

Preparing Shale Oil & Gas Communities for Shale Development through Sustainable Planning

Curriculum

The Situation and Current Need for Programming:

Shale oil and gas development is impacting many communities throughout the United States. Unconventional drilling technologies – namely hydraulic fracturing – are providing access to oil and gas reserves that were previously difficult to obtain. The current growth in shale oil and gas production is projected to grow as new technologies and productivity increases are realized. Additionally, the growth in pipelines needed to transport the product, midstream and cracker plants to process the raw materials, and injection wells needed to store waste shale production fluids often impact communities that are not in the direct path of shale drilling.

For communities positioned on productive shale oil and gas plays (shale communities), this phenomenal growth is expected to continue into the near future. Long-term scenarios are more complex and uncertain. Natural resource based economies are subject to boom-bust cycles as finite resources are depleted. Without maintaining diversity beyond shale development, local economies can experience an eventual bust as the shale industry wanes. The experience of many regions of the country dependent upon coal production for their economic growth is a case in point.

Communities often need assistance in preparing for the short and long-term impacts of shale development. Shale development most often occurs in rural communities who do not have the local capacity or expertise to engage in planning for shale development. There is a need for programming that can be delivered through the Extension system to assist these communities in understanding and preparing for the impacts of shale development.

Overview and Design of Curriculum:

Ohio State University Extension has developed a curriculum that can be used to help communities engage in planning to address the impact of shale development. These impacts will affect the social, environmental and economic sectors of the community, and will be both short and long term. As a result, the planning philosophy and approach we are using follows sustainability cornerstones, as follows:

- *Inclusion:* recognize the importance of engaging a broad base of residents and leaders in the guidance and creation of the plan in order to discover and build upon a shared future vision for the community.

- *Long-Term:* sustainability looks out to future generations, so this is a 50 year plan. The benefit of this is to move beyond the initial economic boom in order to transcend the eventual bust.
- *Interconnected and linked:* Understand the environmental, economic and social impacts of shale development and examine and promote linkages through the plan development among all three sectors of the community.
- *Multidimensional:* Develop community goals that include a social, environmental and economic dimension and are broadly supported and engaged in by the community.

The curriculum is designed to achieve two main objectives:

1. To help community leaders and residents understand shale oil and gas development and the anticipated social, economic and environmental impacts,
2. To guide the community in the creation of a sustainable plan to address these impacts.

The sequence of these modules and their content follows.

Curriculum Modules and Content:

There are five modules in this curriculum with supporting information and resources. Each module includes the following elements:

1. Teaching outline
2. Power point presentation with narrated slides
3. Exercises
4. Additional resources

There is also an additional curriculum component that outlines the planning process and provides tools/guides that can be used in organizing and conducting the community plan. Steps include creating a steering committee, engaging the community, forming workgroups, responsibilities of workgroup members and chairs, components of the plan, and identifying sustainable community goals.

Curriculum Modules are as follows:

Module I: Introduction to Shale Development and Planning Process

Module II: Social Impacts of Shale Development

Module III: Environmental Impacts of Shale Development

Module IV: Economic Impacts of Shale Development

Module V: Sharing Workgroup Results and Developing Sustainable Goals

Ohio State University Extension Sustainable Energy Team:

The following faculty at OSU Extension have been involved in the preparation of this curriculum. Please contact them with any questions you have regarding specific curriculum components. Overall questions about planning process or curriculum can be directed to:

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Bio Sketches

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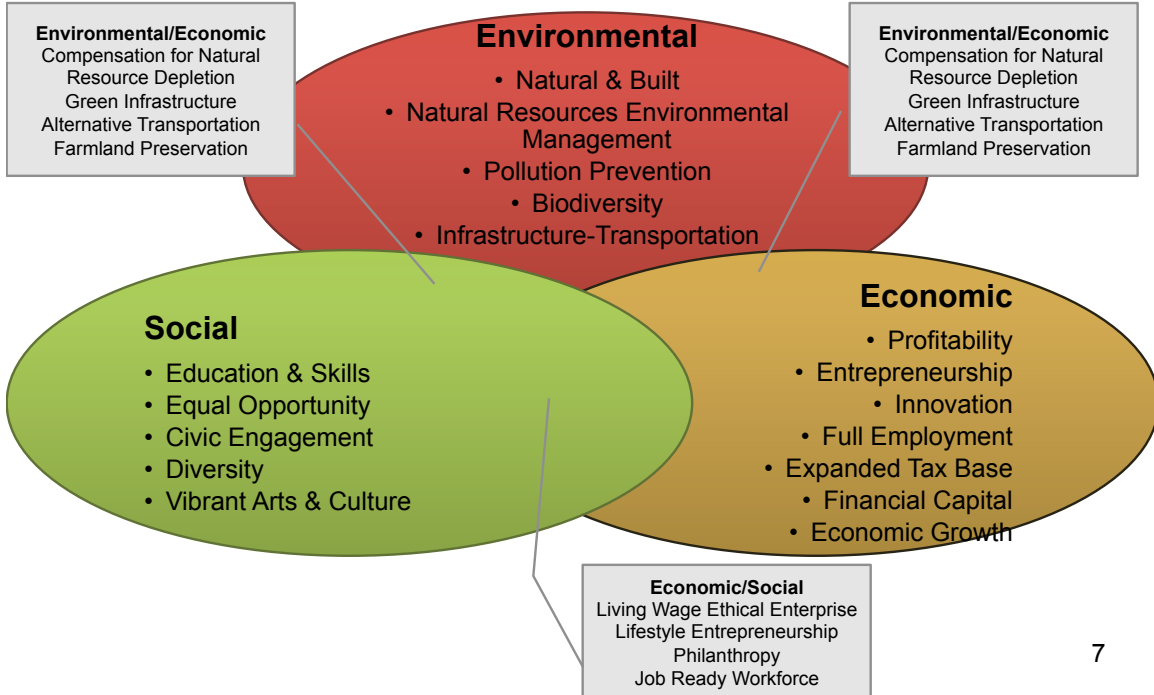
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Using Sustainability to Build Capacity in Shale Impacted Communities



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