Workforce Development and Public Infrastructure in Ohio’s Shale Play

Jonathan Norris, Researcher, Ohio University
jn173509@ohio.edu
Workforce Development – Trends

• Natural gas overtakes coal as fuel for electricity generation as of 2016
• Shale gas leads in U.S. natural gas withdrawals
• Oil spot price and natural gas spot price drop in 2014 after steady boom period → Concern for transferable skills

<table>
<thead>
<tr>
<th>Ohio: 2011 Q4 – 2015 Q4</th>
<th>Net Establishments Added</th>
<th>Net Jobs Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRECT</td>
<td>214</td>
<td>4,711</td>
</tr>
<tr>
<td>INDIRECT/ANCILLARY</td>
<td>119</td>
<td>10,495</td>
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</tbody>
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Source: Ohio Department of Job and Family Services, 2016
Workforce Development – Policy Options

• A need exists for robust skill-building that meets and transcends the oil-and-gas industry

• Establish transferable career pathways for the workforce
  • Technical skills and soft skills
  • Broad skillsets enable cross-walking to various industries when needed

• Establish continuous public-private partnerships between the industry and public sector
  • Enables public sector to better understand industry needs
  • Enables industry to support skill-building efforts for the local workforce

• Economic diversification is key
  • Build a portfolio of workforce opportunities to cushion downturns in O&G
Public Infrastructure in Ohio’s Shale Play

• Interviews with 7 public-office officials in some of Ohio’s top oil and gas producing counties
  • Belmont, Carroll, Guernsey, Harrison, Monroe, Noble, Washington

• Literature review on the following topics
  • Resource extraction boom and bust cycles
  • Shale financing
  • Public infrastructure impacts in Marcellus shale play of New York

• Brief review of policies and practices in Bakken Shale (North Dakota) and Denmark
Public Infrastructure – Reported Impacts

Impacts on Public Infrastructure

Increased Housing Prices, Rent, Homelessness
Increased Emergency Service Needs
Increased Demands on Public-Office Staffing
Positive Infrastructure Impact (Tax Revenue Enabled Expansion & Upgrades)

Transient Population & Increased School Costs
Road Damage & Maintenance
Public Infrastructure – Reported Management Strategies

• Anticipate the bust
  • Develop scalable work processes
  • Reshuffle work responsibilities with existing staff
  • Do not rely on shale-related tax revenue for public budgets

• Partner with industry early and often
  • Hold pre-planning strategy meetings with both public and private entities
  • Consult with industry on training needs
  • Identify complementary public and private roles
Public Infrastructure – Reported Management Strategies

• Establish a fund, save, invest in non-recurring needs
  • Establish a permanent trust fund – invest shale revenue for future public goals
  • Invest in non-recurring infrastructure needs
  • Keep future capacity needs and growth in mind

• Form regional alliances
  • County Engineer Association of Ohio serves as a model
  • In development – Emergency Management Assistance Team
  • Proposed by interviewee – Eastern Ohio Infrastructure Alliance