Invenergy is a renewable energy company that develops utility-scale projects. Before construction can begin, however, a project must get a permit from local state boards, who review public comments to make their decision. Because manually reading and summarizing hundreds of comments was slow, Invenergy's team struggled to see patterns and respond to concerns in real time, increasing the risk of lost investments due to permit rejection.

Invenergy asked UChicago's DSI to develop a scalable automated text processing pipeline that summarizes the sentiment and main themes present in public comments submitted for an ongoing project. The team developed a pipeline capable of scraping and extracting text from a range of potential document types, including both typed and handwritten text. Next, the team developed several deep learning models to tag each comment as supportive, opposed or neutral, and to pull out the main issues raised, such as flooding, loss of farmland or visual impact. These analytical results were wrapped in an interactive dashboard (Figure 1) that gives Invenergy a fast and consistent way to understand community sentiment towards a project. For instance, this analysis shows that most comments (76%) filed are opposed, with their primary concern being the loss of farmland.
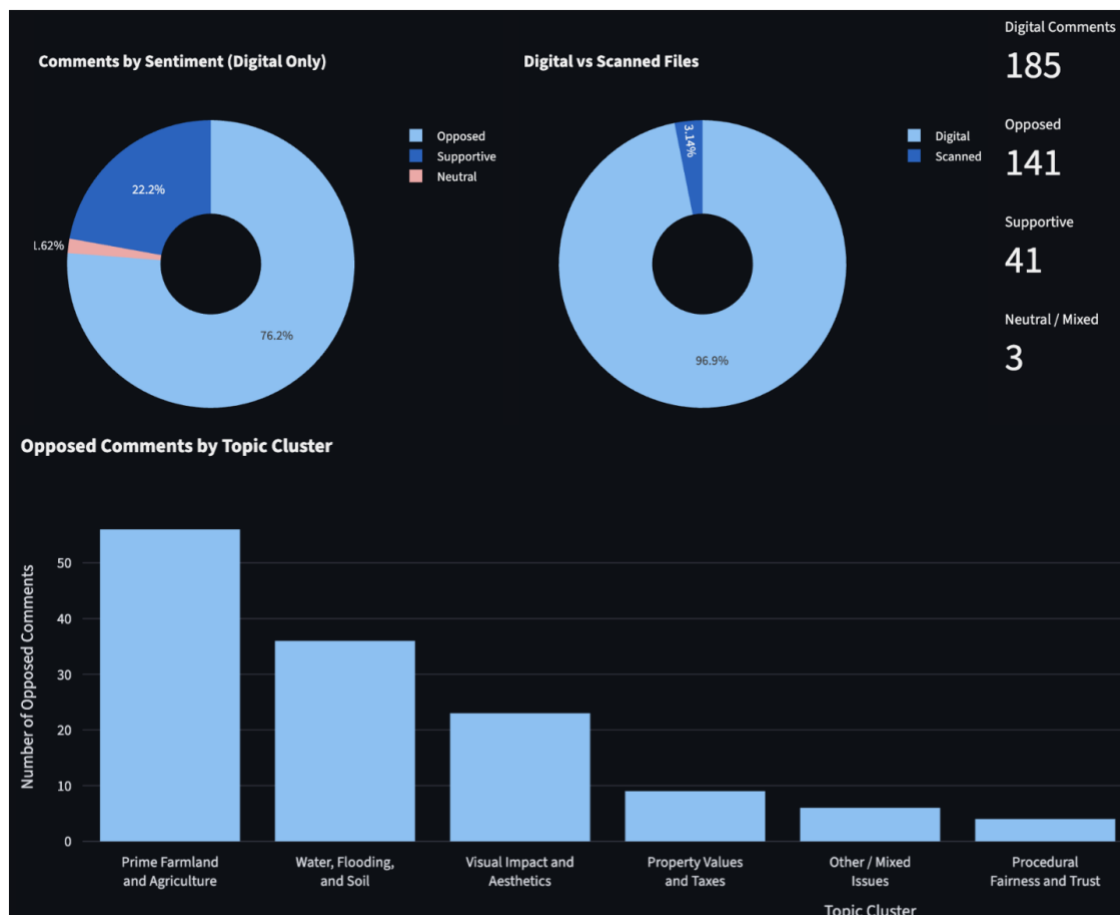

Figure 1: Subset of dashboard statistics generated for the Sloopy Solar project, showing both the distribution of sentiment and primary areas of concern across submitted comments.