The LSU Local Engagement, Assessment and Planning Model (LEAP)

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Introduction

The LSU Office of Research & Economic Development (ORED) recognizes the importance of the university's long-term commitment to provide high-quality, transparent, well-sourced, and policy-relevant information for the people of Louisiana.

Private companies investing capital in the State also seek to understand the likely impacts of energy projects on local communities. Projects that do not lead to net benefits for local communities are less likely to receive community support and more likely to face opposition. This report introduces a systematic framework for local engagement to help clarify community priorities and concerns. The framework helps set the stage for constructive dialogue to better align business goals with community development priorities.

Building on LSU's role as Louisiana's flagship public university and its historic mission to enhance the lives of residents, the LSU Center for Energy Studies (CES) and the Institute for Energy Innovation (IEI), in collaboration with faculty from the Department of Environmental Sciences and the Department of Sociology, have developed the LSU Local Engagement, Assessment, and Planning Model (LEAP). The goal is to provide a template for LSU researchers to facilitate more systematic community engagement related to new energy investments in Louisiana.

The LSU Local Engagement, Assessment and Planning Model (LEAP)

The LEAP combines approaches for participatory community planning, assessment of community needs, and economic analyses to guide and inform the development of new energy projects in Louisiana. At the time this document was prepared, decarbonization investments were front and center, but this framework is adaptable for application to a variety of project types.

The LEAP centers on the systematic identification of community priorities and the enhancement of stakeholders' capacity for informed decision-making. The model incorporates quantitative and qualitative information and analyses. Quantitative analyses include economic assessments of local impacts from proposed energy projects and geographic mapping of community attributes. Qualitative assessments include focus groups and community workshops with stakeholders. The model is designed to increase local capacity to identify and articulate questions and concerns, to learn more about the proposed projects and sources of objective scientific and technical information, and ultimately, to participate with confidence in the planning process.

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The four components of the LEAP are:
1. Structured Listening
2. Project and Community Mapping
3. Economic and Tax Impact Modeling
4. Communication Back to Community

We envision these components taking place in chronological order, though adaptations may be appropriate as the model is tailored to specific projects.

Component 1: Structured Listening

The first component of the LEAP is structured listening, a process designed to understand the perspectives of community stakeholders through direct, interactive engagement.

Community Engagement and Trust Building: The structured listening approach supports multi-directional communication and helps to build trust among participants (Ardoin & Heimlech, 2021; NIEHS, 2011). Trust in the integrity of the dialogue process and the objectivity of technical information conveyed is essential to the good-faith consideration of complex technologies by community stakeholders (Mancini & Raggi, 2022; Todaro et al., 2023).

Research indicates that more transparent and interactive community engagement efforts are associated with a range of benefits. These include greater clarity concerning risk perceptions of residents (Rowe & Frewer, 2000), enhanced social capital (Reams & Irving, 2019), more broad-based support for resulting agreements (Garard et al., 2018; Gomes et al., 2023; Gross et al., 2002; Vanclay, 2024), and equitable distribution of benefits (Fung, 2006). University personnel engaged in this process must be clear—with themselves and local stakeholders—that their role is not advocacy; it is to be a neutral third-party providing technical information and facilitating collaborative deliberation.

Focus Groups and Workshops: Focus groups—small group discussions comprising eight to 12 participants—and larger community workshops are two methods used to facilitate structured listening. Participants will be asked to share: 1) questions and concerns about proposed activities in their community, and 2) perceptions of community strengths to build on and community vulnerabilities to mitigate in the planning process. The method is initiated by identifying focus group participants through key informants in the local area, including elected officials, faith leaders, school officials, and grassroots organizations. Once a sufficient and varied group of participants is identified, focus groups are convened. Finally, two or more larger community workshops are organized to survey attendees concerning proposed projects, and the attendees' goals for future community development.

In the first community-wide workshop, attendees will be asked to conduct a preliminary rank-ordering of the list of priorities for their community that the focus group participants identified. In addition, they will be asked to raise questions concerning the specific energy project being proposed. The second workshop will include sharing technical information about a proposed project in response to questions raised at the first workshop, and a final rank-ordering of the priorities for the community. In some instances, structured listening can occur before a company is ready to publicly announce a proposed project, or if there are multiple projects ongoing in the community. The second workshop can be tailored to accommodate the specifics of the situation and community. University personnel will then summarize the findings and share them with attendees either through mechanisms like one or two-page briefs or a third community workshop.

The Structured Community Listening Sessions (SCLS) process is illustrated in Figure 1.

