

**BEFORE THE
UNITED STATES DEPARTMENT OF ENERGY
GRID DEPLOYMENT OFFICE**

Initiation of Phase 2 of National Interest Electric Transmission Corridor (NIETC)
Designation Process: Preliminary Potential NIETCs
Pursuant to Section 216(a) of the Federal Power Act

COMMENTS OF RIGHT-OF-WAY ADVOCATES

INTRODUCTION

Environmental Defense Fund (“EDF”),¹ NextGen Highways,² and Rail Electrification Coalition (“REC”),³ (together “Right-of-Way Advocates” or “ROW Advocates”) submit these comments in response to the May 8, 2024 Initiation of Phase 2 of National Interest Electric Transmission Corridor (NIETC) Designation Process: Preliminary List of Potential NIETCs issued by the Department of Energy (“Department” or “DOE”).⁴

ROW Advocates appreciate the opportunity to provide input on the Phase 2 Preliminary NIETCs. The May 8, 2024, release by the Department of Energy of ten Phase 2 Preliminary National Interest Electric Transmission Corridors (“NIETCs” or “Corridors”) represents a pivotal

¹ Environmental Defense Fund is a membership organization whose mission is to build a vital Earth for everyone by stabilizing the climate, strengthening the ability of people and nature to thrive, and supporting people's health. EDF is a leading authority on the use of science, economics, and law to protect and restore the quality of our air and climate, transform energy systems, and ensure healthy and safe communities.

² NextGen Highways brings together organizations that support and promote the use of highways as corridors where electric, communications, and transportation infrastructure are strategically and safely co-located in existing rights-of-way. NGH seeks to reduce the political, environmental, and permitting hurdles that stymie transmission and communications infrastructure development.

³ Rail Electrification Coalition is a diverse non-profit coalition of electrical manufacturers, technology companies, transportation companies, renewable energy providers, and other stakeholders that seek to enhance the strength and efficiency of two of our most critical infrastructure networks – the North American high-voltage electric transmission grid and the international, national, and regional networks of North American railroads.

⁴ Dept. of Energy, Grid Deployment Office, *Initiation of Phase 2 of National Interest Electric Transmission Corridor (NIETC) Designation Process: Preliminary List of Potential NIETCs Issued Pursuant to Section 216(a) of the Federal Power Act* (May 8, 2024) <https://www.energy.gov/sites/default/files/2024-05/PreliminaryListPotentialNIETCsPublicRelease.pdf> (“NIETC Phase 2 Preliminary List”).

advance in developing transmission projects that are essential towards meeting the nation's climate and clean energy goals, mitigating climate change, increasing reliability and resilience, addressing transmission system congestion that increases electric rates and limits access to low-cost generators, and protecting consumers, communities, and the environment.⁵ We also recognize and commend the hard work and determination by the DOE in making the NIETC determinations, in furtherance of its responsibility under Section 216 of the Federal Power Act ("FPA") to study the transmission system and identify geographic regions of United States that have existing or forecasted "transmission capacity constraints or congestion that adversely affects consumers."⁶

The following comments: (1) discuss the importance of data transparency and request that DOE provide geospatial data with as much granular detail as possible to foster meaningful public engagement; (2) provide geospatial analysis of a subset of the Phase 2 Preliminary NIETCs; (3) propose revised maps and analysis that encourage and enable maximizing existing rights-of-way ("ROWs"); (4) promote the use of existing ROWs as not only an identified priority in the Federal Power Act, but also as a way to capture broad benefits in NIETC siting and development and minimize environmental, economic, and political challenges to transmission development.

ROW Advocates are deeply invested in well-planned transmission that serves the national interest, and as such we commend the DOE for designating initial NIETCs and hope that these NIETCs maximize opportunities for success by utilizing existing ROWs wherever possible. We contend that for these Corridors to succeed in helping increase regional and interregional transfer capacity and achieve the best outcomes, DOE should consider ways to improve the geographic

⁵ Many of the undersigned organizations are also submitting comments in support of other potential NIETCs.

⁶ 16 U.S.C. § 824p(a).

boundaries of potential NIETCs in Phase 3 and future designations by considering all applicable factors identified in Section 216(a), including and especially maximum utilization of existing ROWs within, across, or in proximity to a Corridor. We believe the suggested alterations would contribute to the adaptability of NIETCs and maximize the potential benefits of a designated Corridor.

As DOE prepares for Phase 3 and future NIETC designations, we respectfully recommend that DOE:

- Provide greater transparency about the basis and scope of Phase 2 and future designations (Part I.A);
- Ensure that existing and future designations fully consider regional and interregional transmission plans, particularly as planning processes evolve to be more forward-looking (Part I.B);
- Establish NIETC boundaries that capture all potential benefits to the grid, communities, and consumers by incorporating existing rail, highway, utility, pipeline and other ROWs within Corridors as appropriate (Part II);
- Expand the Phase 2 Preliminary NIETCs to incorporate additional ROWs proximate to the proposed routes and consider a broader set of ROW opportunities in future NIETC designations (Parts III-V);
- Expeditiously work to finalize and complete necessary outreach and reviews for the Phase 2 Preliminary NIETCs and move quickly to start the next round of NIETC designations in recognition of the quickly evolving electric system (Part VI).

To advance these goals, these comments provide detailed ROW maps for each potential NIETC indicating the location and type of ROWs that could serve multiple objectives if included within NIETC boundaries (*see Appendix B*).

I. Assessment of the Process and Potential Impacts of the Preliminary List of Potential NIETC Designations

In this section, ROW Advocates offer recommendations for how the Department can enhance the NIETC designation process to ensure both that initial selections are as effective and

well-aligned with the Federal Power Act’s direction as possible and that stakeholders have the information and the opportunity needed to offer detailed and useful comments, which is the best way to ensure that the Department receives thorough information on potential environmental and community impacts and to reduce the risk of discovery of new information requiring changes or the appearance of public opposition later in the project development process.

A. Data Transparency and Public Engagement

We appreciate the opportunity to comment on the Phase 2 Preliminary NIETCs and are encouraged by the public engagement and transparency the Department has shown thus far in the corridor designation process. Citizen participation in the NIETC process better ensures that future large scale infrastructure development is mindful of the impacts of these potential projects, and that governments, developers, communities and other stakeholders can benefit from new or upgraded electrical transmission infrastructure projects. Specifically, we appreciate that the Department’s Phase 2 Preliminary NIETC document included a nation-wide map of each of the NIETCs, as well as several zoomed in maps for each of the Corridors that showed the NIETC in relation to among others, the existing land use, communities, habitats, and transmission infrastructure.⁷

While these maps provide a general understanding to the public of the geography of the NIETCs and their proximate relationship to sensitive land, communities, and existing transmission lines, they lack sufficient detail to fully support the development of the type of comments that the DOE requested. The Department asks that commenters provide “concise descriptions of any known or potential environmental and cumulative effects resulting from a potential NIETC designation, including visual, historic, cultural, economic, social, or health

⁷ Appendix A includes a compilation of the images that the Department included in its May 8, 2024 PDF document.

effects thereof” and that examples of this information can include “the location of wetlands, recreation areas, historic properties, residences and businesses, abandoned mines, and cropland within the potential NIETCs on the preliminary list.”⁸ However, the maps provided by DOE are limited in resolution such that it is difficult to determine the precise locations of the NIETCs, and thus restricts the level of detail that members of the public can provide in comments.

While we appreciate that the DOE included in the Phase 2 Preliminary NIETC document an email address that the public could access to ask questions and gain further clarity on the NIETCs, DOE was unable to grant requests to access greater resolution maps, including GIS datasets.⁹ We were informed that such information was not available and that “[a]ll data, information, and maps in the Preliminary List of Potential NIETCs are provided ‘as is’ without warranty of any representation of accuracy, timeliness, or completeness.”¹⁰

In addition, the Phase 2 Preliminary NIETC document could have explained in greater detail why the NIETC boundaries were chosen such that the public could provide better recommendations of alternatives or modifications to the routes. The Department has decided to use an applicant and stakeholder-driven process to designate NIETCs, which means that many of the NIETCs are drawn around potential transmission projects or proposals, or based on other information provided or requests made by stakeholders. Knowledge of the approximate connection points of a proposed transmission line, as well as other input already provided on the purpose of and need for a Corridor, could provide a better understanding as to why a NIETC was drawn the way it was and could better inform the recommendation for alternative routes that

⁸ *NIETC Phase 2 Preliminary List* at 39-40.

⁹ E-mail from NIETC@hq.doe.gov to Adam Kurland, *Hi-res NIETC maps in a GIS compatible file type* (May 15, 2024).

¹⁰ E-mail from NIETC@hq.doe.gov to Adam Kurland, *Hi-res NIETC maps in a GIS compatible file type* (May 15, 2024).

could still serve the same connection points in a proposed line. Absent that information, commenters are limited to independent research or speculation, neither of which is as useful to the Department as concrete geographic route recommendations.

With regard to several Corridor routes the Department explained that the Corridor was designed to “avoid areas where transmission is less likely to be built.”¹¹ The Department does not provide any additional information on how it identified such areas. While ROW Advocates support the Department’s evaluation and design of NIETC routes to focus on areas where transmission is likely to built, including based on the potential environmental and community impacts of a transmission line in a particular area, the lack of information on how the Department identified such areas or what factors were considered in doing so limits the ability of ROW Advocates and other stakeholders to comment on those decisions. If the Department provided more transparency on where and how it excluded areas based on “less likelihood” of transmission being built, stakeholders could offer a more thorough evaluation of those decisions, as well as identifying additional areas that fit the same criteria. It would also help commenters understand why certain areas were excluded so that they could avoid recommending inclusion of those areas unless they specifically disagreed with the Department’s reasoning.

In Phase 3 of the NIETC process and in future designations, the Department should endeavor to be more transparent in its release of information, offering more clarity on what has driven NIETC boundary decisions. Additionally, the Department should make detailed and high-resolution maps available to the public upon request. These maps should include file types commonly used by Geospatial Information Systems (“GIS”).

B. Coordination of designations and regional transmission planning

¹¹ NIETC Phase 2 Preliminary List at 18, 23.

Well-designed NIETCs can both be informed by and support effective transmission system planning. Indeed, several of the NIETCs reflect in part the planned route of transmission lines developed through regional planning processes. FERC has recently reformed the regional transmission planning process through Order No. 1920 to ensure that all regions of the country conduct long-term planning designed to anticipate the needs of the future grid, given the changing resource mix, reliability and resiliency needs, and other factors.¹² However, pending a compliance process, most initial plans under Order No. 1920 will not be approved and implemented any sooner than 2026 and the implications of those plans may not be fully known for several years. However, as results of new regional and interregional transmission planning processes become available, it is of paramount importance that the Department consider those results as part of its NIETC designation process and ensure that designated Corridors are consistent with and supportive of the development of new transmission identified in those planning processes, as well as additional projects that will be complementary to upgrades and expansions in system plans. For example, FERC encourages increased attention to new interregional transmission projects for reliability, resilience and clean energy reasons. Many of these interties will operate at 345kV and above. We believe that existing ROWs will be critical to siting and permitting these large lines.

II. Co-Location of Electric Transmission Along Existing Rights-of-Way Delivers Benefits

Many of the commenters to the Department's Guidance on Implementing Section 216(a) of the Federal Power Act to Designate National Interest Electric Transmission ("NIETC

¹² *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation*, 187 FERC ¶ 61,068 (2024) ("Order No. 1920"), available at <https://www.ferc.gov/media/e1-rm21-17-000>.

Guidance”),¹³ including several of the signatories to these comments, highlighted the benefits of using existing ROWs¹⁴ for the siting of electric transmission infrastructure. These benefits apply broadly to transmission developers, landowners, and communities as use of an existing right-of-way can reduce the need to invoke a state (or federal) power of eminent domain to take private property,¹⁵ decrease the amount of greenfield terrain that must be disturbed and lower the likelihood that sensitive ecosystems and habitats will be within or nearby or the transmission development,¹⁶ and can lead to a shortened overall siting and permitting process.¹⁷ Communities and advocates have also long asked agencies leading a National Environmental Policy Act (“NEPA”) review of electric transmission projects to consider routes that site at least part of a transmission line within an existing ROW in order to avoid potential impacts to historical, cultural or religious property.¹⁸

There is a growing list of projects that are already, or are intended to be, sited entirely or partially within existing ROWs. The MISO MVP Badger Coulee transmission line, which has

¹³ Dept. of Energy, Grid Deployment Office, *Guidance on Implementing Section 216(a) of the Federal Power Act to Designate National Interest Electric Transmission Corridors* (Dec. 19, 2023) at 7. <https://www.energy.gov/sites/default/files/2023-12/2023-12-15%20GDO%20NIETC%20Final%20Guidance%20Document.pdf> (“NIETC Guidance”).

¹⁴ A right-of-way is a property law term without a precise definition. The nature of the “right” depends upon the details of the granting instrument, industry practice, and/or legal precedent. Rights-of-way can include but are not limited to the purposes of transportation (highways and railways) and utilities (gas and electric).

¹⁵ Nat’l Governors Ass’n, *Transmission Siting & Permitting: How Governors Can Play an Active Role*, 17 (Feb. 8 2023), https://www.nga.org/wp-content/uploads/2023/02/NGA-Brief-on-Transmission-Siting-and-Permitting_8Feb2023.pdf.

¹⁶ The Nature Conservancy, *Power of Place West*, 5 (Aug. 2022), https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_Power-of-Place-WEST-Executive_Summary_WEB-9.2.22.pdf.

