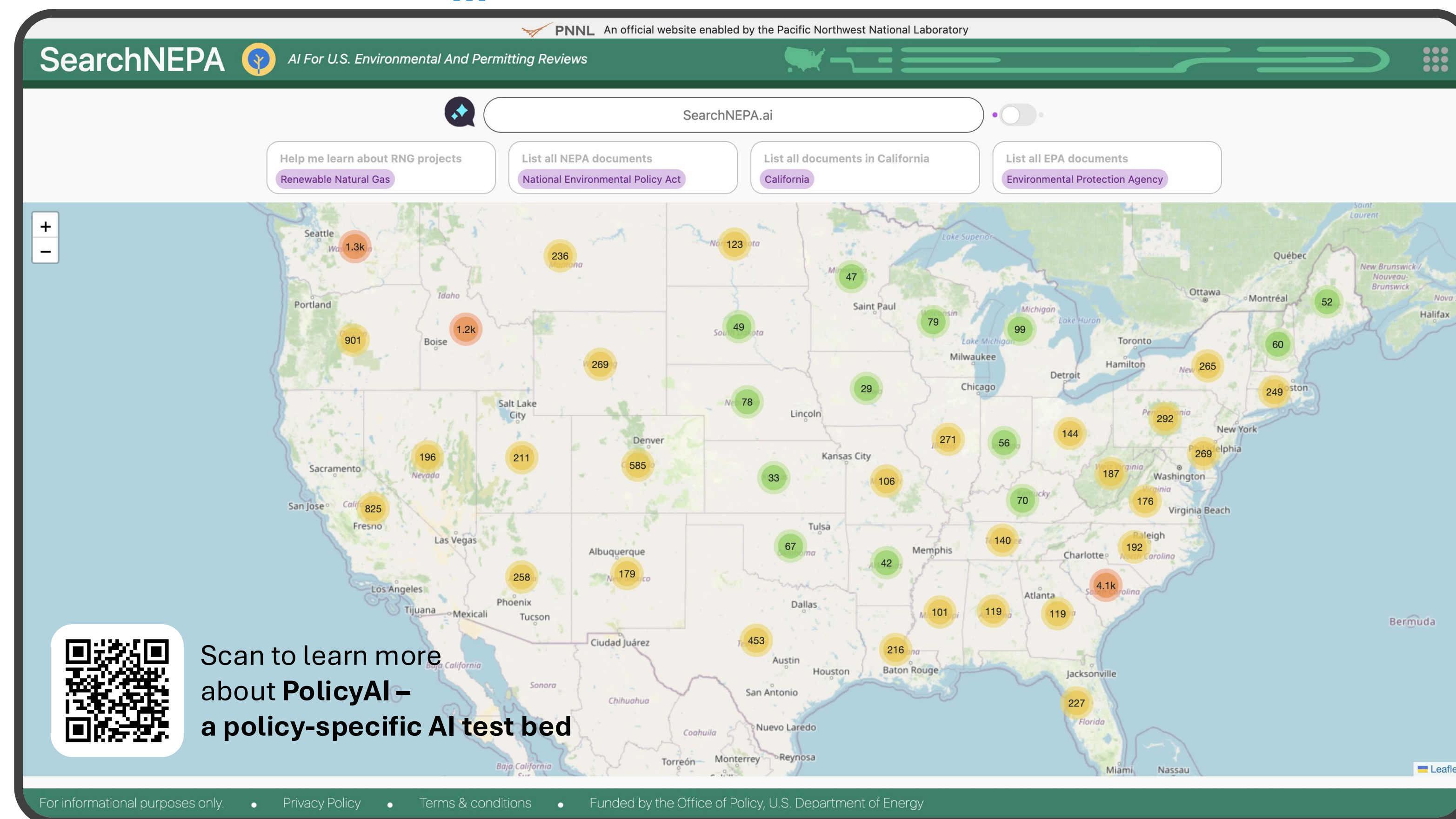


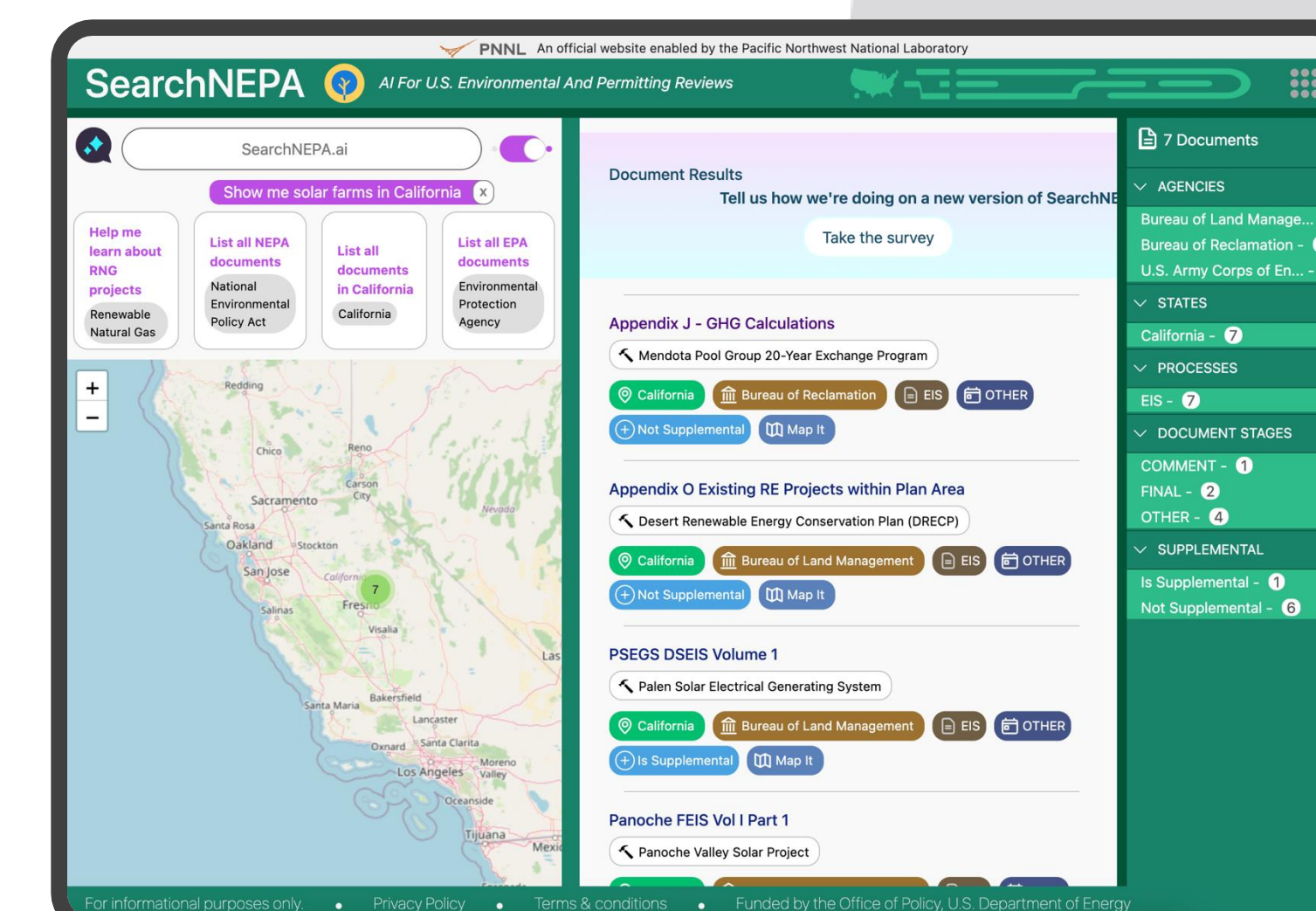
Keyword Search

¹Pacific Northwest National Laboratory

PolicyAI's SearchNEPA App[illegible]