Figure 1. Structured Community Listening Sessions (SCLS) Process
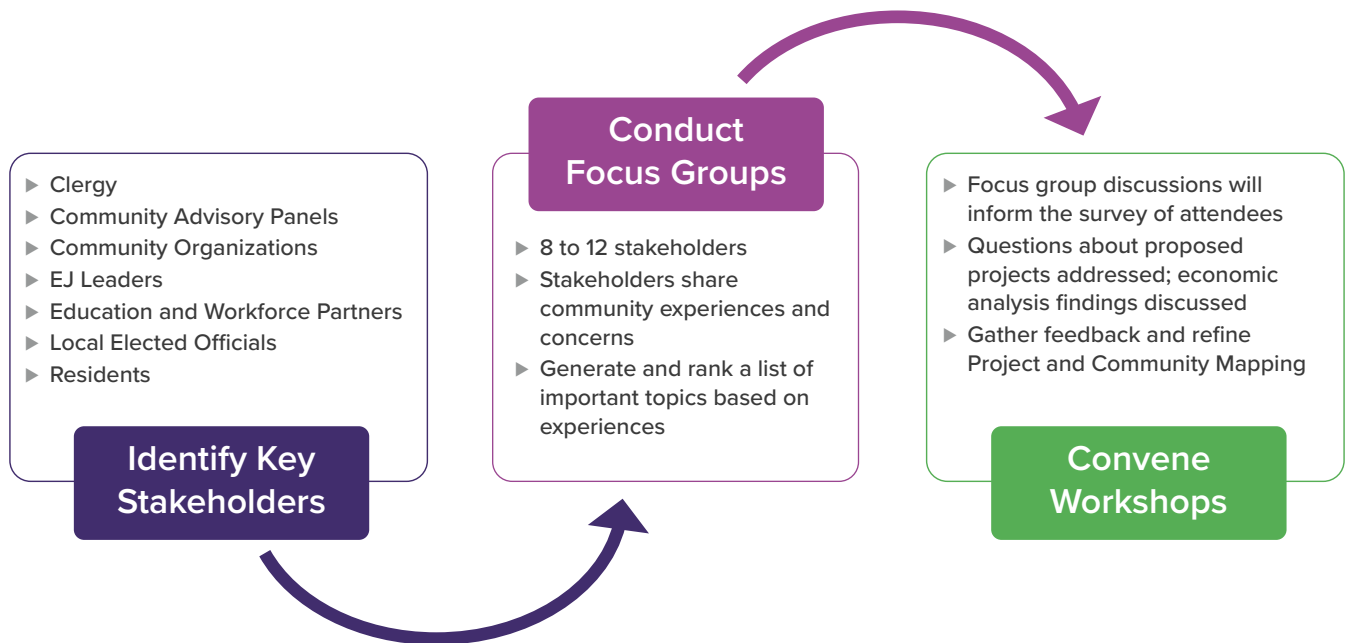
Component 2: Project and Community Mapping

The second component of the LEAP is project and community mapping. Using geographic information systems (GIS), the objective is to describe community attributes relative to the location of a proposed energy project. The final product is an interactive community-level map developed with stakeholder input for use in local decision-making.

To facilitate this process, LSU has developed the Louisiana Project and Community Mapping Tool. The tool allows local stakeholders to visualize how a proposed project is emplaced with reference to other community features. It can be tailored to the geographic scale appropriate for a given project and/or audience, including the consideration of administrative boundaries (e.g., municipal) and distance (e.g., miles). The ability to zoom in and out on features helps people think about near-neighbor impacts and broader geographic considerations.

Project and Community Mapping can be conducted in concert with SCLS to refine and validate the tool based on input from community stakeholders. Doing so is a key step for confirming the accuracy and increasing community acceptance and use of the tool (National Academies of Sciences, Engineering, and Medicine, 2024). For example, a wealth of sociodemographic data on localities exists at the census tract level. Census tracts are small units of geography delineated by the U.S. Census Bureau that subdivide counties, parishes, and equivalent entities into areas with population sizes of between 1,200 and 8,000 people. Tracts are often used by social scientists as proxies for communities and neighborhoods. A critical point, however, is that census tracts are not "communities," at least not in the sense people typically understand that concept in their everyday lives. Tracts do not necessarily conform to municipal or other place boundaries, nor do they influence people's field of daily interactions, how they collectively identify,

or the meanings they attach to places. Feedback from local stakeholders helps ensure that the tool reflects the reality of people's lived experiences. Thus, project and community mapping not only provides a geospatial representation of sites selected for industrial development and data on community attributes, but also leverages opportunities in the SCLS process to incorporate input from local stakeholders to coproduce the tool. The first step is to present an initial mapping tool to focus group participants for input on elements that might be added/deleted to improve its utility. The second step is to then revise the mapping tool based on stakeholder input. The third step is to present the revised interactive mapping data product at a follow-up workshop, demonstrating how it can be used to facilitate local decision making related to the proposed project. This can be an iterative process and further modified as additional feedback is received. Ideally, the map will be made publicly available on the internet so that it can easily be shared with members of the community.

