



PORTSMOUTH EM SITE SPECIFIC ADVISORY BOARD

•OSU Endeavor Center• 1862 Shyville Road • Piketon, Ohio 45661 • (740) 289-5249 •

Proposed Agenda for the April 4, 2019 Board Meeting

Chair

Robert L. Berry

Co-Vice Chair

Carlton L. Cave

Board Members

Lisa Bennett

Todd Burkitt

Bradley Burns

Jody Crabtree

Maddeline C. Caudill

Dennis Foreman

Wade Fraley

Turman Helton

Cynthia Quillen

Jimmy E. Smalley

Beckie Thomas-Kent

Judy R. Vollrath

6 p.m.

Call to Order, Introductions

Review of Agenda

Approval of March Minutes

DDFO Comments

--15 minutes

Federal Coordinator Comments

--10 minutes

Liaison Comments

-- 5 minutes

Presentation-

--20 minutes

Ohio University Grant Overview, Stephanie Howe,

Ohio University Voinovich School of Leadership and Public Affairs

Administrative Issues

--20 minutes

Subcommittee Updates

--5 minutes

Public Comments

--15 minutes

Final Comments from the Board

--15 minutes

Adjourn

Deputy Designated

Federal Official

Joel Bradburne

DOE Federal Coordinator

Greg Simonton

Support Services

EHI Consultants, Inc.

1862 Shyville Road

Piketon, OH 45661

Phone 740.289.5249

Fax 740.289.1578

U.S. DEPARTMENT OF ENERGY



Deputy Designated Federal Official Presentation Portsmouth Site Specific Advisory Board

April 4, 2019



D&D Progress – X-326 Deactivation





D&D Progress-X-333 Deactivation





D&D Progress-

Switchyard Electricians Restore Power after Wind Damage





OSWDF CONSTRUCTION-





Conversion Plant Update

Portsmouth and Paducah - Depleted Uranium Hexafluoride (DUF6)





Conversion Plant Update

Depleted Uranium Hexafluoride (DUF6)



There are more than 50,000 cylinders requiring processing



Conversion Plant Update

Depleted Uranium Hexafluoride (DUF6)



- Exceeded DUF6 Processing Goals
- Emptied over 600 DUF6 feed cylinders

Shipped over 1.2 million gallons of HF



Site Tours

Local and State Emergency Management Visit PORTS





Educational Outreach

SOUTH CENTRAL REGION SCIENCE BOWL VII



Wheelersburg Wins Third Straight Regional Championship



Zane Trace - Runner Up





Upcoming Outreach Events



SSAB Full Board Meeting
Thursday, June 6, 2019



DOE Public Tour
Saturday, April 27, 2019

To register for the tour go to: www.fbportsmouth.com



OHIO UNIVERSITY PORTSFUTURE GRANT

FFY 2019

Funded by a grant from the US Department of Energy Office of Environmental Management Portsmouth/Paducah Project Office

The facility at Piketon, Ohio

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THE VOINOVICH SCHOOL

Since 1981, the Voinovich School of Leadership and Public Affairs has applied the knowledge and assets of Ohio University to solving problems and promoting growth in the Ohio Appalachian region, throughout the State of Ohio, and beyond



The facility at Piketon, Ohio

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“The government's highest calling is to empower people and galvanize their energy and resources to help solve our problems, meet our challenges, and seize our opportunities.”

Senator George V. Voinovich





The facility at Piketon, Ohio

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PORTSfuture Project

Since 2010, tasks performed for the benefit of the public interest and to inform cleanup efforts at the site

Interface with DOE, SSAB, CRO, site contractors, OEPA, elected officials, private sector businesses, eco dev professionals, community stakeholders, public at large, others

Tasks focus on these broad areas:

- Site readiness, site reindustrialization, building public/private partnerships
- STEM outreach, public engagement, entrepreneurship
- Economic modeling/economic impact, data, GIS
- Applied environmental: ecology, hydrology, site environment