¹⁷ Nat’l Governors Ass’n, *Transmission Siting & Permitting: How Governors Can Play an Active Role*, 17 (Feb. 8 2023), https://www.nga.org/wp-content/uploads/2023/02/NGA-Brief-on-Transmission-Siting-and-Permitting_8Feb2023.pdf. (“Governors may choose to assist directly by offering to host transmission infrastructure along existing state land, such as highway rights of way or other available parcels. Since highway rights of way are already public property, the land acquisition process may be shortened or eliminated entirely.”)

¹⁸ See Comp. for Decl. J. and Inj. Relief, ¶ 71, *Tohono O’odham Nation v. DOI*, No. 4:24-cv-00034-JGZ (Dist. Ct. 2d Cir. Ct. Tucson Div., Az.) (Asking BLM to evaluate siting a portion of the Sun Zia electric transmission line project within “existing transportation corridors with less harmful effects” instead of through undeveloped portions of the San Pedro Valley).

been in service since 2018, utilizes more than 100 miles of Interstate highway ROW.¹⁹ By using existing highway ROW, the planners avoided impacts for 300-400 private landowners. Planned projects include the SOO Green HVDC Link (sited *entirely* on rail ROWs),²⁰ the Champlain Hudson Power Express (terrestrial portion sited *entirely* along existing highway and rail ROWs),²¹ the New England Clean Power Link (sited *entirely* along existing road and rail ROWs),²² and the Southline Transmission Project.²³ Recognizing the benefits of siting transmission within existing ROWs, and the willingness of developers to incorporate ROWs into siting plans, some States are working to make it even easier to site transmission lines into existing ROWs.²⁴ However, the safe operation of railroads and highway transportation must always be a paramount objective when co-locating high voltage electric power facilities.

Congress has also recognized the value of co-locating transmission lines within existing ROWs. The Infrastructure Investment and Jobs Act of 2021 (“IIJA”) amended Section 216 of the Federal Power Act, adding additional factors to criteria that the DOE can consider when make the determination of whether to include a NIETC for designation, including that the Corridor “maximizes existing rights-of-way.”²⁵ The IIJA also established a Joint Office between the DOE and the Department of Transportation, which requires that the two agencies “study, plan, coordinate, and implement issues of joint concern between the two agencies” and specifically calls

¹⁹ ATC, Badger Coulee Transmission Line Project, <https://www.atc-projects.com/projects/badger-coulee/>.

²⁰ SOO Green HVDC Link, *Response to the Illinois Power Agency Electricity and Capacity Procurement for Eligible Retail Customers Request for Stakeholder Comments*, <https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/comments-page/soo-green.pdf>.

²¹ Champlain Hudson Power Express, Route Maps, <https://chpexpress.com/project-overview/route-maps/>.

²² New England Clean Power Link, Project Development Portal, <http://www.necplink.com/about.php>.

²³ Southline Transmission Project, Fact Sheet, <https://southlinetransmission.com/wp-content/uploads/2024/04/GU-Southline-Transmission-handout-GENERAL-3.25.24.pdf>.

²⁴ See S.F. No. 4942, 93rd Legislature (Mn. 2024). See also Jeff St. John, *Minnesota Takes Rare Step to Allow Power Lines Alongside Highways*, (June 12, 2024), Canary Media, <https://www.canarymedia.com/articles/transmission/minnesota-transmission-grid-power-lines-highway>.

²⁵ Infrastructure Investment and Jobs Act, Public Law 117-58 (2021). See also 16 U.S.C. § 824p(a).

for “studying, planning, and funding for high-voltage distributed current infrastructure in the rights-of way of the Interstate System and for constructing high-voltage and or medium-voltage transmission pilots in the rights-of-way of the Interstate System,” as well as the “development of a streamlined utility accommodations policy for high-voltage and medium-voltage transmission in the transportation right-of-way.”²⁶ The White House has uplifted these authorities, recognizing the significant impact that transmission co-location on ROWs can have towards speeding up and lowering the overall impact of transmission development.²⁷

As DOE stated in its Guidance, designations should be based on the “full suite of benefits that may accrue as a result of a particular NIETC designation.” Section 216(a)(4) subparagraphs (A) and (B) delineate local and regional factors that the Secretary may consider in designating Corridors. If transportation and other ROWs extend through and beyond a Corridor or exist proximate to a Corridor, the Department should ensure that they consider inclusion of those ROWs, particularly as the use of existing ROWs may support other considerations. In particular, enabling the use of existing disturbed land and other ROWs within or near transportation facilities can avoid the need for “green field development” and usage of eminent domain, which can accelerate grid expansion, including by reducing environmental and community impacts. Building transmission infrastructure along transportation ROWs can also support transportation electrification. The advantages of including existing ROWs should be among the critical factors that weigh heavily both in establishing “targeted, high-priority areas” for transmission development in Phase 2 and on all subsequent NIETC proceedings, studies, and designations.

²⁶ IIJA. *See also* Dept. of Transportation, *Memo: State DOTs Leveraging Alternative Uses of the Highway Right-of-Way Guidance* (Apr. 27, 2021), https://www.fhwa.dot.gov/real_estate/right-of-way/corridor_management/alternative_uses_guidance.cfm.

²⁷ White House, *Fact Sheet: Biden Administration Advances Expansion & Modernization of the Electric Grid*, Apr. 27, 2021, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/27/fact-sheet-biden-administration-advances-expansion-modernization-of-the-electric-grid/>.

III. Preliminary List of Potential NIETC's Incorporation of Existing Rights-of-Way

ROW Advocates appreciate that several of the Phase 2 Preliminary NIETCs already contain many miles of existing ROWs;²⁸ however, these designations mask hundreds of miles of existing ROWs that are proximate to the NIETCs and would address the same needs. We also appreciate that DOE intends to pursue NIETCs that would “maximize the use of existing rights-of-way, including utility and highway rights-of-way” and “refine[] the geographic boundaries of potential NIETCs in Phases 2 and 3” using “additional information received in Phases 2 and 3”.²⁹

While each category of ROW is unique and requires addressing particular challenges, every category of transportation or utility right-of-way can serve as a host for a transmission line and yield a similar set of benefits. As mentioned above, the SOO Green HVDC Link transmission line is using existing railways ROWs to site an underground transmission line that is planned to be built through Iowa, Wisconsin, and Illinois,³⁰ while the Champlain Hudson Power Express will use a combination of highway and rail ROWs along with underwater transmission.³¹ Existing utility ROWs (gas and electric) generally range between fifty³² and three-hundred feet,³³ while existing transportation ROWs generally range between forty³⁴ and

²⁸ See *Infra* Part V.

²⁹ NIETC Phase 2 Preliminary List at 8.

³⁰ SOO Green HVDC Link, *Response to the Illinois Power Agency Electricity and Capacity Procurement for Eligible Retail Customers Request for Stakeholder Comments*, <https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/comments-page/soo-green.pdf>.

³¹ Champlain Hudson Power Express, Route Maps, <https://chpexpress.com/project-overview/route-maps/>.

³² See Enbridge, Pipeline rights-of-way: What you need to know, <https://www.enbridge.com/~media/Enb/Documents/Factsheets/US-GTM-fact-sheets-fall-2019/20190927FSROWPrimerUSGTM.pdf?rev=77f03c34056a46789d9c35b8eba88ef9&hash=1C08D198A8E80F0ECD41D08D4C1FCD2C#:~:text=A%20permanent%20ROW%20is%20typically,pipeline%20is%20built%20or%20expanded> (“A permanent ROW is typically 50 feet wide.”).

³³ See Tennessee Valley Authority, *Anatomy of a Right of Way*, <https://www.tva.com/energy/transmission/right-of-way-maintenance/anatomy-of-a-right-of-way>; see also PJM, Transmission and Substation Subcommittee, *PJM Design & Application of Overhead Transmission Lines 69 kV & Above*, <https://www.pjm.com/-/media/planning/design-engineering/maac-standards/20020520-va-general->

four-hundred feet.³⁵ While above ground lines can require up to two-hundred of total width,³⁶ underground transmission lines can be built with as little as fifteen feet³⁷ – a fraction of the width for all categories existing ROWs.³⁸ Further, the DOE’s Advanced Research Projects Agency-Energy (ARPA-E) is funding the development of projects that could potentially speed up the process, and lower the overall cost, of undergrounding high and medium voltage transmission lines.³⁹ Given that transmission development timelines can take many years, the innovations that may yet develop to capitalize on more narrow linear strips of disturbed ROWs are manifold.

As an initial matter, the Department should ensure that railroad ROWs are considered alongside utility and highway ROWs in the NIETC designation process. The Department should

[criteria.ashx#:~:text=Clearance%20between%20the%20bottom%20transmission,for%20voltages%20above%20230%20kV.](#)

³⁴ See e.g., Steuben County Indiana, *Highway FAQs: Right Of Way, Trees, and Roadside Structures*, https://www.co.steuben.in.us/departments/highway/right-of-way_trees_and_roadside_structures.php.

³⁵ N.J. Dep’t of Transportation, Roadway Design Manual: Section 5 Major Cross Section Elements, Report BDC12MR-02 (2013), <https://www.nj.gov/transportation/eng/documents/BDC/pdf/RDMSec5-20150117.pdf>.

³⁶ See e.g., Golden Valley Electric Ass’n, Easement/Right of Way, <https://www.gvea.com/services/programs-services/easement-right-of-way/> (typically recommending 100 foot width for 138 kV lines); Minnesota Commerce Department, Fact Sheet: Rights-of-Way and Easements for Energy Facility Construction and Operation, 1 (Jun. 24, 2022), <https://apps.commerce.state.mn.us/eera/web/project-file/12227> (typically requiring 150 foot width for 345 kV line); Tennessee Valley Authority, Anatomy of a Right of Way, <https://www.tva.com/energy/transmission/right-of-way-maintenance/anatomy-of-a-right-of-way> (requiring up to 200 feet for lines carrying up to 500 kV).

³⁷ See Wisconsin Public Service Commission, *Underground Electric Transmission Lines*, <https://psc.wi.gov/Documents/Brochures/Under%20Ground%20Transmission.pdf> (requiring “5 to 8 feet for trench construction”). See also Inelfe, Electrical interconnection in between Baixas – Santa Llogaia, <https://www.inelfe.eu/en/projects/baixas-santa-llogaia> (using a trench that is approximately three meters (approximately 9.84 feet)).

³⁸ Importantly, the characteristics that make buried HVDC well-suited for use in both highway and rail ROW. Not only can transmission cable be buried safely within relatively limited ROWs, HVDC cable can be co-located underground within short distances of railroad or highway operations due to its inherent efficiency and minimal impacts on proximately located communications and operations. DC transmission lines do not produce a time-varying electromagnetic field and new designs ensure that there are no appreciable leakage currents (i.e., voltage bleed) that could cause corrosion of adjacent metal pipes. NextGen Highways: NextGen Highways: *Introduction to Buried High-Voltage Direct Current Transmission for Departments of Transportation* (2022).

³⁹ Dep’t of Energy, ARPA-E, *Press Release: U.S. Department of Energy Announces \$34 Million to Improve the Reliability, Resiliency, and Security of America’s Power Grid*, <https://arpa-e.energy.gov/news-and-media/press-releases/us-department-energy-announces-34-million-improve-reliability> (funding the development of project construction tools specifically geared to streamline and derisk the process of undergrounding electric transmission lines).

also consider additional existing utility ROWs, such as those used for pipelines, as well as seeking out opportunities to use ROWs that are not in active use but may still have potential for transmission siting, such as the enormous number of abandoned rail lines. Section 216(a) of the Federal Power Act, does not limit ROWs to any discrete category, and explicitly states that the Department should consider a designation that “maximizes existing rights-of-way.”⁴⁰ ROW Advocates question how DOE can possibly maximize ROWs if the Department intentionally omits thousands of miles of linear tracts of railways from consideration. To be sure, there are particular challenges associated with each of these ROW categories, including varied ownership and control, different widths and physical characteristics, the complexities of working with the primary current users of the ROW, and the potential need for engagement with federal, state, or local regulators. However, as all of these categories have demonstrated potential for transmission co-location, they should not be excluded from consideration.

It is of vital importance that the Department considers the existing ROWs that we have identified through our analysis to ensure that the purpose of the NIETC process is maintained. The NIETC process was developed by Congress in the Energy Policy Act of 2005 in order to address the difficulties of siting new transmission facilities. Building a transmission line within a NIETC enables additional funding opportunities through the Transmission Facilitation Program under the IIJA and the Transmission Facility Financing Program under the Inflation Reduction Act, and it also enables a transmission developer to apply for a federal construction permit with FERC where the state and local governments fail to issue a permit.⁴¹ As a result, any possible, viable, and low impact routes for a transmission line that could relieve the same

⁴⁰ 16 U.S.C. § 824p(a).

⁴¹ Dep’t of Energy, Grid Deployment Office, National Interest Electric Transmission Corridor Designation Process Public Webpage, <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

transmission capacity shortfalls and congestion, should be included within the boundaries of the NIETC.

It is a near certainty that any transmission project that is developed within one of the Phase 2 preliminary NIETCs would have to undergo an environmental review under the National Environmental Policy Act (NEPA). NEPA review requires that agencies engage in a project scoping process that includes “State, local and tribal governments and the public in the early identification of concerns, potential impacts, relevant effects of past actions and possible alternative actions.”⁴² As a result, during the NEPA scoping process, stakeholders may identify potential alternative routes for the transmission line that are not included within a NIETC. Were that to occur, unnecessary tension would be introduced between the developer’s economic interests of maintaining the project within a NIETC and the public interest of the stakeholders in siting the project outside of the Corridor within a previously disturbed area. This friction can result in additional permitting delays and legal challenges that ultimately defeat the primary intent of the NIETC program which endeavors to support and accelerate transmission development that is in the “national interest.”