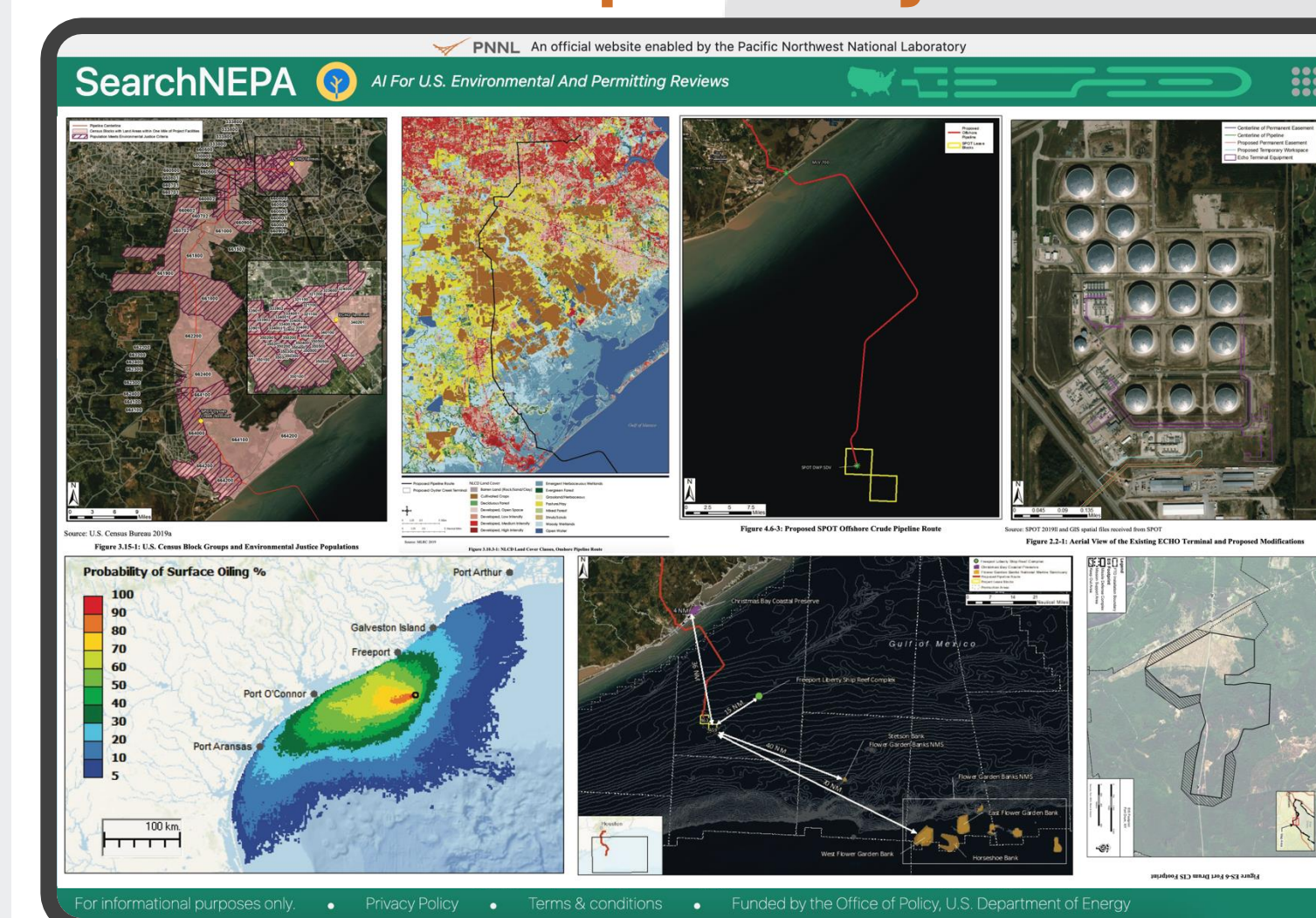
Post-search page has clickable metadata, metadata filtering, and links to document and project views.

Semantic Search



Generative AI-powered search allows users to ask detailed prompts to retrieve targeted results.