The facility at Piketon, Ohio

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DOE GRANT ACTIVITIES: OUTCOMES AND PUBLIC VALUE CREATED

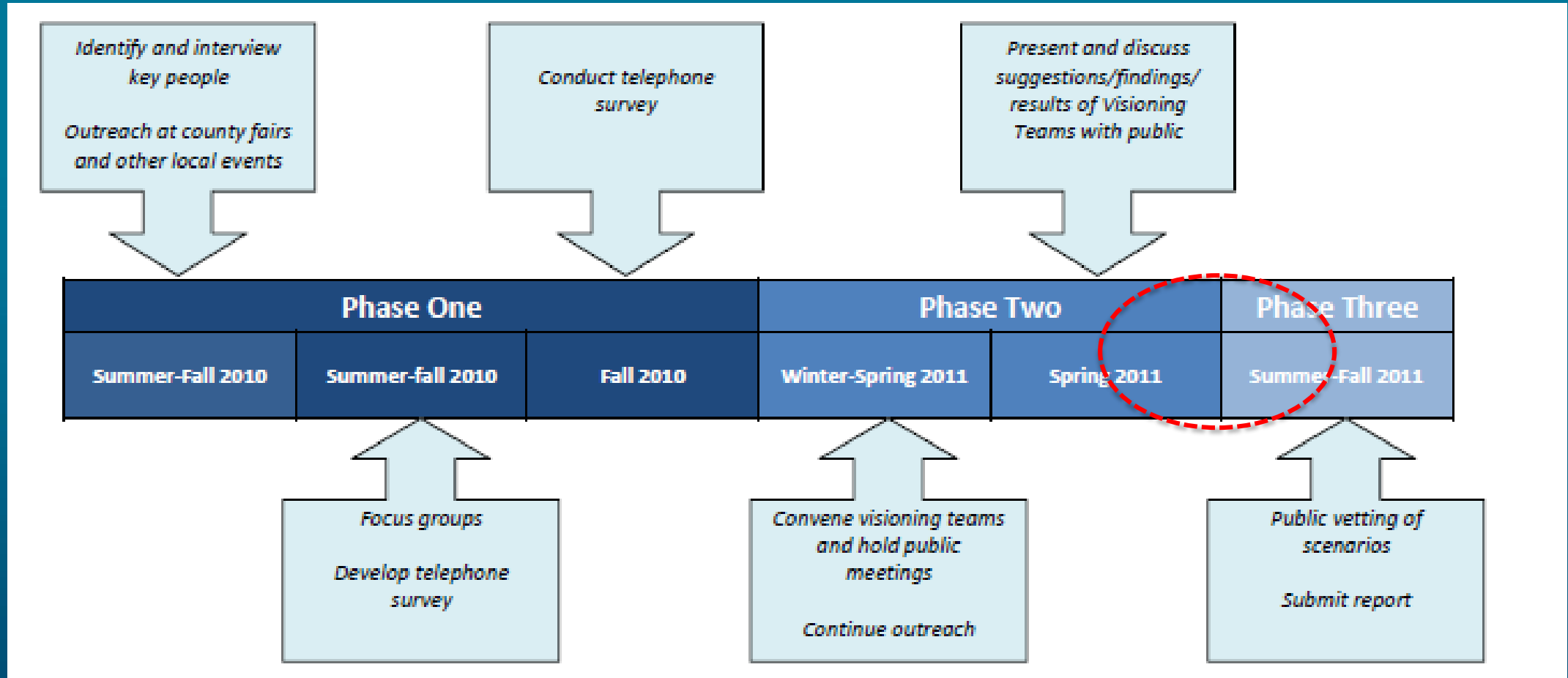
- Reduce DOE EM footprint at PORTS
- Reduce DOE costs/cost avoidance to save taxpayer dollars
- Facilitate the transfer of property
- Leverage public assets of PORTS and the region
- Attract/expand industries and create jobs
- Contribute to regional economic stability

The facility at Piketon, Ohio

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Initial Grant Activity: Public Engagement on Site Future Use Visioning



Public Future Use Scenario Preferences

Scenario	Preferences
Industrial Park	421
Green Energy Production	475
Multi-use Southern OH EC	143
National R & D	418
Training & Education	160
Greenbelt	131
Warehousing	179
Nuclear Power Plant	495
Metal Recovery	152

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SODI SITE FUTURE USE VISION

- Creating an Integrated Energy System-Closed Loop Mfg. (IES-CLM) Complex at the PORTS site that **optimizes site assets and current opportunities**
- The IES will be an **“Energy Mall”** incorporating fossil, renewable, nuclear, energy storage, T&D, and advanced energy technologies
- Utilize Ohio shale resources in **downstream manufacturing**
 - Links to cracker facility and regional storage hub being developed in Appalachia region
- Collocating energy producers and **intensive energy end-users**
- Providing **industry cluster** collaboration opportunities for the region