Outside of the NEPA process, transmission developers may also be required to engage with stakeholders either as part of land acquisition processes, state siting requirements, the DOE’s community benefit plan engagement requirements,⁴³ or consistent with FERC’s requirements under Order No. 1977.⁴⁴ Such engagement may also impact the final route that a transmission developer adopts. Excluding certain existing ROWs from a NIETC would similarly

⁴² 43 C.F.R. § 46.235.

⁴³ Dep’t of Energy, *About Community Benefit Plans*, <https://www.energy.gov/infrastructure/about-community-benefits-plans>.

⁴⁴ *Applications for Permits to Site Interstate Electric Transmission Facilities*, Order No. 1977, 187 FERC ¶ 61,069 (2024), 89 Fed. Reg. 46,682 (May 29, 2024).

restrict the willingness of a transmission developer to consider route adjustments that would fall outside of a NIETC, and could cause unnecessary impacts on communities or a project to fail.

IV. ROW GIS Mapping Methodology

In order to identify whether there were additional opportunities for the Phase 2 Preliminary NIETCs to include relevant existing ROWs, ROW Advocates asked Horizon Climate Group (“Horizon”) to compare the Phase 2 Preliminary NIETC maps created by the Department and published on May 8, 2024, against maps of existing ROWs near the Corridors. The purpose of this exercise was to determine whether there were existing ROWs near or parallel to the Corridors but not included in the Corridors such that expansion of the Corridors to include those ROWs could offer increased opportunities to maximize ROW usage while maintaining the purpose and general scope of the Corridor.

First, Horizon manually traced the NIETC maps that DOE had provided in the low resolution Phase 2 Preliminary NIETC document into ArcGIS. Horizon acknowledges that given the manual nature of this process, there may be a small amount of variation from DOE’s shapefiles. Second, using publicly available databases of existing infrastructure, including highways,⁴⁵ railways,⁴⁶ natural gas pipelines,⁴⁷ and electric transmission infrastructure,⁴⁸ Horizon produced individual maps of each NIETC compared against each individual category of existing

⁴⁵ FHWA, National Highway System Maps, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

⁴⁶ Bureau of Transportation Statistics, USA Railroads, October 2021, <https://www.arcgis.com/home/item.html?id=bca2aa04ab424d8c98d471d2be62a48c>.

⁴⁷ EIA, *Natural Gas Interstate and Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info-m.php.

⁴⁸ DHS, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifld-geopatform.opendata.arcgis.com/datasets/geopatform::transmission-lines/about>; DHS, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifld-geopatform.opendata.arcgis.com/datasets/electric-substations/data>.

ROW (e.g. Mid-Atlantic with only highway ROWs, Mid-Atlantic with only railway ROWs, etc.) (*see Appendix B*).

Third, using these maps, ROW Advocates worked with Horizon to identify individual existing ROW tracts that could be added to a Phase 2 Preliminary NIETC. For each NIETC, we identified ROWs that could be added to that Corridor which would offer additional options for routing while still supporting the Corridor's identified purpose and design. Often this included existing ROWs running parallel to and intersecting the preliminary NIETC. Finally, Horizon manually selected these site-specific existing ROWs and highlighted them in red alongside the Department's Preliminary NIETCs (*see Figs. 1-9 and Appendix B*).

The relative lack of data transparency provided in the Phase 2 Preliminary NIETC maps, discussed above, made it difficult to analyze them with precision. The lack of GIS data to analyze the maps in sufficient resolution and the lack of transmission project data to discern the basis for the shape of each Preliminary Corridor limited our ability to apply our analysis more precisely to the scope of each Corridor. However, we were able to use the available information to identify ROWs proximate to each Corridor that do not appear to be included in the Corridor as proposed and that, based on available information about the Corridor, appear to be potential alternatives for addressing the needs driving the Corridor's designation. In the below section, we provide maps for each NIETC that show how the proposed Corridors could be modified to better accommodate existing ROWs. We also provide maps in the appendix showing each category of ROWs surrounding each NIETC to allow the Department and other stakeholders to review and identify any additional opportunities.

In addition to active rail lines, we have also included the routes of abandoned rail lines in our maps. Abandoned rail lines are a category of linear tract brownfields⁴⁹ that are not often discussed alongside the co-location of transmission infrastructure. This is likely due to the relative uncertainty as to the locations of abandoned rail lines and the complexities associated with their ownership and control. There is no centralized database or collection of the sites of abandoned rail lines in the United States. Instead, there are a handful of citizen enthusiasts that have crowdsourced the location of these abandoned rail corridors in ad-hoc maps and who generously shared their data with ROW Advocates to support this comment. Horizon digitized much of this data⁵⁰ and mapped it as an overlay onto the NIETCs. Abandoned rail lines present a unique opportunity for siting transmission lines, as they are often relatively cleared of development and vegetation similar to other ROWs, but unlike active rail lines, they do not have to be built around the operational limitations of the railways. Transmission development can also be consistent with and supportive of Rail-to-Trail conversions, the primary current use of abandoned rail lines. That said, unlike active rail lines, not all abandoned rail lines remain cleared and undeveloped and in some case ownership and control of the abandoned rail line ROW may have reverted to underlying parcel owners or may otherwise be complicated in a way that makes new development difficult. As a result, our data set of abandoned rail lines should be independently verified to identify which lines remain viable for transmission co-location.

Recognizing the importance of respecting tribal sovereignty and early engagement and consultation in advance of proposing uses of tribal land, we have mapped the lands of Federally designated tribes and included it on the maps and in our analysis. Whether the land of a tribe is

⁴⁹ Brownfield Site Definition, *Black's Law Dictionary* (10th Ed. 2014) (“An abandoned, idled, or underused industrial or commercial site”).

⁵⁰ See *Forgotten Railways, Roads & Places, Abandoned & Out of Service Railroad Lines*, 2024, <https://www.frrandp.com/p/the-map.html>; and Abandoned Rails, <https://www.abandonedrails.com/>.

included or excluded from a nearby or intersecting NIETC, and what specific geographic areas should be included or avoided, should be a determination best left to the tribe and as a result we have not presumed one way or another, unless specifically informed by a tribe or their representatives. Accordingly, where tribal land is included in or is near enough to a NIETC that they could conceivably be added while serving the same intended purpose, the Department should proactively engage with the potentially impacted tribe to determine what interest they may have in the NIETC boundaries.

ROW Advocates recognize that the design of each Corridor generally reflects a number of factors, many of which were not available to ROW Advocates or that we were not able to fully review given time constraints. While ROWs are generally disturbed land where additional development would result in fewer environmental and community impacts than development on undisturbed land, the exact details surrounding the environmental and community context of each ROW are unique and there are some ROWs where development could be significantly harmful or disruptive. In addition, we were not able to consider at this time the specific width of each ROW, which impacts its suitability for transmission development and the potential need to use undisturbed land as part of the development process, nor were we able to evaluate factors that might influence the suitability of undergrounding transmission in some ROWs. Therefore, the maps we offer below are not intended to be a final statement that the highlighted ROWs are definitely suitable for transmission development, but rather an identification of expansions of the NIETCs that could be beneficial.

We encourage the Department to conduct additional review with the information they have available as part of considering expanding the NIETCs as we recommend, and also recognize that the final designation of NIETCs will be supported by a more detailed

environmental review process, as well as further input from nearby communities and other local stakeholders. Recognizing the different factors underlying the shape of each NIETC, ROW Advocates limited Horizon’s mapping work to identifying ROWs that could be included in the existing NIETC corridors. We recommend that the Department consider how each proposed NIETC could best be modified to include those ROWs, whether by specifically adding only the ROW corridors or by more broadly expanding the NIETC footprint.

Our review included nine of the ten Preliminary NIETCs. We decided to exclude the New York – Mid-Atlantic NIETC based on our initial evaluation of the Preliminary NIETCs because we did not believe that the analysis described above would be informative regarding potential modifications to that Corridor. The New York – Mid-Atlantic NIETC is entirely located in densely populated areas in Manhattan, Brooklyn, and Hudson County, NJ, as well as the Hudson River between New York and New Jersey. The NIETC is also one of the smallest and most compact geographically and has a clear purpose that substantially limits geographic flexibility, connecting NYISO’s New York City zone and PJM with the opportunity to integrate offshore wind. The densely populated nature of the area would also make analysis of ROWs substantially more complex, as urban infrastructure often involves significantly smaller ROW widths and more overlapping usage of ROWs, more frequent undergrounding of existing infrastructure, and other factors that increase the complexity of identifying ROWs for transmission colocation solely through a map-based analysis. This is not to say that the use of existing ROWs is not useful in urban areas—indeed, as a result of their densely populated and built out nature, use of existing ROWs, as well as undergrounding, can be especially important in urban areas. However, identifying appropriate ROWs, especially in the context of a specific purpose that imposes relatively narrow geographic requirements, would necessitate a more detailed and granular level

of analysis than we are able to conduct at this time. In reviewing and finalizing the New York – Mid-Atlantic NIETC, we encourage DOE to consider the general opportunities for increased ROW usage identified in this comment and evaluate whether any similar opportunities exist in the context of the New York – Mid-Atlantic NIETC.

V. GIS Mapping Demonstrates that the Department’s Phase 2 Preliminary NIETCs Failed to Maximize Existing Rights-of-Way

The Department has stated that many of the Phase 2 Preliminary NIETCs “would maximize the use of existing rights of way, including utility and highway rights-of-way,”⁵¹ consistent with the inclusion of “maximiz[ing] existing rights-of-way” as a consideration for NIETC designation in the Federal Power Act.⁵² As discussed above, despite the broad language of the FPA, the Department did not include all types of ROW that could potentially support transmission development, excluding among other things rail ROWs and pipeline ROWs. Our analysis, as described above, identified both opportunities to include these additional ROW types as well as areas where the Corridors did not include highway and transmission ROWs that appear to offer potential alternative routes. Accordingly, below we describe our findings, including image files from our maps.⁵³

⁵¹ NIETC Phase 2 Preliminary List at 8.

⁵² 16 U.S.C. § 824p(a).

⁵³ GIS files of these maps can be downloaded at <https://library.edf.org/AssetLink/h441o5q4s41qs0twx18ma6853ypgbu2p.zip>. The data that was used to build the existing ROW routes in the GIS system can also be downloaded at:

<https://library.edf.org/AssetLink/mn5s7jh8i524033d7b55tfln07c3gvns.zip>,
<https://library.edf.org/AssetLink/u4d3423xqn424i3s23421848053wsdu1.zip>,
<https://library.edf.org/AssetLink/jp600d4u3kkm48fcdw5xirp6l2odd3m2.zip>,
<https://library.edf.org/AssetLink/q13f6q7yjh0f5my87q4sm1f628jfw2m5.zip>,
<https://library.edf.org/AssetLink/b15tkem7626qx0228bkiamk63l6o4xwq.zip>,
<https://library.edf.org/AssetLink/0xr8ab0i7w6vtpwcu7810e1iry7lix.zip>,
<https://library.edf.org/AssetLink/pb6x82n3635l58fv7wa721tr7w478mdn.zip>.

Given that the NIETC designation process has been driven primarily by the input of transmission developers and other stakeholders, we are mindful that some of the proposed NIETCs are at least in part tied to a specific route that has been chosen by the transmission developer.⁵⁴ Nevertheless, developers may consider changing routes as the project moves through the development process in order to accommodate changing circumstances and public input. As discussed above, if the NIETC is narrowly tied to the planned route, a developer that depends on NIETC status would face significant disincentives to respond to local community concerns by evaluating potential route changes, since any significant change would result in either loss of NIETC status or a return to DOE for some sort of review of NIETC modification or expansion. By including potential alternate routes up front, the Department would make it substantially easier for developers to consider alternate routes based on engagement with the public and new information. Including those areas in the Department’s initial NEPA review would also increase the information available to the developer as well as local communities and other stakeholders in assessing potential alternate routes. As a result, the Department should not limit any NIETC to the four-corners of a developer proposal and should consider the recommendations below for NIETC expansion even where a developer has filed comments with the Department expressing a current intention to use a very specific route.

A. New York - New England NIETC

The DOE states in its description of the geography of the New York-New England NIETC that the Corridor follows an “existing state highway transportation corridor in eastern

⁵⁴ See S&P Global, Case Study: *An Energy Company Assesses Datacenter Demand for Renewable Energy, Northeast Renewable Link* (Mar. 20, 2024), <https://www.spglobal.com/marketintelligence/en/news-insights/blog/an-energy-company-assesses-datacenter-demand-for-renewable-energy>.

New York and high-voltage transmission right of way in western Massachusetts where new transmission capacity may be co-located.”⁵⁵

While we applaud this attention to co-location of transmission on existing ROWs, we have identified several additional existing ROWs that could serve as viable alternative routes to portions of the transmission line. Specifically, there are two active rail ROWs on the eastern portion of the NIETC that crisscross the potential Corridor (*see Fig. 1 and Appendix B(1)(a)*), and portions of highway ROWs that cross the NIETC and run parallel to it before intersecting an existing transmission line at the furthest western point (*see Fig. 1 and Appendix B(1)(b)*). There are also several existing transmission ROWs that were not captured by the NIETC including portions in the eastern part of the NIETC that both run parallel to and intersect the Corridor, portions in the middle part of the NIETC that fork off and join an existing highway ROW and existing gas pipeline ROW, which traverse the same east-west trajectory south of the preliminary NIETC (*see Fig. 1 and Appendix B(1)(b)-(d)*). An existing railroad ROW and an existing lower voltage transmission ROW fork off as well providing additional intersecting points between the two parallel tracts to provide alternate ways to move east to west (*see Fig. 1 and Appendix B(1)(c)*). Recognizing that New York-New England NIETC has a definite end point at the crossing of two high-voltage transmission lines, we have added the crossing high voltage line ROW to ensure that alternate routes can reach the specific end point in the Preliminary NIETC (*see Fig. 1 and Appendix B(1)(c)*).