Map Gallery

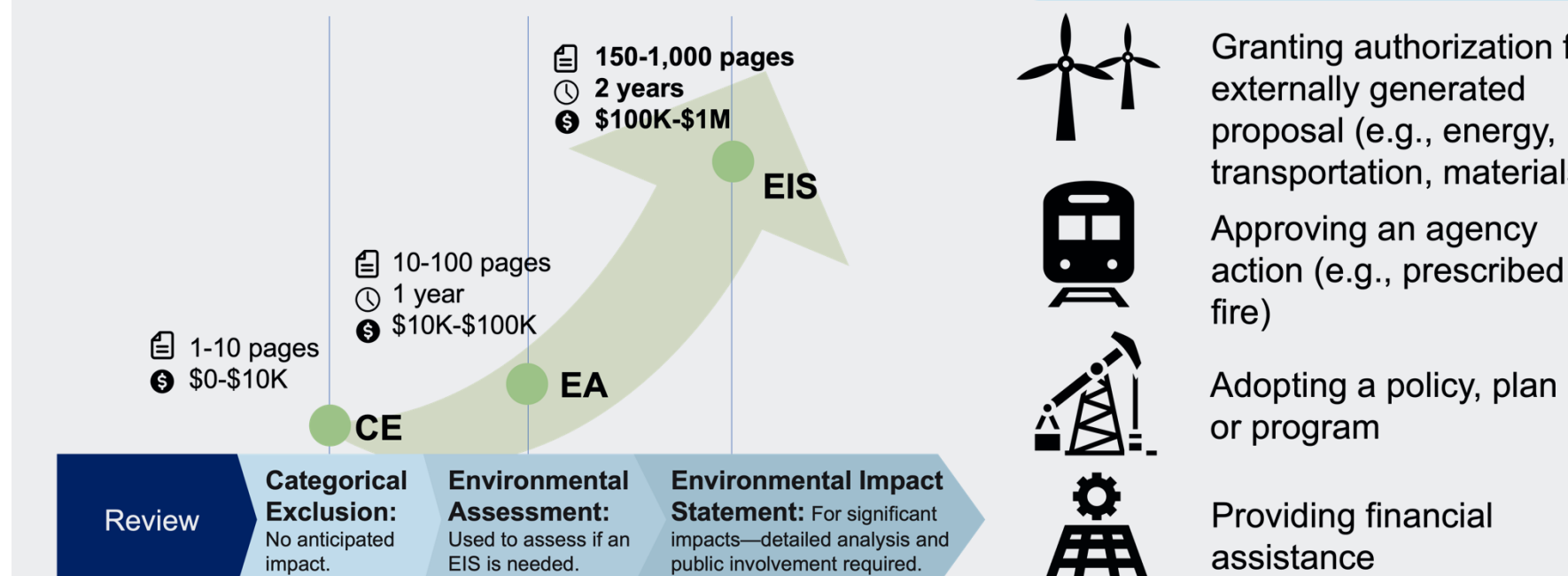


Map gallery quickly retrieves project maps.

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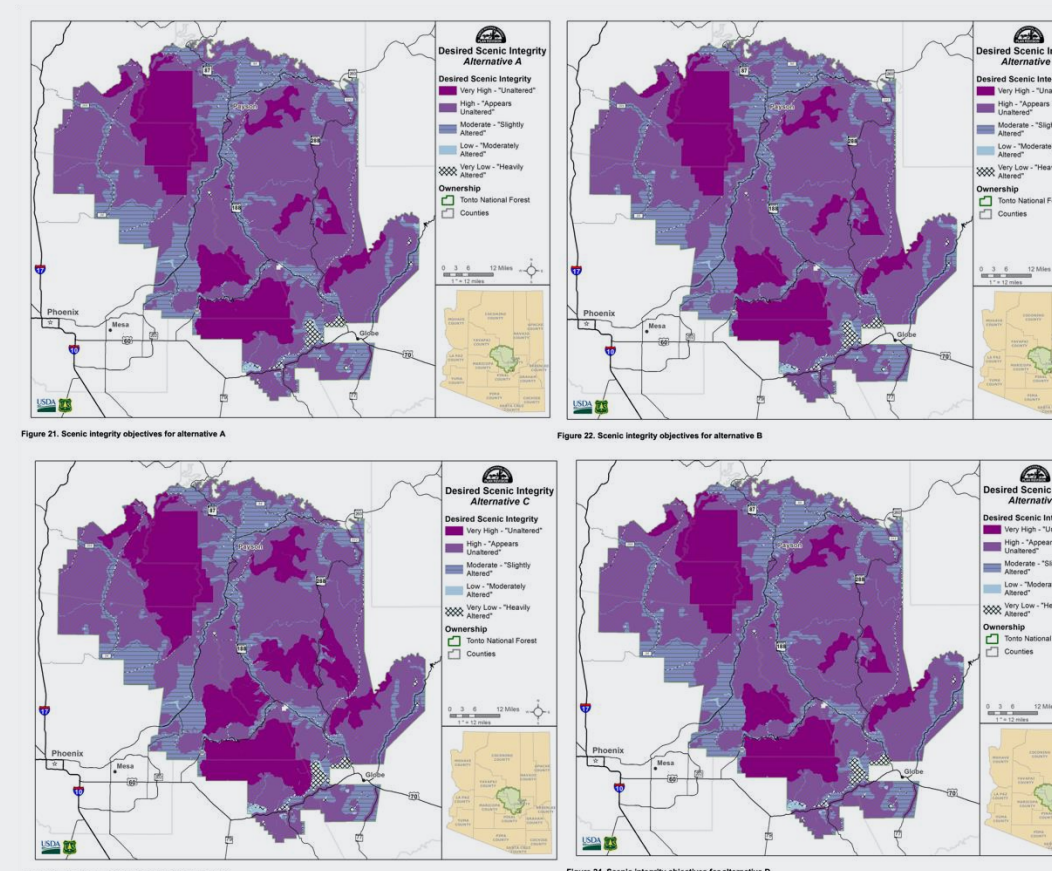
The **National Environmental Policy Act** (NEPA) requires federal agencies to analyze anticipated impacts and project alternatives before carrying out major planning, permitting, and construction.