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WHO IS INVOLVED: GOVERNMENT, CORPORATIONS, NONPROFITS, & CITIZENS

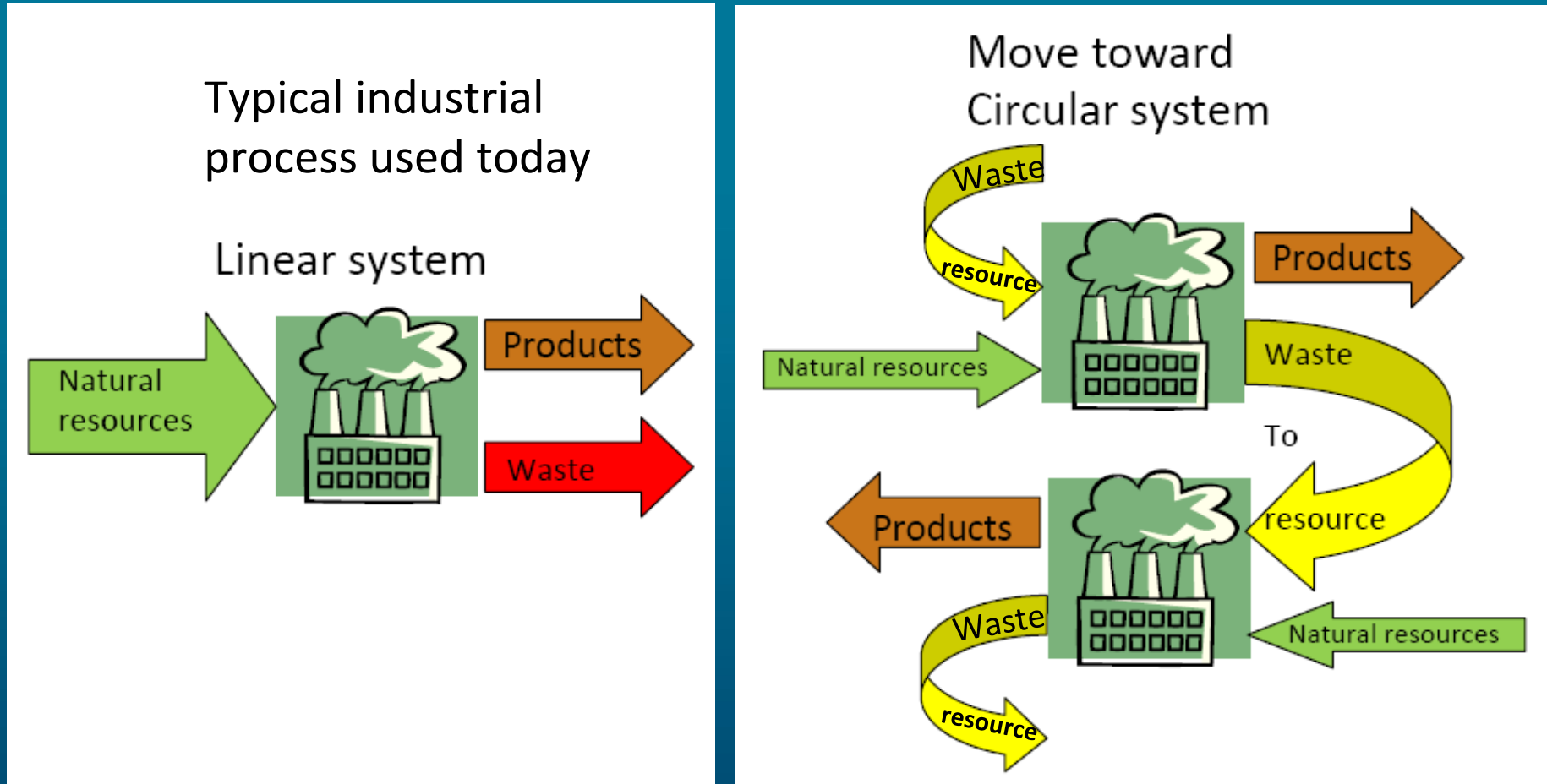
- DOE PORTS staff
- SODI
- FBP, InSolves, and RSI (site contractors)
- Ohio University
- National laboratories
- **National experts**
- **Private sector businesses/industries/investors**
- Regulatory entities
- Consultation with regional **economic development stakeholders** in Pike, Scioto, Jackson, and Ross counties, JobsOhio, OVRDC, the SSAB, private industry, community, local residents, and others

The facility at Piketon, Ohio

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IES-CLM = Industrial Symbiosis (Closed Loop Manufacturing)