Also, while the New York-New England NIETC follows an existing high-voltage transmission line for nearly the entire portion of the Corridor, it starts to veer off of the Western

⁵⁵ NIETC Phase 2 Preliminary List at 10.

portion of the line. It is not clear if this NIETC was drawn to intentionally avoid part of the existing line, and thus we have redrawn the NIETC in Fig. 1 to include this line as well.

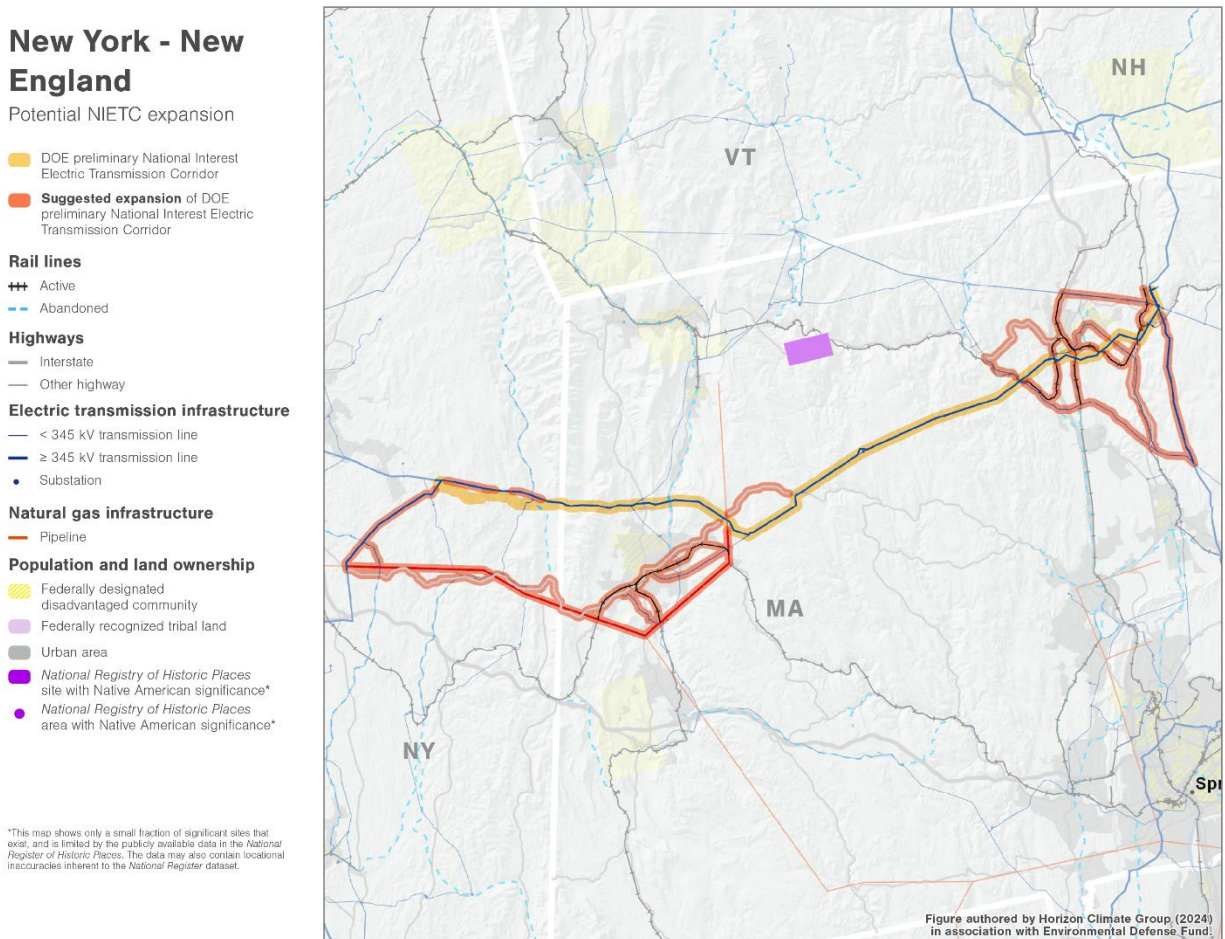


Fig. 1: ROW Advocates New York-New England Expanded NIETC

B. Mid-Atlantic – Canada

The Mid-Atlantic-Canada NIETC, as described by the DOE is a “one-mile-wide 42-mile-long north-south geographic area from onshore in northern Pennsylvania to the international border with Canada approximately 33 miles offshore in Lake Erie.”⁵⁶ This means that approximately nine miles of the NIETC are terrestrial. From the maps of the NIETC that the

⁵⁶ *Id.* at 16.

DOE provided it does not appear that any of the nine miles of the NIETC include an existing ROW.⁵⁷

We are mindful that this line is proposed with consideration of the Lake Erie Connector project between Ontario and Pennsylvania,⁵⁸ but DOE should not limit the final NIETC to a single developer proposal. While most of this NIETC is offshore, the section that comes onshore in Pennsylvania appears to connect to an existing high-voltage transmission line inland, southeast of Lake Erie.⁵⁹ This terrestrial path of the NIETC, while near to some existing ROWs, only glances a medium voltage transmission line.⁶⁰ The high-voltage transmission line where the NIETC terminates runs parallel to the coastline of the lake, yielding several places where future transmission could intersect the line and interconnect.⁶¹

Our analysis of existing ROWs near to the NIETC found several viable linear tracts that could be used to bring the transmission line onshore and connect to the high-voltage line (*see Fig. 2 and Appendix B*). First, there is an existing transmission line that is just east of the terrestrial portion of the NIETC (*see Fig. 2 and Appendix B(2)(c)*), where it may be possible to accommodate additional transmission infrastructure without adding an alternate route. Second, there is a combination of rail ROWs and transmission ROWs west along the lake coast that offer a second point of entry from Lake Erie (*see Fig. 2 and Appendix B(2)(a), (c)*). Bringing the transmission onshore at this location will require designating additional sections of the lake, as shown in Fig. 2. Similarly, there are two additional existing ROWs further west along the lake's edge, syncing up with existing rail infrastructure and with the high voltage transmission line

⁵⁷ *Id.* at 51-53.

⁵⁸ NextEra Energy Transmission, Lake Erie Connector: About the Transmission Project, <https://www.nexteraenergytransmission.com/lake-erie-connector.html>.

⁵⁹ NIETC Phase 2 Preliminary List at 52.

⁶⁰ *Id.*

⁶¹ *Id.*

referenced above (*see Fig. 2 and Appendix B(2)(c)*). We therefore recommend that the Mid-Atlantic-Canada NIETC includes the above mentioned existing ROWs, and includes additional portions of the high-voltage transmission line (referenced above), as well as additional existing ROWs, including a pipeline ROW and part of a highway ROW that would allow for alternative terrestrial routes to interconnect the power coming onshore (*see Fig. 2 and Appendix B(2)(b)-(d)*).

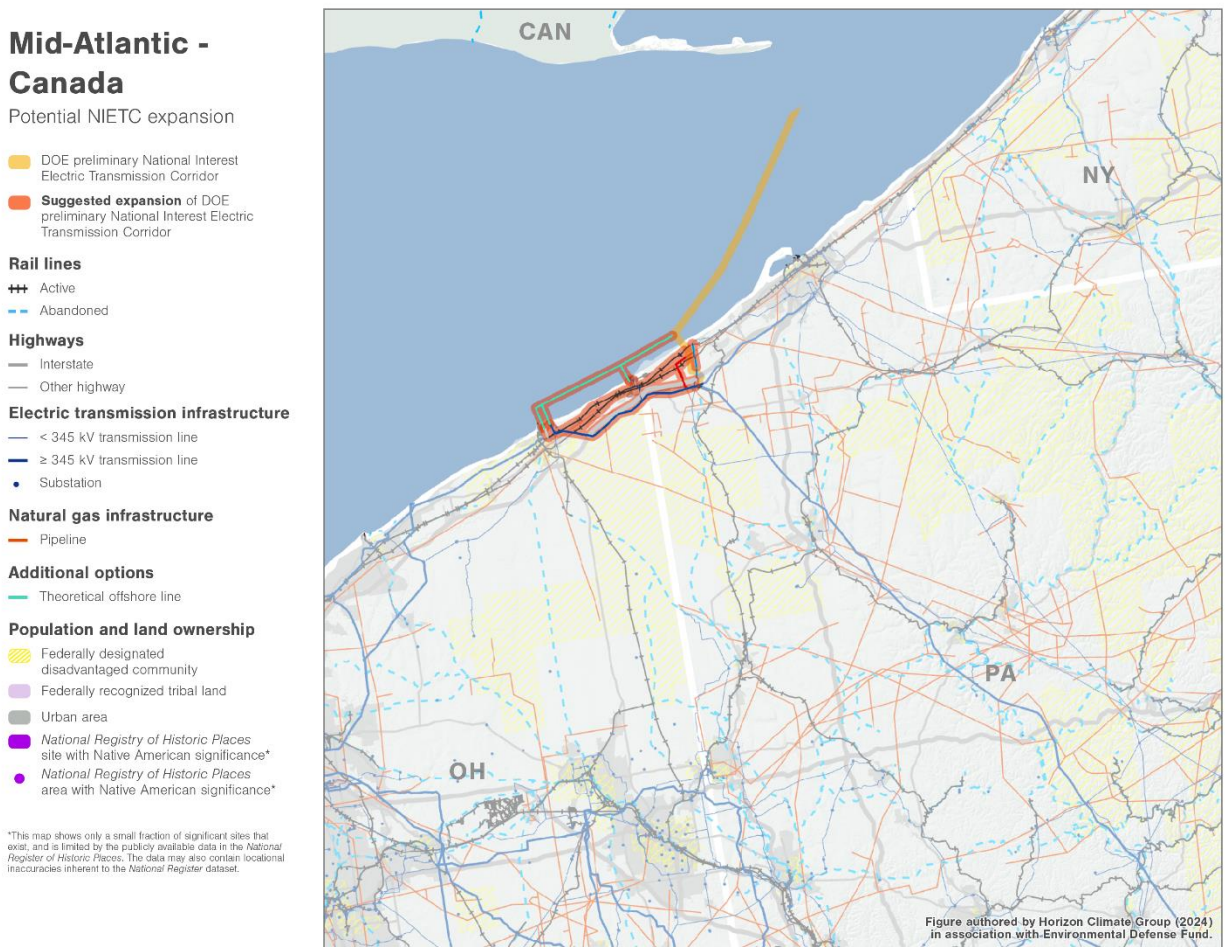


Fig. 2: ROW Advocates Mid-Atlantic-Canada Expanded NIETC

C. Mid-Atlantic

The DOE provides in its description of the Mid-Atlantic NIETC that the Corridor “largely parallels existing 500 kV transmission facilities, attempting to avoid areas where

transmission is less likely to be built.”⁶² While the proposed Mid-Atlantic NIETC follows some existing ROWs, our analysis shows that modifying the NIETC to include existing active and abandoned rail lines, highways, sub-345 kV transmission lines and natural gas infrastructure would better maximize existing ROWs. Specifically, the Eastern section of the NIETC could be expanded to follow an abandoned rail line, an active rail line, and a series of existing highways. The Southern and Western section could benefit from expansion to existing natural gas infrastructure, active and abandoned rail lines, and interstate highways.

The Department also notes that the Mid-Atlantic line terminates in northern Virginia to address a “7.5 GW increase in load” in the area.⁶³ As a result, our recommended additions do not alter the terminus, or overall purpose of the route, but merely provide additional linear ROWs that help the Department to shape the NIETC in such a way as it maximizes existing ROWs under Section 216(a) of the Federal Power Act, reduces the need to use eminent domain to site transmission infrastructure, and potentially avoids disturbing greenfield lands. Controversy around the planned transmission expansion needed to serve new data centers highlights the advantage of providing multiple pathways within narrow corridors.⁶⁴

⁶² NIETC Phase 2 Preliminary List at 18.

⁶³ *Id.*

⁶⁴ Hanna Pampaloni, *Western Loudoun Power Line Proposal Stirs New Community Concerns*, LOUDONNOW, Nov. 27, 2023, https://www.loudounnow.com/news/western-loudoun-power-line-proposal-stirs-new-community-concerns/article_f507e9cc-8d60-11ee-bec2-d35282c69d61.html.