Data Used: The mapping tool integrates geocoded data on community features like schools, healthcare entities, and places of worship using shapefiles specific to Louisiana. Additional data layers include parish boundaries, census tracts, census block groups, zip codes, city boundaries, urban areas, federal lands, and townships. A wide range of data on population, environment, and economy can then be integrated into the tool as called for by a particular project.

An illustration of the Project and Louisiana Community Mapping Tool is shown in Figure 2. A blue pin has been dropped at the LSU Student Union. A perimeter with a 5-mile radius from the Union has been defined. Census tract boundaries are displayed (dark gold) and the sites of petrochemical refineries (red dots) and places of worship (gold dots) are identified. The tool shows that this geography covers many census tracts in full or part, one refinery to the north (and another just beyond the perimeter), and over 250 places of worship.

Figure 2. Depiction of Louisiana Project and Community Mapping Tool
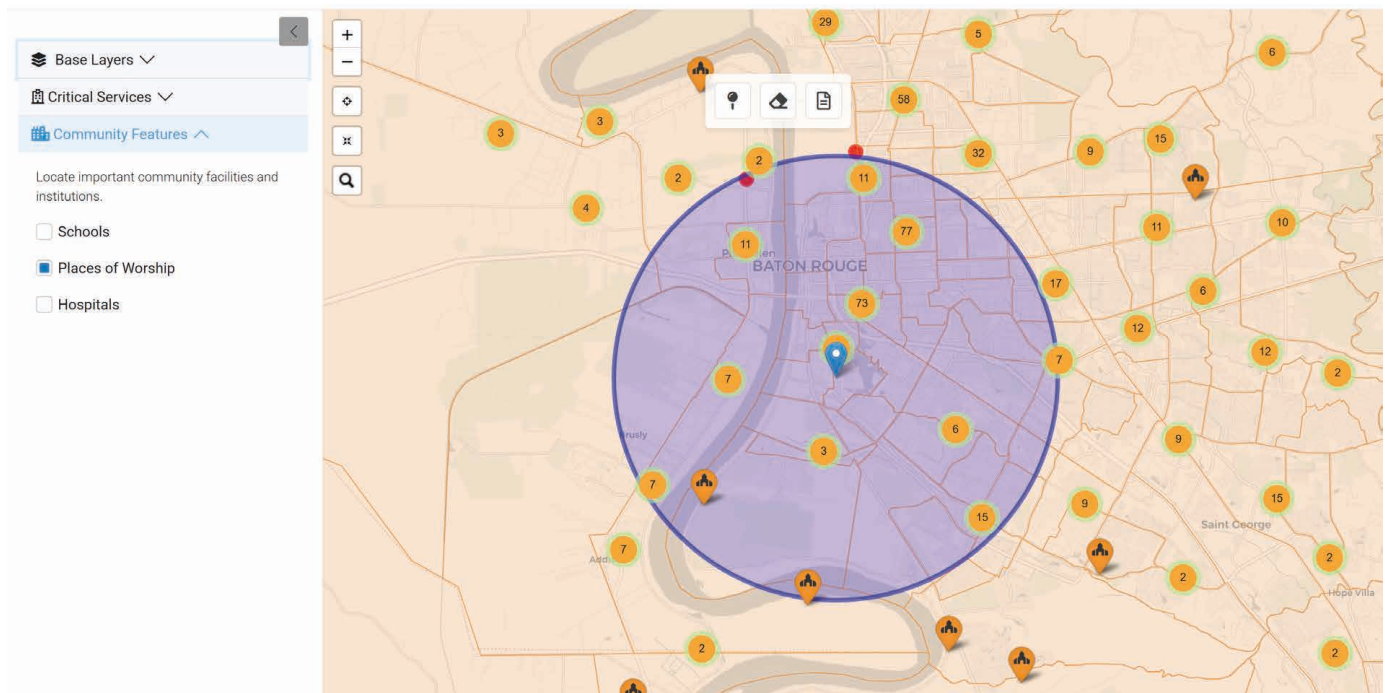
Component 3: Economic & Tax Impact Modeling