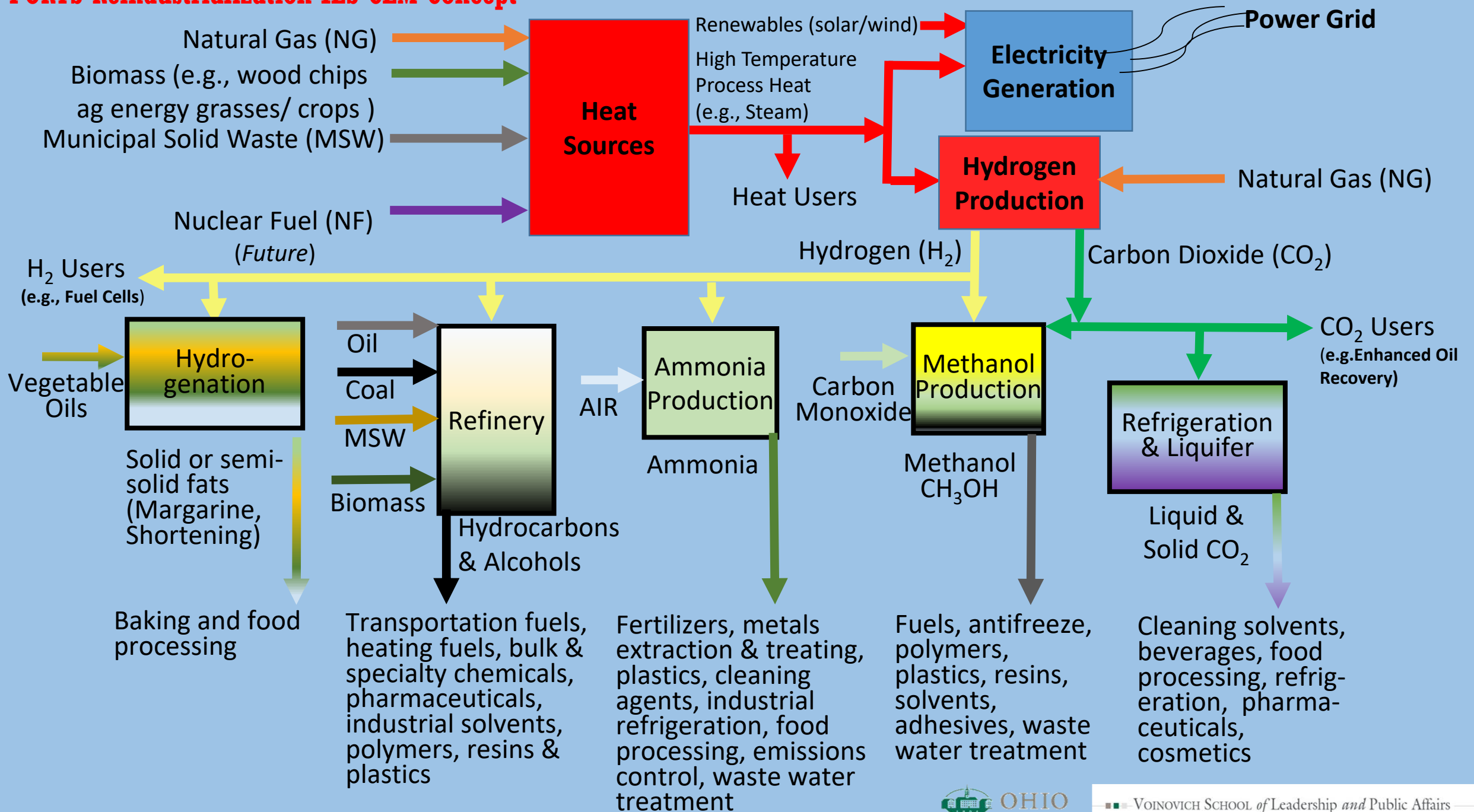


The facility at Piketon, Ohio

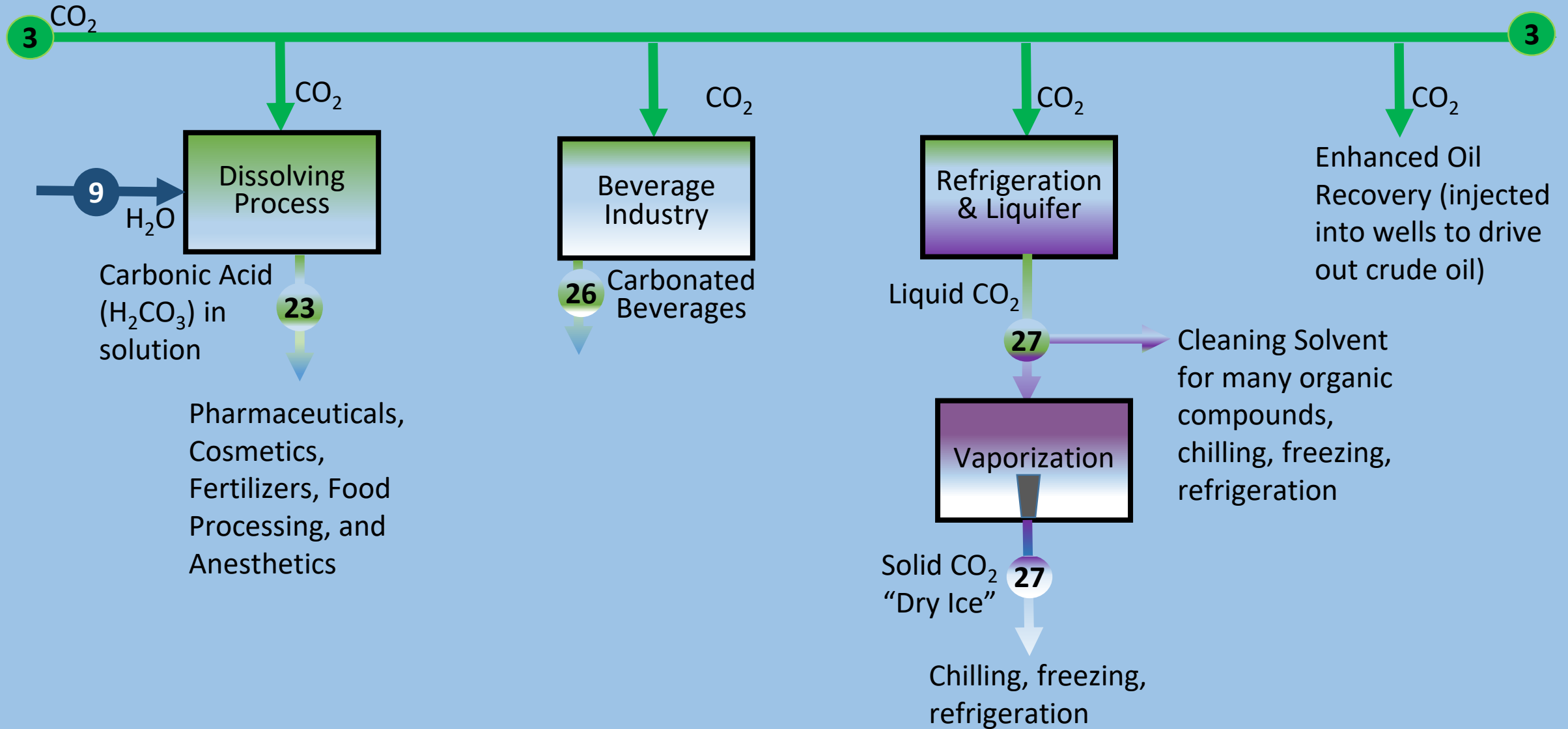