Mid-Atlantic

Potential NIETC expansion

— DOE preliminary National Interest Electric Transmission Corridor
— Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

— Active
- - - Abandoned

Highways

— Interstate
— Other highway

Electric transmission infrastructure

— < 345 kV transmission line
— ≥ 345 kV transmission line
• Substation

Natural gas infrastructure

— Pipeline

Population and land ownership

 Federally designated disadvantaged community
 Federally recognized tribal land
 Urban area
■ National Registry of Historic Places site with Native American significance*
● National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

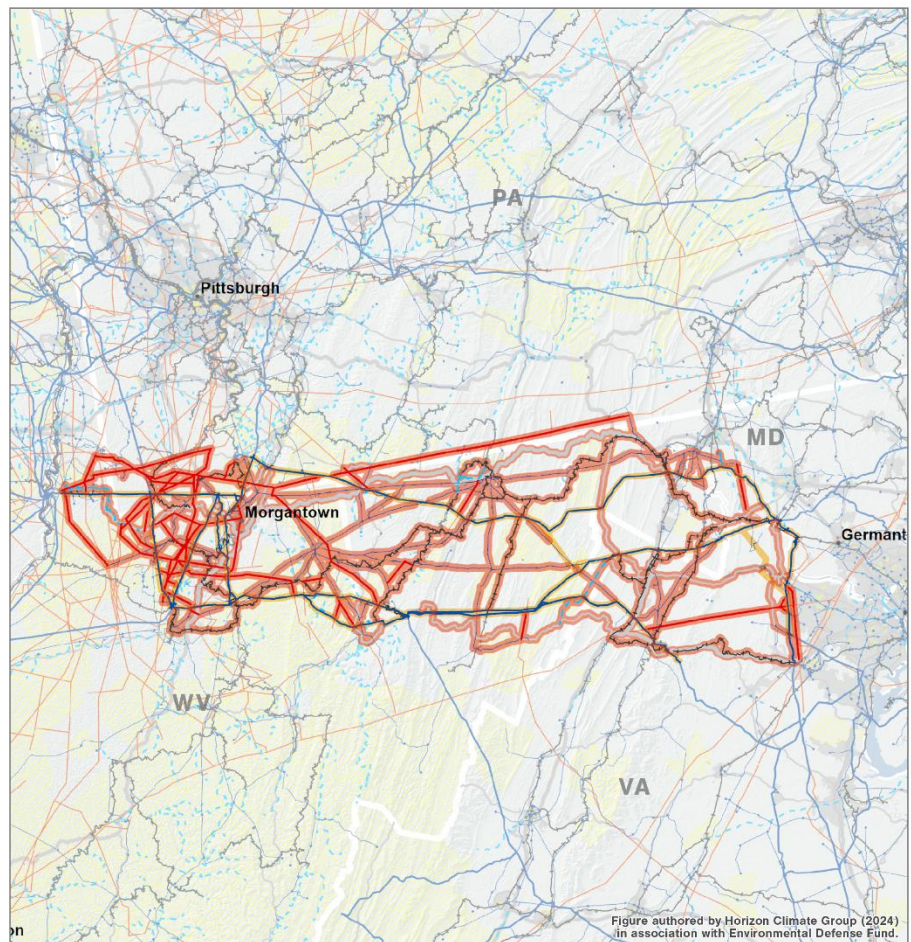


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Fig. 3: ROW Advocates Mid-Atlantic Expanded NIETC

D. Midwest – Plains

The DOE describes the Midwest-Plains NIETC as containing “portions of an existing 345 kV transmission facility.”⁶⁵ While this is true, when reviewing the overall Corridor only a relatively small portion of the Eastern section of the NIETC, and a sliver of the Southern fork near to Columbia, Missouri includes a 345 kV transmission line.⁶⁶ There are also areas where lower voltage transmission lines are included in the Corridor.⁶⁷ We appreciate that these transmission ROWs are included in the NIETC, but the Midwest-Plains region is an area with

⁶⁵ NIETC Phase 2 Preliminary List at 20.

⁶⁶ *Id.* at 58.

⁶⁷ *Id.*

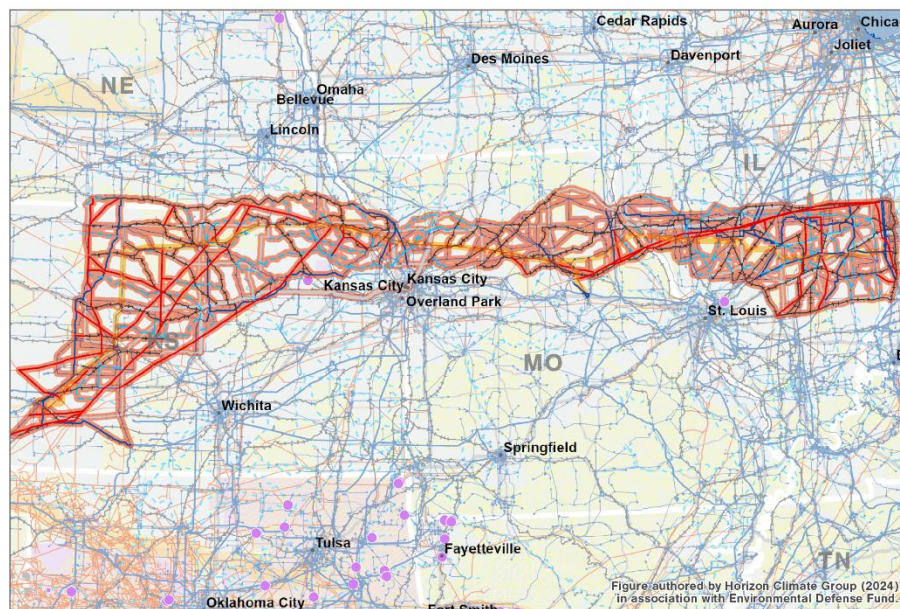
bountiful infrastructure and corresponding ROWs, with ample opportunities for co-location (*see Appendix B(4)*). Accordingly, we have identified many additional miles of transportation and utility ROWs near to and serving the same purpose as the Midwest-Plains NIETC that should be included to better maximize existing ROWs in this Corridor (*see Fig. 4*).

We are mindful that the Midwest-Plains NIETC largely follows the proposed route of the Grain Belt Express transmission line,⁶⁸ but as with the other projects mentioned above, we see no reason why a developer's suggested route should eliminate viable, realistic nearby alternative existing ROW locations from being included in the NIETC. Rather, DOE should expand the NIETC to ensure that these existing ROWs are added so that the developer has ample opportunity to consider alternative routes as the project planning and development process continues.

⁶⁸ Invenenergy, Grain Belt Express, <https://grainbeltexpress.com/>.

Midwest - Plains

Potential NIETC expansion



*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

Fig. 4: ROW Advocates Midwest-Plains Expanded NIETC

E. Northern Plains

The DOE states in its description of the Northern Plains NIETC that “[t]he sections narrowly focus on existing 115/230 kV infrastructure that needs upgrades to address the lack of extra high-voltage transmission in this area at the western edge of SPP and the Eastern Interconnection while avoiding large areas where transmission is less likely to be built.”⁶⁹

We appreciate that the Northern Plains NIETC almost entirely bounds existing lower voltage transmission lines which could be leveraged to increase the transmission capacity of the region, however, given proximity of this NIETC to Eastern and Western Interconnect Seam, and

⁶⁹ NIETC Phase 2 Preliminary List at 23.

the significant resource potential in the region, recognizing and including nearby existing ROWs into this NIETC will better ensure that other near term projects can also benefit from the designation and help address the additional 8.3 GW of additional transmission that is needed within the Plains region.⁷⁰ Our analysis found that there are opportunities to include existing ROWs, including railway, highway, transmission, and pipeline ROWs, that could serve as alternate routes North to South around the NIETC boundaries, as well as additional paths crossing West to East, both within the NIETC boundaries and along the lower Southern portion of the NIETC (*see Fig. 5 and Appendix B(5)*).

We also recognize that the Northern Plains NIETC is shaped by input from the Oceti Sakowin Power Authority (“OSPA”), “an independent, non-profit, governmental entity formed to jointly develop Tribal renewable energy resources by financing, developing, constructing and operating utility- and community-scale clean power projects.”⁷¹ As a result, it is likely that the shape of the NIETC reflects intended generator and infrastructure projects by OSPA or partner developers. As with the NIETCs above, the ROWs that we have identified will augment not restrict any future transmission development by providing developers with additional flexibility. Adding these additional existing ROWs will also help to ensure that the communities that host these projects have adequate options for alternate routes during their engagement with project developers.

The Northern Plains NIETC includes the land of nearly every tribal member of OSPA. Including portions of tribal land in the NIETC, not only helps facilitate transmission that can potentially increase access to reliable and affordable electricity, but it could also enable these Tribes to become market participants and export generation along the transmission system.

⁷⁰ *Id.* at 24.

⁷¹ Oceti Sakowin Power Authority, About Us, <https://www.ospower.org/about-us/>.

The boundaries of the Northern Plains NIETC are very near to the tribal land of the Santee Sioux Nation, which only has a single lower voltage transmission connection and is not included in the NIETC. We have not been in contact with the Santee Sioux and therefore cannot impart their thoughts on the Corridor. Instead, given the proximity between Santee Sioux Nation and the NIETC, the Department should proactively solicit input from the tribe to determine whether they, like members of OSPA, might benefit from having their territory included within the designation.

Northern Plains

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

- Pipeline

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- B2B HDVC tie
- Interconnection seam

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

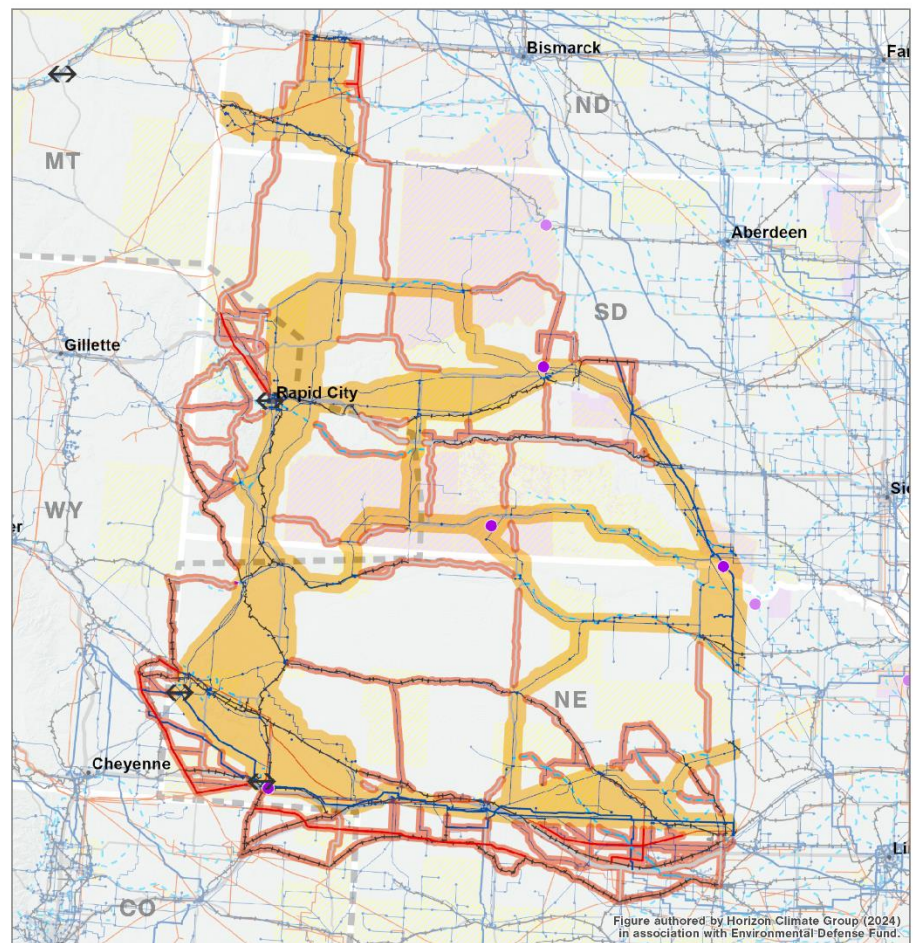


Fig. 5: ROW Advocates Northern Plains Expanded NIETC

F. Delta – Plains

The DOE states in its description of the Delta-Plains NIETC that “[i]t encompasses multiple interconnection points as well as existing transmission facilities.”⁷² While we appreciate that the Department included some “existing transmission facilities” within the Delta-Plains NIETC designation, there are many miles of viable East to West ROWs, and corresponding intersecting ROWs that were not captured by the NIETC, including highway, railway, transmission and gas pipeline ROWs (*see Fig. 6 and Appendix B(6)*).

The extraordinary number of existing ROWs in and around the Delta-Plains NIETC, provide an opportunity to significantly expand the sites where transmission could potentially be built consistent with the co-location interests of Section 216(a) of the Federal Power Act. In Fig. 6, we have attempted to capture as many of the viable linear brownfield tracts as we could under the limitations expressed above in Parts I.A. and IV. In making these selections we have been mindful that the Department routed the Delta-Plains NIETC in-between, but largely avoiding urban areas. The existing ROWs that we identified similarly attempt to skirt dense population centers. We have also recognized the deliberate forking off from the NIETC at its Eastern terminus in Arkansas, east of Little Rock. The Department, however, has failed to provide any specific detail for the purpose of these forks, which limits our ability to provide more comprehensive recommendations. What we noticed, however, was that both of the Eastern forks connect to a high voltage transmission line. As a result, the existing ROWs that we identified in this part of the NIETC are alternate routes where a line can connect back to these specific high voltage lines (*see Fig. 6*).

⁷² NIETC Phase 2 Preliminary List at 25.