The third component of the LEAP is economic and tax impact assessment. Communities can incur costs and benefits from economic activities. For example, increased road traffic might increase maintenance costs for streets, but local jobs can be supported and local taxes can be paid by a project or facility. LSU-CES has developed the Louisiana Economic Impact Model (LEIM) that estimates local economic and tax impacts of an initial economic activity. LEIM is Louisiana-specific and focuses on state and local tax revenues. LEIM also provides a framework to allocate economic impacts from an initial activity originating in a specific location on all parishes across the state. Often, economic impact studies present results for a broader area (such as a metro area or state). LEIM has been specifically developed to assess *local* economic and tax impacts.

Component 4: Communication Back to the Community

The fourth and final component of the LEAP is a systematic process for sharing the findings from the first three components with community stakeholders. The purpose is neither to convince the community to move forward (or not) with a project, nor to engage in negotiation between the community and the company. The goal is to provide high-quality information to local stakeholders.

Communication back to community stakeholders will include the following sets of activities:

Workshops: The findings of the economic analysis, project and community mapping assessment, and survey of community members' needs and priorities will be shared with residents through presentations and Q&A discussions at the second public workshop.

Community Learning Resources: Community learning resources can be tailored to project-specific contexts. For example, this might include short (1-2 page) research briefs aimed at a non-academic audience but backed with high-quality academic standards. These briefs could be disseminated in hard copy and/or be web-based and would be suitable for use in a variety of group learning settings, including meetings of neighborhood associations, church groups, and high school classes, among others.

Researchers have found that targeted educational tools, developed in response to residents' questions, help to reduce misconceptions and can help build consensus around planning outcomes (Brossard & Nisbet, 2007; Radin & Light, 2022; Sauermilch et al., 2024). Furthermore, interactive platforms like websites and social media can enhance the effectiveness of engagement and outreach efforts (Orthia et al., 2021).

Summary and Benefits of the LSU LEAP Model

The LEAP Model provides a systematic framework for enhanced stakeholder engagement. The four components of the LEAP are: 1) Structured Listening; 2) Project and Community Mapping; 3) Economic Impact Modeling; and 4) Communication Back to the Community. The LEAP Model is depicted in Figure 3.

Figure 3. The LSU Local Engagement, Assessment and Planning Model (LEAP)

In summary, local planners, residents, industry representatives and other stakeholders of Louisiana communities face challenges and opportunities as new investments are proposed. The development of energy infrastructure will require participation by community stakeholders, including providing input into permitting decisions and local land-use planning. This Model aims to provide high-quality information from a disinterested source, and to help stakeholders evaluate risks and opportunities associated with new energy projects. Meaningful and durable relationships between local communities and energy firms will be more likely when local stakeholders are knowledgeable about new or unfamiliar technologies, mindful of the range of needs within their communities, and confident in planning for their collective future.

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About the LSU Center for Energy Studies

The Center for Energy Studies (CES) was created by the Louisiana Legislature in 1982 with the mission of conducting, encouraging, and facilitating research and analysis to address energy-related problems or issues affecting Louisiana's economy, environment, and citizenry. The Center's goal is to provide a balanced, objective, and timely treatment of issues with potentially important consequences for Louisiana. More information on the LSU-CES can be found here.

About the LSU Institute for Energy Innovation

The Institute for Energy Innovation (IEI) was founded in 2022 by a $25 million gift from Shell. IEI's mission is to be an independent and trusted voice and a leader in interdisciplinary collaboration that produces research, develops policies, leads demonstration projects, and develops educational programs for an equitable low-carbon energy future. More information on LSU-IEI can be found here.

About the LSU Department of Environmental Sciences

The Department of Environmental Sciences (DES) is part of the College of Coast and Environment. The DES uses multidisciplinary scientific approaches to understand complex interactions between social and natural systems. ENVS faculty and researchers are experts in a wide variety of soil, aquatic, plant, atmospheric, and social sciences. The DES provides graduate level MS and PhD programs that emphasize holistic, integrative approach to interdisciplinary environmental research and education. More information on LSU-DES can be found here.

About the LSU Department of Sociology

The Department of Sociology is part of the College of Humanities and Social Sciences. Founded in 1928, it is home to a tradition of excellence in research, teaching, and service. Sociology is home to award-winning and internationally recognized faculty, serves thousands of undergraduate students every semester, and offers the only PhD in sociology in the state of Louisiana. More information on LSU Sociology can be found here.

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