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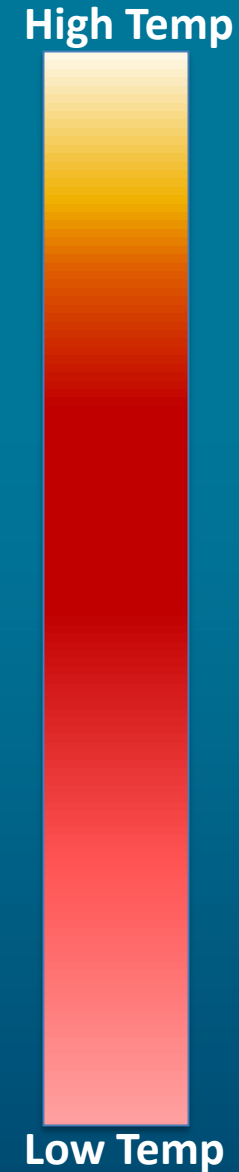
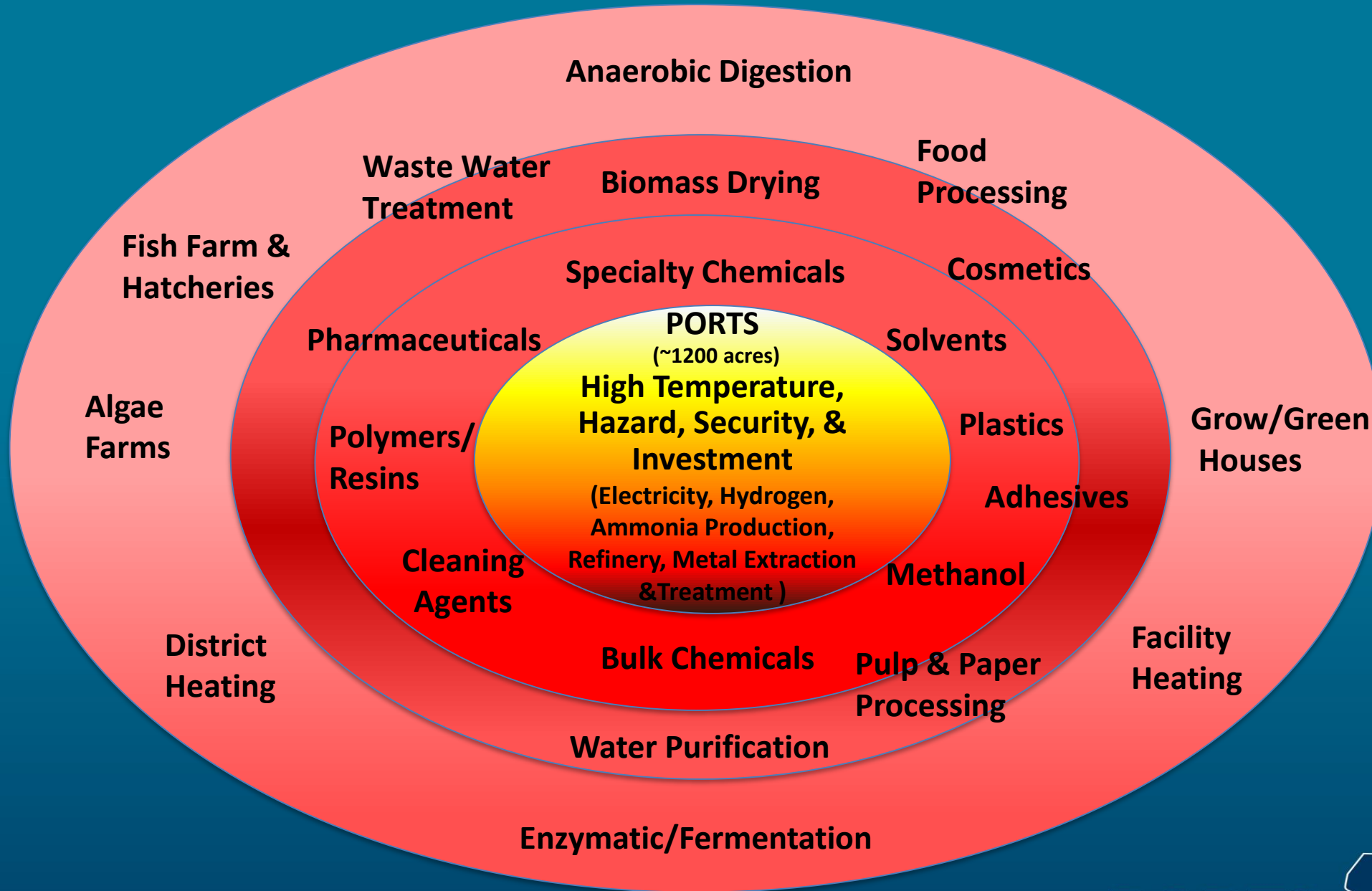