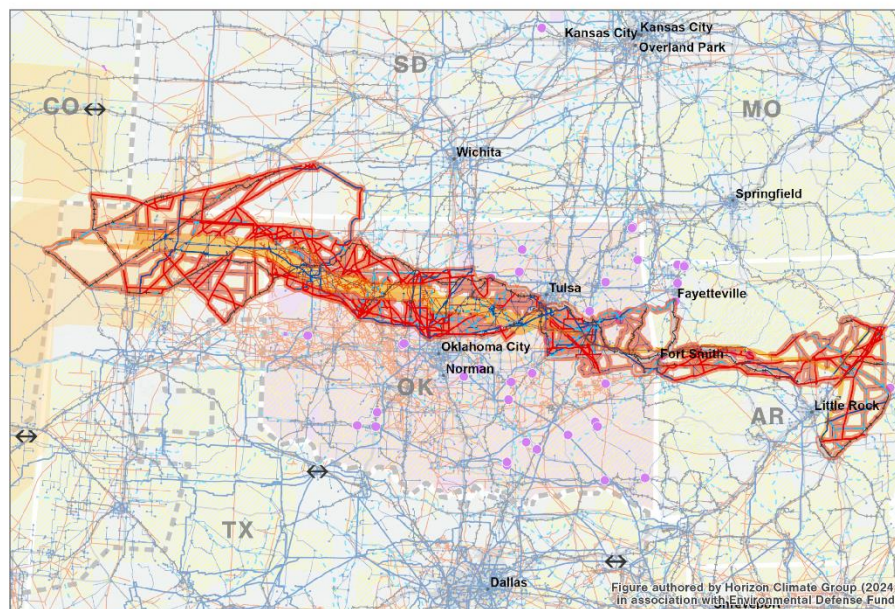
The Western terminus of the Delta-Plains NIETC is in a location that overlaps with two other NIETCs (Mountain-Plains-Southwest, and Plains-Southwest) at or around the seam between the Eastern and Western interconnect. DOE appropriately recognizes the importance of expanding transmission connections across the interconnection seam to improve system reliability and resilience by enabling the flexible operations through the diversification of load and generation across large geographic areas.⁷³ The benefits of increased capacity between the Eastern and Western Interconnections have also been found to dwarf the cost of building these connections, resulting in up to \$2.50 for every \$1 of cost.⁷⁴ ROW Advocates therefore appreciate that the Department has drawn maps that provide numerous opportunities for increasing capacity across back-to-back ties in the Plains region. However, because of the overlapping NIETCs it is exceedingly difficult to ensure that the existing ROWs that we identify accurately address both the acute interests of a specific NIETC and the potential interplay between the NIETCs as it may relate specifically to transfers across the Seam. As a result, we have attempted to identify existing ROWs that can be added to each individual NIETC even where all or part of the existing ROW may already be included in a separate overlapping NIETC, although mindful that there may be additional opportunities for co-location that are not captured but might be appropriate. Because of this, we believe that it is even more important that the Department takes an overly inclusive approach in these areas where NIETCs are overlapping to ensure that there are no blind spots in this crucial region.

⁷³ *Id.* at 27. See also Dep't of Energy, *National Transmission Needs Study*, 62-63 (Oct. 2023), https://www.energy.gov/sites/default/files/2023-12/National%20Transmission%20Needs%20Study%20-%20Final_2023.12.1.pdf.

⁷⁴ A. Bloom et al., *The Value of Increased HVDC Capacity Between Eastern and Western U.S. Grids: The Interconnections Seam Study*, IEEE Transactions on Power Systems, vol. 37, no. 3, pp. 1760-1769, May 2022, available at <https://ieeexplore.ieee.org/document/9548789>.

Delta - Plains

Potential NIETC expansion



*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Fig. 6: ROW Advocates Delta-Plains Expanded NIETC

G. Plains – Southwest

While transmission built within the Plains-Southwest NIETC will bring significant economic and reliability benefits to the Southwest and ERCOT, the DOE’s description of the NIETC does not detail other considerations for the precise boundaries, including the extent that the route of existing ROWs make up the proposed path.

Our analysis of infrastructure in the region reveal that the Plains-Southwest NIETC embraces many miles of existing ROWs, including a broad mix of highways, rail, transmission and pipelines. Nevertheless, the boundaries also miss a number of opportunities to “maximize” the existing ROWs in the area. In many cases the Corridor only follows an existing ROW for a

small portion of its length, despite other parts of the NIETC that jut further in one direction. In other cases, existing ROWs run adjacent to the NIETC and yet are never captured by the boundaries.

The Department recognizes that the Plains-Southwest NIETC “has the potential to facilitate interregional (and cross-interconnection) transmission between the WestConnect, SPP, MISO, and PJM regions (and even to the California Independent System Operator, Inc. (CAISO) via existing or planned transmission projects under development to the west)”⁷⁵ to address the growing need for additional interregional and cross-interconnection transfer capacity between SPP and WestConnect, between the Eastern-Western Interconnect and into ERCOT to address the forecasted demand growth and to ensure a more resilient system in the face of increasing extreme weather events. ROW Advocates commend DOE for focusing on these crucial regions in this NIETC designation. Our recommended additions to the NIETC boundaries maintain the interconnection potential of the proposed NIETC, however, we have identified additional routes along existing ROWs that are near to the Corridor that provide more pathways to reach the same or similar points of connections as the original boundaries serve (*see Appendix B(7)*).

East of the interconnection seam, into Kansas, Oklahoma and Texas there is a tremendous amount of infrastructure including a heavy mix of utility lines which provide several co-location opportunities along the eastern part of the NIETC (*see Appendix B(7)*). As a result, we have identified many existing ROWs to expand the NIETC (*see Fig. 7*). The western side of the NIETC appears far less developed, which shows fewer infrastructure ROWs. While this lack of development affords fewer opportunities to add additional existing ROWs, the existing ROWs

⁷⁵ NIETC Phase 2 Preliminary List at 28.

that we have identified west of the Seam provide dynamic opportunities along existing and abandoned rail, as well as highway and some long-running utility lines (*see Fig.7*).

As mentioned with regard to the Delta-Plains NIETC, some of the existing ROWs that we have identified are captured in other overlapping NIETCs (Delta-Plains and Mountain-Plains-Southwest), but in the absence of better clarity as to the interplay between these NIETCs, it is important that each NIETC includes all potentially useful existing ROWs in the general NIETC area.

We are mindful that several projects may be under development within this preliminary NIETC.⁷⁶ As has been discussed with several of the NIETCs above, we believe that adding additional existing ROWs to a NIETC will help improve the development potential of future projects by making it easier to identify and consider potential alternative routes based on community feedback and other new information.

⁷⁶ See e.g., Lucky Corridor, Project Study Area, <http://www.luckycorridor.com/Map.html>; Invenenergy, New Mexico North Path, New Mexico North Path Transmission Project Overview (Sept. 25, 2023), <https://www.nmlegis.gov/handouts/IAC%20092523%20Item%201%20NM%20North%20Path%20Transmission%20Project%20Overview%20Invenenergy.pdf>; *Three Corners Connector: A Grid United Project, FAQs: What is the proposed route of the transmission line?*, <https://threecornersconnector.com/frequently-asked-questions/>. See also S&P Global, *Grid United, Hitachi Energy partner on HVDC capacity to link US regions Continental Connector line*, Mar. 20, 2024, <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/grid-united-hitachi-energy-partner-on-hvdc-capacity-to-link-us-regions-80924036>.

Plains - Southwest

Potential NIETC expansion

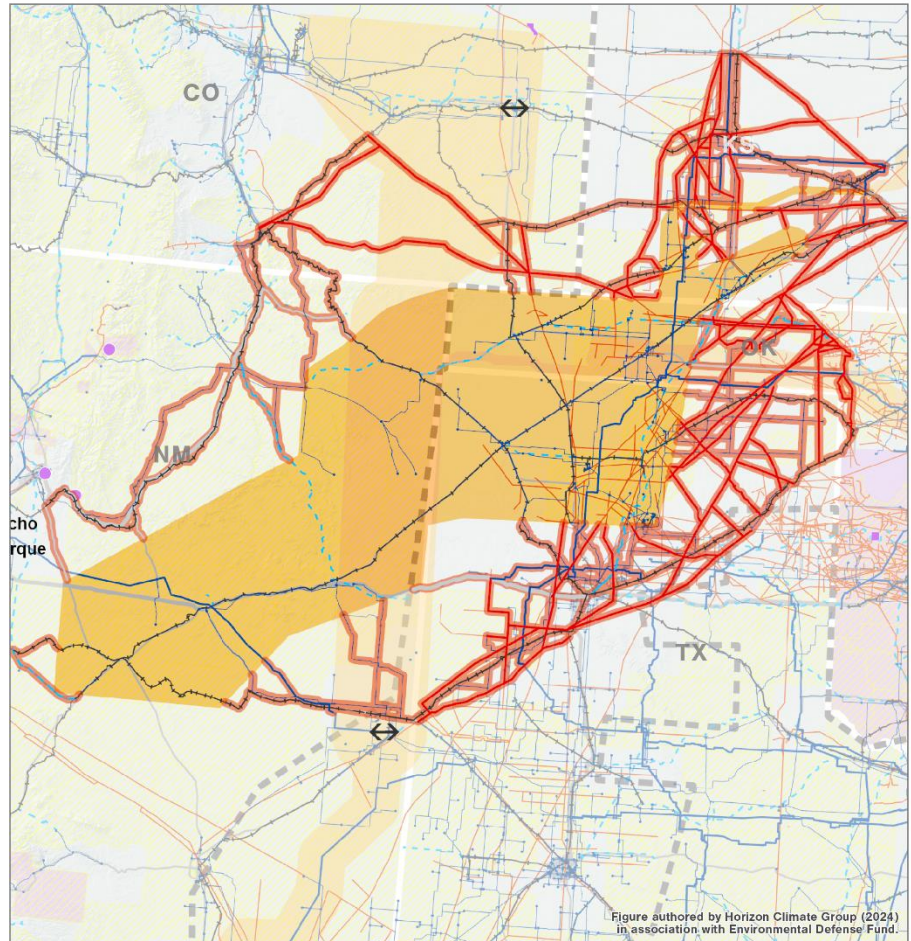


Fig. 7: ROW Advocates Plains-Southwest Expanded NIETC

H. Mountain - Plains - Southwest

The DOE describes the Mountain-Plains-Southwest NIETC as including “multiple substations and existing transmission facilities to make a link between the Eastern and Western Interconnections possible at several locations.”⁷⁷ This NIETC, unlike several of the other Corridors, does not appear to follow a specific proposed development; instead the NIETC seems to be drawn broadly from portions of Xcel Energy’s Colorado Power Pathway,⁷⁸ and Grid

⁷⁷ NIETC Phase 2 Preliminary List at 32.

⁷⁸ Xcel Energy, Project Description: Colorado’s Power Pathway, <https://www.coloradospowerpathway.com/project-description/>.

United's Three Corners Connector,⁷⁹ while maintaining geographies in the Eastern and Western Interconnect and ERCOT to increase the potential for additional transfer capacity between these ties, as well as to provide additional interregional transfer capacity between WestConnect and SPP.⁸⁰

ROW Advocates appreciate that that the Mountain-Plains-Southwest NIETC was not drawn narrowly to a particular developer's proposed transmission project, and that it is intended to better enable development across an area of high need. It is also appreciated that the NIETC includes several portions of existing ROWs, but many additional ROWs that are near to the NIETC were left out of the Corridor. Reviewing each of the categories of existing ROWs in the mapped region (*see Appendix B(8)*), we have identified several existing ROWs running North to South along the outer boundary of the NIETC, and intersecting the NIETC as well as some that cross between these outer ROWs and the original NIETC boundary (*see Fig. 8*).

Including these additional ROWs could strengthen the potential for increased transfer capacity between the Eastern and Western Interconnect and provide route alternatives for east-to-west projects between SPP and WestConnect, as well as potentially between ERCOT and other regions.

⁷⁹ Three Corners Connector: A Grid United Project, FAQs: What is the proposed route of the transmission line?, <https://threecornersconnector.com/frequently-asked-questions/>.

⁸⁰ NIETC Phase 2 Preliminary List at 32.

Mountain - Plains - Southwest

Potential NIETC expansion

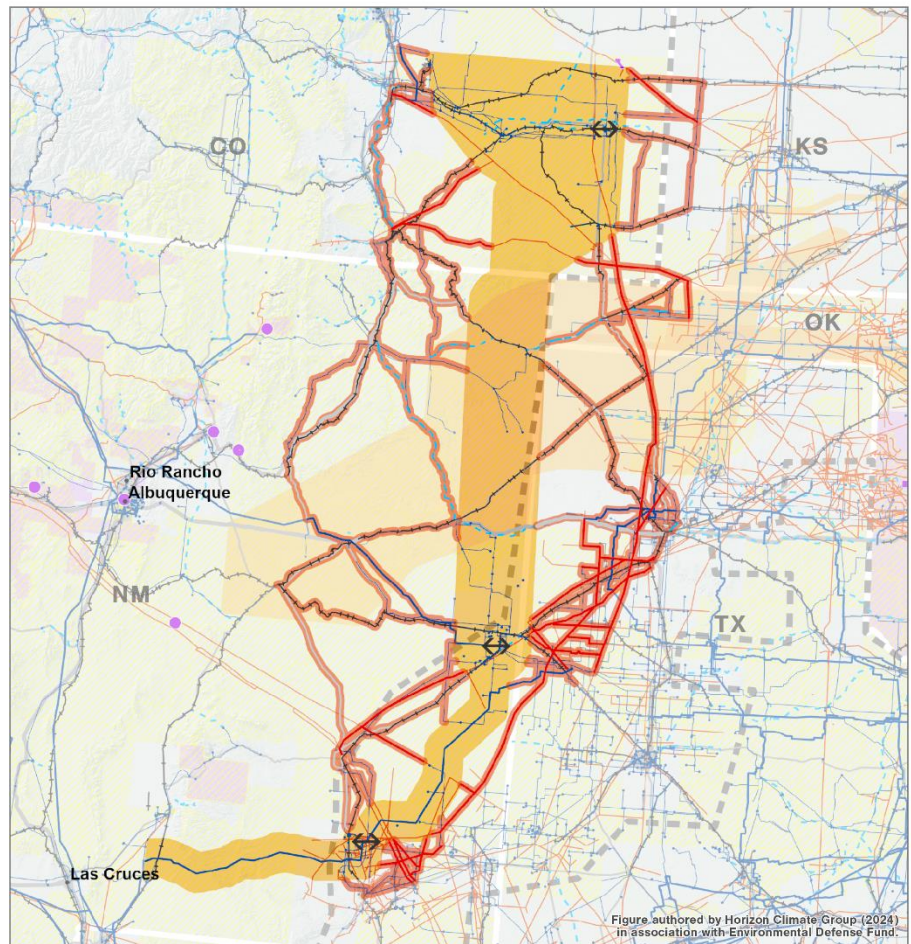


Fig. 8: ROW Advocates Mountain-Plains-Southwest Expanded NIETC

I. Mountain - Northwest

The DOE explains in its description of the Mountain-Northwest NIETC that “[i]t is co-located with existing Bureau of Land Management (BLM) Section 368 energy corridors through most of Nevada and follows existing infrastructure for most of its length.”⁸¹ The Mountain-Northwest line appears to follow the Pacific DC Intertie (also known as Path 65) for a significant portion of the line. While an additional transmission line adjacent to Path 65 may be sufficient to address the high system congestion, forecasted increases in load, and risks to load curtailment

⁸¹ *Id.* at 36.

during extreme weather events identified in the needs study, there is no guarantee that a developer, even one that has suggested this route, will actually build transmission within such a narrow area. It is shortsighted to assume that future or planned development in the region would be limited to such precision parallel siting and the risks of failing to provide room for alternatives could add additional risk to the project.