This process is **tedious, complex, and expensive.**



These analyses, or EIAs, demonstrate immense range in **map type** and **map data sources**:

- **Choropleth** (surveys and censuses)
 - BLM's GLO, Google Maps, U.S. Census Bureau
- **Topographic**
 - USGS, USFWS
- **Thematic** (meteorological/climate, temporal, economic activity, geologic, land use)
 - NOAA, USGCRP, IPCC
- **Photograph** (satellite, drones, aircrafts)
 - Esri, Google Earth, Microsoft
- **Heat map** (chemical traces, traffic patterns, risk mitigation and forecasting)
 - NOAA



Alternatives. Example project alternatives mapped.



Office of Policy

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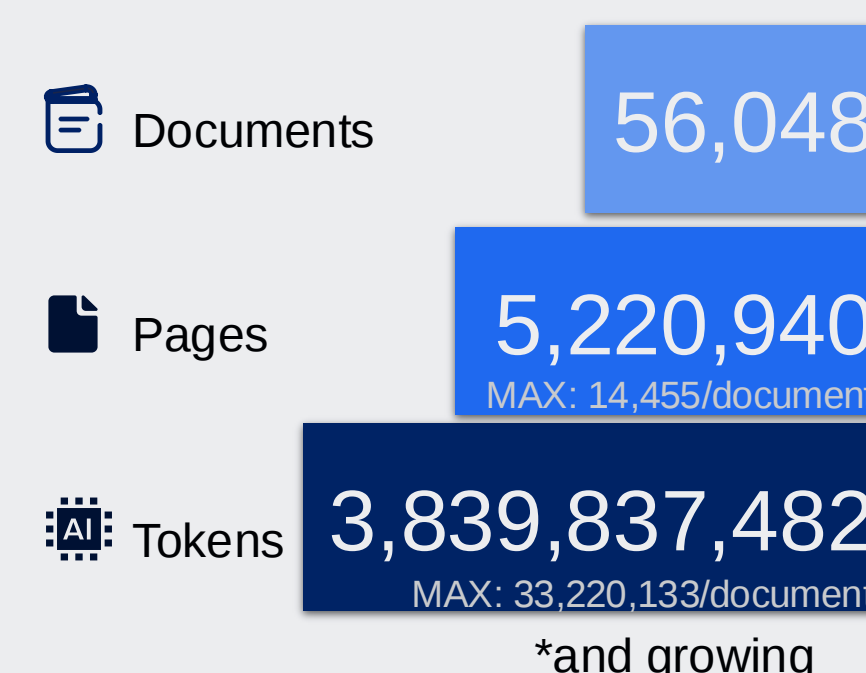
For additional information, contact:

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Extract and enrich for AI-ready data

NEPA documents are **rich in modalities (sections, text, images, figures/plots, maps, tables, citations)**. Data extraction from documents is AI-driven and is stored in OpenSearch or in a vector database via mass file transfer or web scraping.

Document modalities are extracted via PyMuPDF (quick) or LLaMA-parse (targeted). **Closed large language models** conduct document enrichment to format buried information into a standardized format (i.e., JSONs). **This makes the data retractable, AI-ready, and web-ready.**



Agency engagement and streamlining reviews

Information in these analyses, or EIAs, where retrieved, could 1) offer new insights into changing US socio-environmental conditions and energy landscapes in the last 50 years, 2) provide easy access to high quality NEPA data, and 3) improve the timeliness and performance of future NEPA reviews

Impact

- **NEPATEC1.0**, an AI-ready NEPA dataset, was released
- **SearchNEPA** was internally deployed for NEPA experts
- Director of DOE Office of NEPA Policy and Compliance (GC-54) used the tool to **research** how “proximate cause” has been considered in past EISs regarding exports of natural gas
- GC-54 staff use the tool to **identify patterns** and best practices for analyzing effects relevant to proposed transmission projects