PORTS Reindustrialization IES-CLM Concept



IES-CLM Carbon Capture & Use Example





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IES-CLM Potential Benefits

- Effective resource management (cost savings) and reduced emissions [especially carbon dioxide (CO₂)]
- Higher overall energy usage efficiency by collocating industries
- Better utilization of capital equipment and lower operating expenses
 - Shared resources (e.g. infrastructure, facilities, personnel)
 - Shared processes (e.g. common/support systems)
- Use of domestic resources rather than imported resources (e.g., petroleum)
- Industry collaboration and collocation –Creating non-exportable jobs will attract and retain talent and expertise for southern Ohio and create regional economic stability.



Current Focus: PORTS is Multi State Asset for Economic Development

- Elevating the importance of PORTS for economic development for State of Ohio and region
- Incorporating the PORTS mega-site into regional and state economic development efforts and explore national possibilities
- Including PORTS representation at regional/state planning committee meetings
- Assist with developing P3s with major industry leaders/entities
- Assist with developing partnerships with key stakeholders (e.g. Shale Crescent USA, Tri State Shale Coalition, others)



PORTS REINDUSTRIALIZATION IMPACT

Appalachia

HOPE
Capitalize on natural resources
Repurpose coal
Shale gas
Focus area for innovation
Provide bulk feedstock materials
Supply chain opportunities
Develop intermodal transportation hub

Community

Economic stability
Increase local tax revenues
Retain educated & skilled workers
Import & home grow talent
Improve education at all levels
Enhance quality of life
Increase civic pride
New recreational areas & civic/cultural activities

Workforce

Create permanent non-exportable jobs
Opportunities for all skills and education levels
Development of advanced skills
Vertical & horizontal expansion of skills
Challenging opportunities with a greater purpose
Opportunities to work old & new technology