Comparing the Mountain-Northwest NIETC against the maps of existing ROWs, we identified opportunities where there NIETC could add many miles of existing ROWs to its boundary. This includes utilizing both transportation ROWs and utility ROWs running north to south adjacent to the Corridor. Specifically, we identified additional electric transmission lines that run alongside and cross the NIETC in the Northern section of the Corridor (*see Fig. 9 and Appendix B(9)*). Portions of these transmission lines follow a highway ROW moving south into Nevada (*see Appendix B(9)(c)*), and also link up with a gas pipeline ROW that then follows along the NIETC for several miles (*see Appendix B(9)(d)*). East of Reno, Nevada, several existing ROWs cross and run parallel to the NIETC that could serve as alternate routes, including gas pipeline, electric transmission, rail and highway (*see Fig. 9 and Appendix B(9)*).

It appears that the Southern portion of the Mountain-Northwest NIETC also lines up with the Greenlink, a transmission line by NVEnergy that is currently in development.⁸² NVEnergy's webpage for the Greenlink project showcases a video demonstration of where the transmission line will be sited using Google Earth imagery.⁸³ While the line comes near to some portions of highway and existing infrastructure, a significant portion of the line is planned to be built on

⁸² NVEnergy, Greenlink Nevada, <https://www.nvenergy.com/cleanenergy/greenlink-nevada>; NVEnergyTV, Greenlink Project, YOUTUBE, <https://www.youtube.com/watch?v=2sVCxrNhZ58>.

⁸³ *Id.*

greenfield land, extending over hilly, rough terrain.⁸⁴ As discussed above, while a NIETC designation can be informed by planned transmission development it should not be so narrowly tailored to the initial plan so as to exclude potential alternative routes, particularly those that present opportunities for co-location and reduced impacts, and which may be identified later through the NEPA or engagement processes.

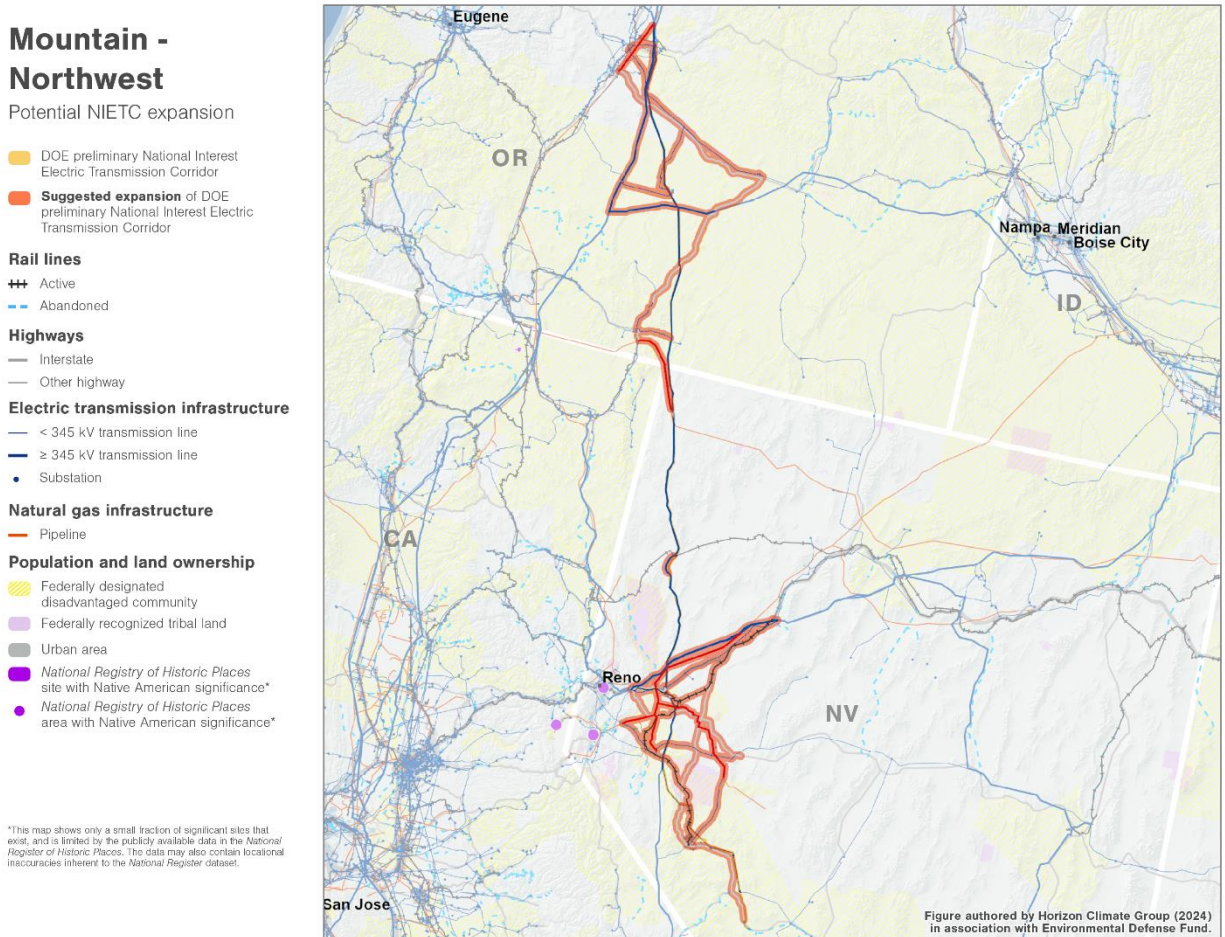


Fig. 9: ROW Advocates Mountain-Northwest Expanded NIETC

VI. DOE Should Finalize this Round of NIETCs Expediently and Should Start Future NIETC Designations While the Current NIETCs Are Finalized.

This designation process is essential for enhancing the reliability, capacity, and resilience of the United States' electrical transmission networks, particularly in supporting the integration

⁸⁴ *Id.*

of clean energy resources and mitigating existing transmission deficits. As detailed in the DOE's Phase 2 Preliminary NIETC document, considerations for these designations have been guided by a comprehensive analysis of current congestion and constraint in electric transmission, ensuring that the most impacted areas are prioritized. We appreciate the Department's efforts thus far and encourage the Department to finalize these ten NIETCs without delay.

However, it is notable that many other regions experiencing similar challenges have not been included in this preliminary list. This observation underscores the necessity for a continual, iterative designation process that does not pause with the completion of the current round but proceeds seamlessly into subsequent evaluations and designations to address the evolving needs of the national grid. We therefore encourage the Department to start a parallel process for the next round of NIETCs soliciting feedback from developers, and other stakeholders for the next round of NIETCs.

DOE should plan now to move ahead with additional designations that will also enhance and accelerate development of the Nation's electric transmission grid and garner the range of benefits to the electrified economy, clean energy, major new loads, and consumers. We acknowledge that the NIETC process is only part of a much larger program to integrate and decarbonize the Nation's grid, meet the projected demand for electricity, promote industrial electrification, and prepare for the stresses of extreme weather. Nevertheless, NIETC corridor designations are a valuable tool as industry and government continue to work through this transformative period in US energy development and history. DOE is therefore urged to move immediately to start work on the next round of NIETC designations to ensure that the policies that Section 216 embodies continue to be front and center.

CONCLUSION

These comments highlight practical and achievable opportunities for DOE to better ensure that the NIETCs boundaries are consistent with the purpose of Section 216(a), and with rationale behind Congress including that a NIETC designations “maximizes existing rights-of-way,” which is to speed up the build out of electric transmission that addresses distinct transmission capacity constraints or congestion, and to do so in the least burdensome manner.

DATED: June 24, 2024

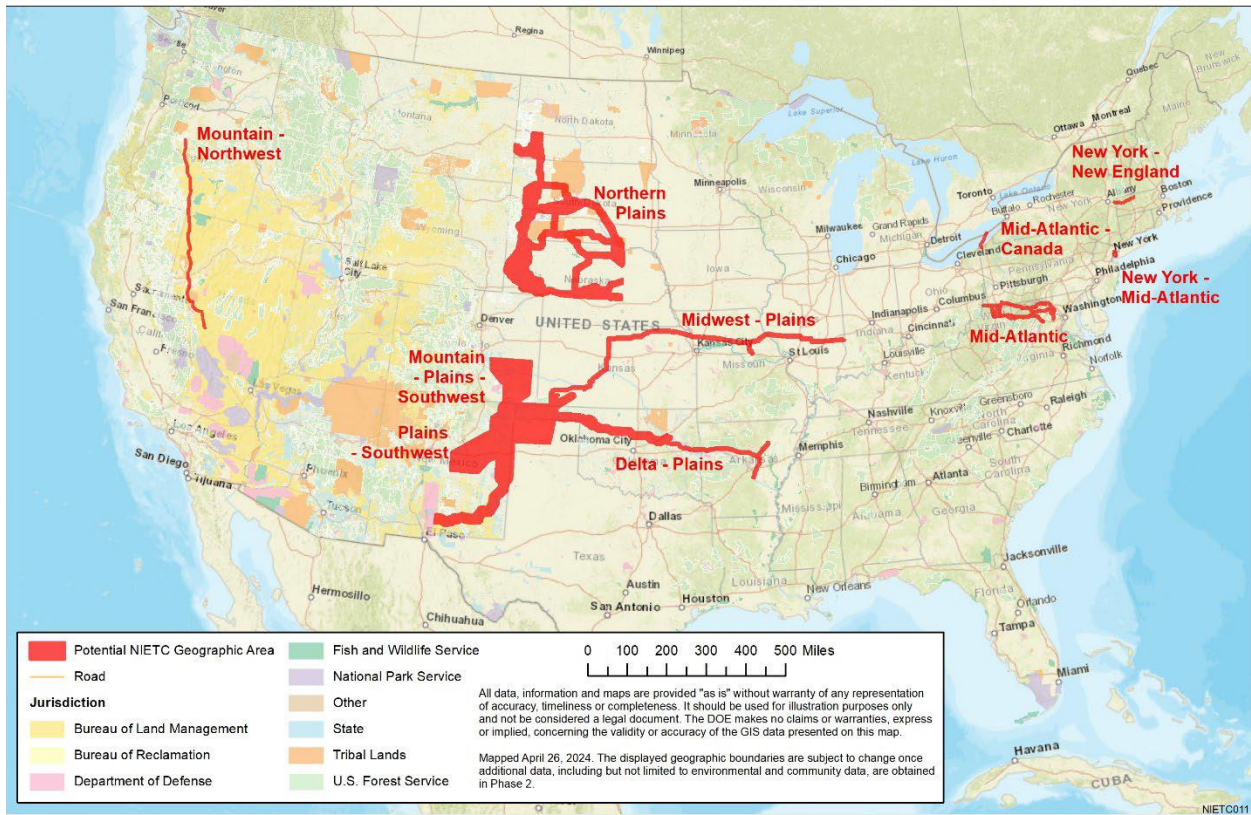
Respectfully Submitted,

| | |
|--|---|
| <p><u>/s/ Ted Kelly</u> Ted Kelly Director and Lead Counsel, US Clean Energy Adam Kurland Attorney, Federal Energy Environmental Defense Fund 555 12th Street NW Suite 400 Washington, D.C. 20004 tekelly@edf.org akurland@edf.org</p> | <p><u>/s/ James Hoecker</u> James Hoecker REC Counsel Rail Electrification Coalition (REC) James.hoecker@huschblackwell.com Steve Griffith Executive Director, Regulatory & Industry Affairs Mobility NEMA steve.griffith@nema.org</p> |
| <p><u>/s/ Randy Satterfield</u> Randy Satterfield Executive Director NextGen Highways (608) 575-5644 Randy@nextgenhighways.org</p> | |

Appendix A: Department of Energy, Preliminary List of Potential NIETCs (May 8, 2024).⁸⁵

