an industry to create its products.

## CRACKER PLANT ECONOMIC IMPACT

CONSTRUCTION				
Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	6,000	\$224,900,005	\$269,739,156	\$300,331,601
Indirect Effect	432	\$21,114,139	\$35,150,058	\$65,353,644
Induced Effect	1,096	\$38,508,120	\$77,063,090	\$134,751,460
Total Effect	7,528	\$284,522,264	\$381,952,303	\$500,436,705
Multiplier	1.25	1.27	1.42	1.67

OPERATION & MAINTAINANCE				
Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	600	\$34,636,001	\$519,454,056	\$3,345,659,039
Indirect Effect	1,740	\$95,948,153	\$211,294,665	\$393,739,345
Induced Effect	652	\$22,870,446	\$44,744,692	\$79,563,397
Total Effect	2,992	\$153,454,599	\$775,493,414	\$3,818,961,781
Multiplier	4.99	4.43	1.49	1.14

## CRACKER PLANT WORKFORCE IMPACT

CONSTRUCTION		
Occupation	Percent of Industry	Employment
Construction And Extraction Occupations	54.1	3,246
Installation, Maintenance, and Repair Occupations	17.6	1,056
Office And Administrative Support Occupations	7.3	438
Management Occupations	5.9	354
Transportation and Material Moving Occupations	5.4	324
Production Occupations	3.8	228
Business and Financial Operations Occupations	2.4	144
Architecture and Engineering Occupations	1.5	90
Sales And Related Occupations	0.8	48

OPERATION & MAINTAINANCE		
Occupation	Percent of Industry	Employment
Production Occupations	41.8	251
Installation, Maintenance, And Repair Occupations	9.9	59
Architecture And Engineering Occupations	8.3	50
Life, Physical, And Social Science Occupations	7.9	47
Transportation And Material Moving Occupations	7.7	46
Office And Administrative Support Occupations	7.5	45
Management Occupations	6.9	41
Business And Financial Operations Occupations	4.7	28
Sales And Related Occupations	2.0	12

**FOOTNOTE:**

1. Economic impact analysis conducted with IMPLAN software, version 3.1. IMPLAN is an acronym for IMPact analysis for PLANing and is a widely used tool for economic impact analyses. IMPLAN uses a general input-output model that uses secondary data from the BEA, BLS, and U.S. Census Bureau.

2. Underlying industry, occupation, and employment data are derived using national expected averages from the Bureau of Labor Statistics' Occupational Employment Statistics (OES) survey and 2016–2026 industry-occupation matrix data, by industry tables. Source: <https://www.bls.gov/emp/tables/industry-occupation-matrix-industry.htm>.