National

Convert a Federal liability to an asset
Increase US competitiveness
Leadership in integrated technologies
Improve energy price stability & predictability
Promote energy security & sustainability
Reduce greenhouse gas emissions

PORTS

Purpose, mission & vision for the future
Host a megaproject & attract \$B investments
Utilize and enhance industrial infrastructure
Accelerate site cleanup
Integrate utility & support processes
Innovation hub for integrated systems
Economic driver/engine
Co-location of energy producers
Focal point for recycle & reuse

Technology

Development of integrative technologies
Next generation technologies
Focused research, development, demonstration, & deployment opportunities
Design for flexibility, robustness, & resilience
Enhance separations and recycling technologies
Develop a model of innovation to be replicated

Ohio

Increase state tax revenues
Economic development in depressed area
State-wide supply chain opportunities
Create an intermodal transportation hub
Expands Ohio based companies in Ohio
Capitalize on available natural resource
Capitalize on a Federal investments
Attract major industry investments

Industry

Synergistically integrate technologies
Optimize efficiency & minimize waste
Share resources & processes
Leadership in closed loop manufacturing
Significantly reduced operating costs
Promote partnerships & collaborations
Promote industry symbiosis (closed loop manufacturing)

Environmental

Promote Recycling & reuse
Optimize efficiency & minimize waste
Reduce greenhouse gas emissions
Provide new wetlands & recreational space
Enhance natural resource utilization
Utilize brownfield site

ACTIVITIES 2019



Site Readiness for Reindustrialization

- Analyze infrastructure for industry attraction
- Minimum siting requirements for core tenants
- Site condition, characterization & other analysis
- Utility capacity matrix
- Land Use Plan & Site Plan-TBD
- Site branding and promotion and SODI website
- Proposed funding sources & funding plan

Industry Discovery & Networking

- Industry Contacts & Database
- Exploratory/Opportunity Meetings
- Informational Meetings

Integrated Energy System (IES) Core Industries Economic Impact Analysis (Direct, indirect, and induced)

IES Core Industries Workforce Analysis (Jobs created: by occupations)

Property Transfer Parcel Sequencing & Mapping SODI Property Requests Response Guidelines for Private Sector Inquiries Site Services Agreements

Transportation Study Traffic Impact/Thoroughfare Impact (pending)

SODI Operational and Project Funding

- Federal funding
- State funding
- Public-private partnerships



STEM and Entrepreneurship

- ASER Student Summary
- Internet of Things
- Entrepreneurship Panels
- Virtual Symposium
- Summer Mfg. Institute
- Others TBD

Data and GIS

- PORTS Concept Map/GIS
- Regional Ecosystem GIS
- Demographics & Regional Assets
- SODI Resource manual
- SODI site fact sheets
- Other data

Potential Partners/Projects

- ACE P3 Gasifier
- Hecate solar
- OVU workforce/human capital
- WVU Energy Institute
- Nat'l Energy Technology Lab
- JobsOhio APEG
- Tri State Shale Coalition
- CEER/CEProTECH
- Corrosion & Multiphase Technology Center
- Coal Research Center
- Biomass and bio-digesters
- OU Academic Departments
- OU Tech Transfer Office
- Office of Research and Sponsored Programs
- OU Entrepreneurial Ecosystem
- Ohio University Regional Campuses
- OHIO for Ohio
- Rural Revitalization Initiative

PORTSFUTURE DATA ACTIVITIES 2019

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

PORTS Concept Map/GIS-interactive map with parcel & infrastructure layers for planning/sequencing

Regional Ecosystem GIS-map of sites/buildings in the region available for development. Maps of regional airports

Regional asset maps

Data Dashboard-
Regional Demographics
Other TBD

SODI
Resource Manual
Implementation

IMPLAN Economic Impact Analysis for IES and related industries and

Workforce Analysis for IES and related industries

PORTS SITE FACT SHEETS

Quantifying the value of the PORTS site advantages for end users

Site infrastructure overview

Grid capability

Facts sheets by key industries (9)

The facility at Piketon, Ohio

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www.portsfuture.com Website & Product Demo

- <https://ohiou.maps.arcgis.com/apps/webappviewer/index.html?id=fe14a57f8ccb48d4875cbfbeb17e0271>
- <http://temp.portsfuture.com/wp-content/uploads/2019/03/Tier-2-Integrated-Energy-system-IES-Industries-at-PORTS.pdf>
- <http://temp.portsfuture.com/wp-content/uploads/2019/03/siteinfrastructure1.pdf>
- <http://temp.portsfuture.com/wp-content/uploads/2019/03/ElectricGrid1.pdf>
- <http://temp.portsfuture.com/>



PORTSFUTURE STEM ACTIVITIES 2019

ASER 8- in collaboration with Waverly High School
Advanced placement biology teacher-video and ASER Student Summary document

Virtual Symposium-in collaboration with University of Kentucky KRCEE
an online STEM learning portal

Internet of Things-partnering with the AEP Foundation and Boy Scout and Girl Scout troops-curriculum and applied learning

Participate annually in DOE Science Alliance

Onsite Academic Activities-partnership opportunities with OU-C and various researchers at Ohio University. Curriculum, research projects, internships, etc...

US Senator Sherrod Brown
Summer Manufacturing Institute

College Business Pitch Competition-in collaboration with TechGROWTH Ohio, OU-Chillicothe (OU-C), Shawnee State University, University of Rio Grande



STEM OUTREACH

- <http://temp.portsfuture.com/stem-entrepreneurship/>
- <http://temp.portsfuture.com/aser-7/>
- <http://temp.portsfuture.com/internet-of-things/>
- <http://temp.portsfuture.com/virtual-symposium/>



LEVERAGED FUNDING GY2-GY3

\$20K OU Innovation Planning Grant

~\$14K AEP Foundation for DOE/AEP/OU STEM Internet of Things high school project

\$25K regional incubator feasibility study with OU Executive Director for Regional Innovation

~\$3K TGO funding for regional college business pitch competition

~\$50K OU (non DOE) Funds for SODI Resource Manual

~\$112K leveraged funds

Recent Meetings/Presentations To Elevate Site Reuse Efforts

- American Society of Mechanical Engineers National Conference-technical presentation on IES-CLM
- US DOE National Energy Technology Laboratory-Morgantown W.Va.-DOE FE research lab current focus on integrating hybrid power systems. Presented to NETL research team, attended international workshop.
- West Virginia University Energy Institute-storage hub and \$83.7B China Investment
- Congresswoman Marcy Kaptur's Congressional Liaison
- JobsOhio APEG
- Governor DeWine's southern Ohio rep.
- Others to be scheduled



Location Advantage-Nat'l Interests

- DOE secure facility
- Massive infrastructure
- Connection to national grid
- 60% US population within 600 miles
- Grid stabilization
- National security/energy security/inland refineries/grid stabilization
- Midwest emergency management
- Rural development project
- Keeps natural resource wealth in US

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Location Advantage-State & Regional Interests

- Natural resources in Appalachia/shale resources, cracker facility, storage hub
- Alternative uses of coal, MSW, other feedstock for mfg. and electricity
- Closed loop processes that are fully integrated reduce industry costs
- Community support (e.g., Shale Crescent USA)
- Ohio based company owns most shale rights in Ohio
- Marathon, AEP, P&G other Ohio based companies PetChem industries
- Creates 21st Century jobs

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Potential Projects

- Renewable energy/alternative energy generation
 - Solar and solar panel mfg.
 - Biomass
 - MSW
- Data centers
- 365 Agriculture: Vertical farming/indoor farming
- Combined Cycle Gas Turbine (CCGT) facility
- Pet Chem-downstream shale industries
- MSW to jet fuel for commercial aviation

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PORTSFUTURE OUTREACH ACTIVITIES 2019

**OHIO UNIVERSITY & SODI
COLLABORATION ON OUTREACH TO
VARIOUS STAKEHOLDERS INCLUDING:**

**LOCAL, REGIONAL AND
STATE ECONOMIC
DEVELOPMENT ENTITIES**

**COMMUNITIES
CITIZENS
TAXPAYERS**

**PRIVATE SECTOR AND
INDUSTRY**

**LOCAL, STATE, FEDERAL
GOVERNMENT &
NATIONAL EXPERTS**

**ATTEND/PRESENT AT
CONFERENCES AND
SYMPOSIA**

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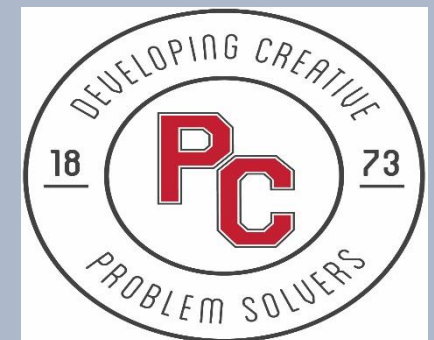




Ohio University Russ College of Engineering and Technology

Pike County Schools

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**For more information on the PORTSfuture
program visit:**

www.portsfuture.com

Contact: Stephanie Howe howe@ohio.edu

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