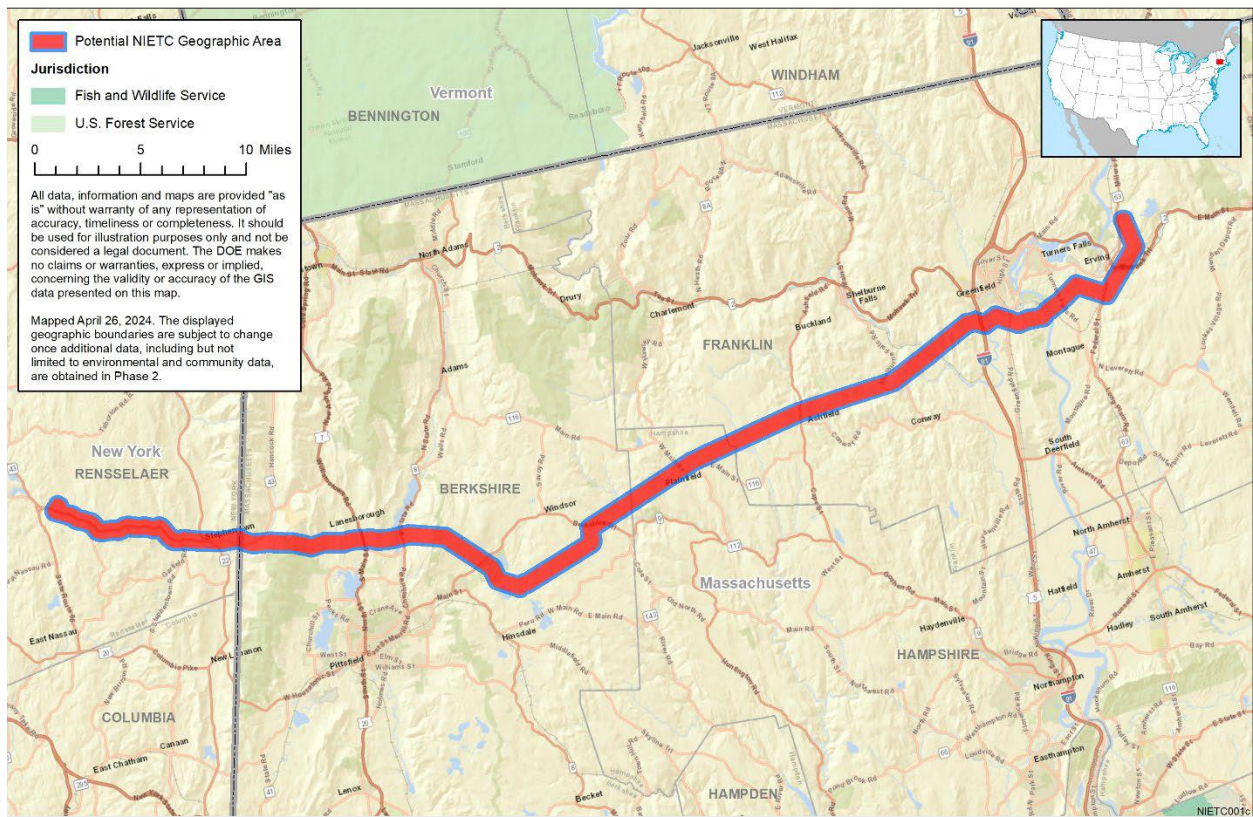
⁸⁵ Document available at <https://www.energy.gov/sites/default/files/2024-05/PreliminaryListPotentialNIETCsPublicRelease.pdf>.

Potential NIETC Geographic Areas



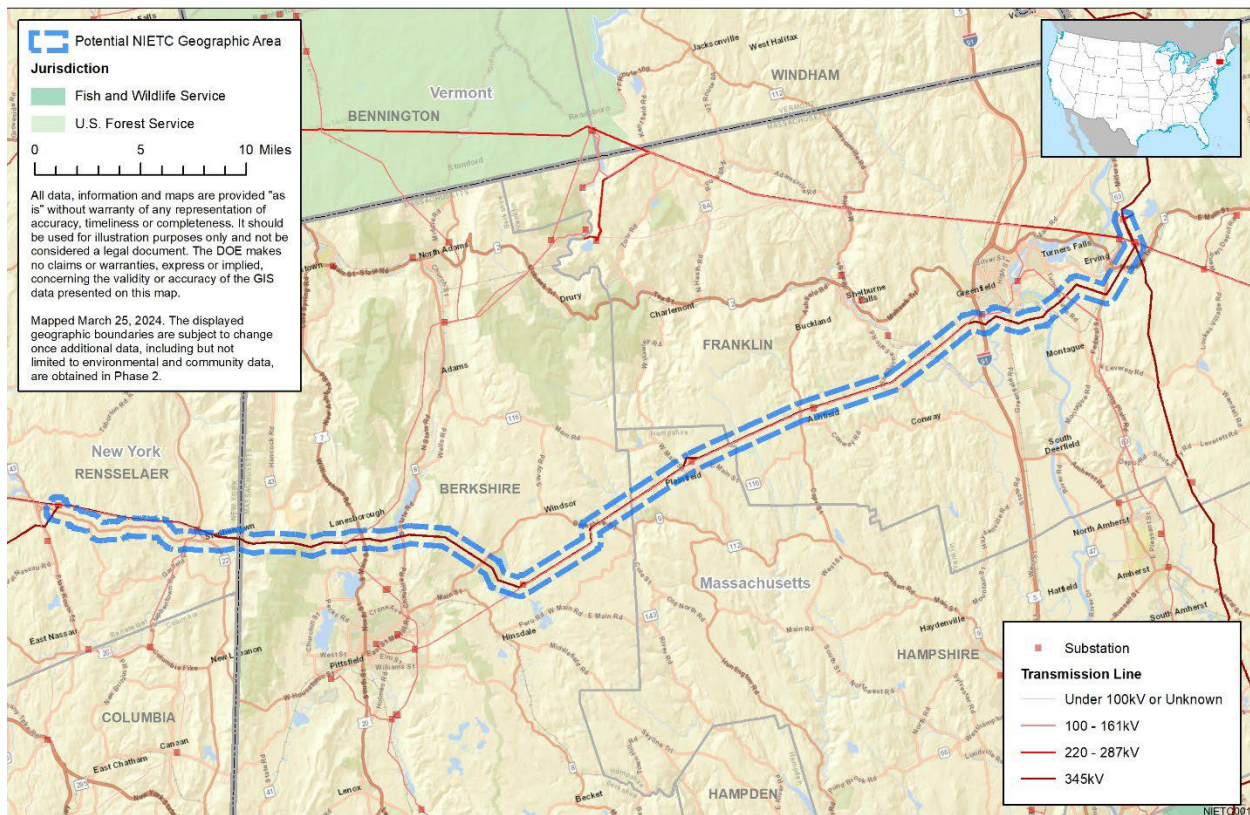
Map A(1). Full map of all Phase 2 Preliminary NIETC Designations

New York - New England



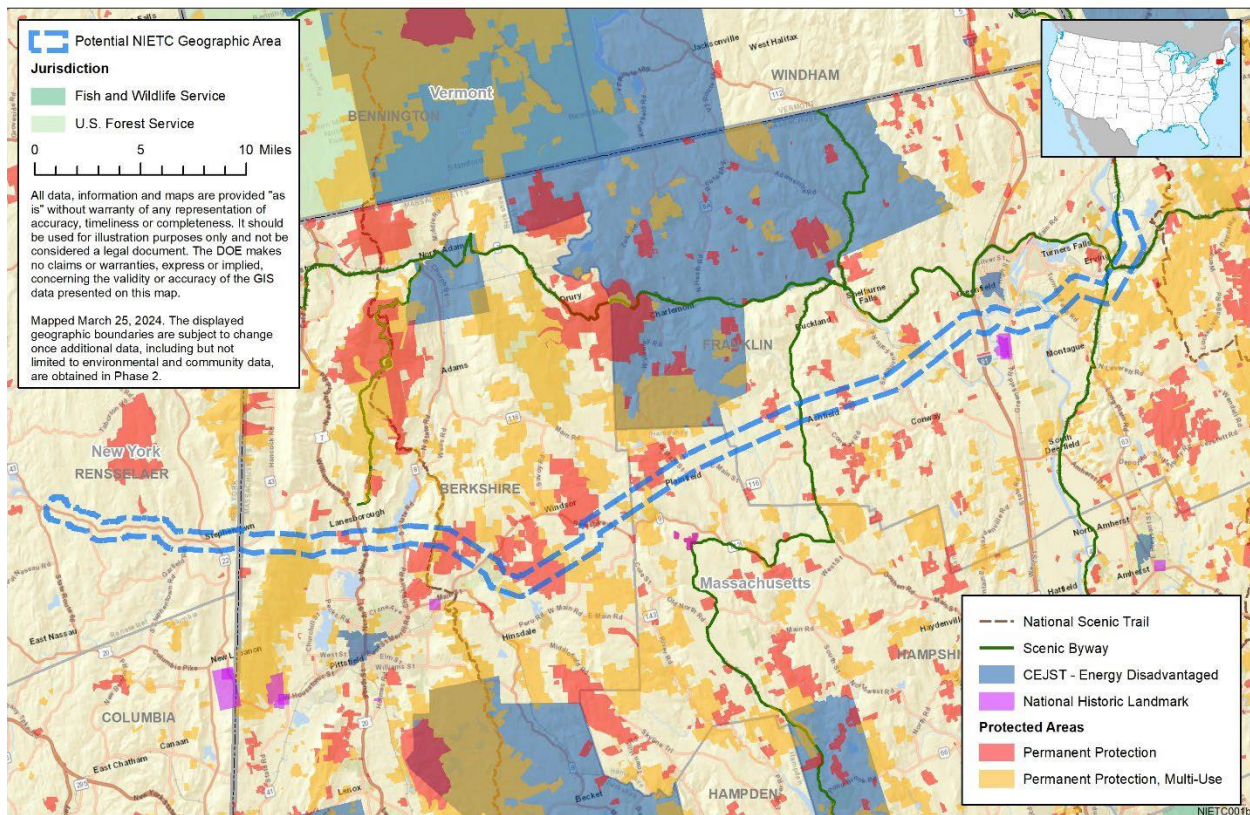
Map A(2). New York-New England Phase 2 Preliminary NIETC

New York - New England



Map A(2)(a). New York-New England Phase 2 Preliminary NIETC with Electrical Infrastructure

New York - New England



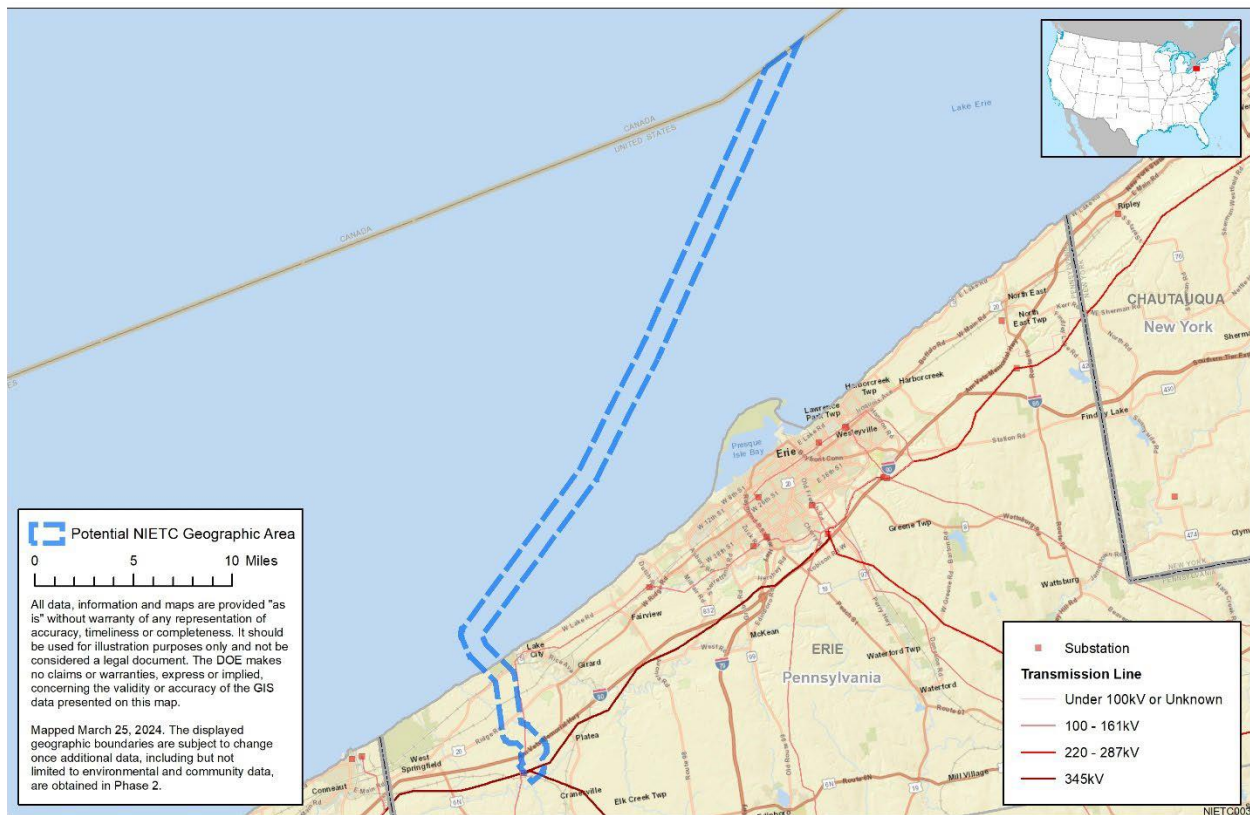
Map A(2)(b). New York-New England Phase 2 Preliminary NIETC with Environmental Information

Mid-Atlantic - Canada



Map A(3). Mid-Atlantic-Canada Phase 2 Preliminary NIETC

Mid-Atlantic - Canada



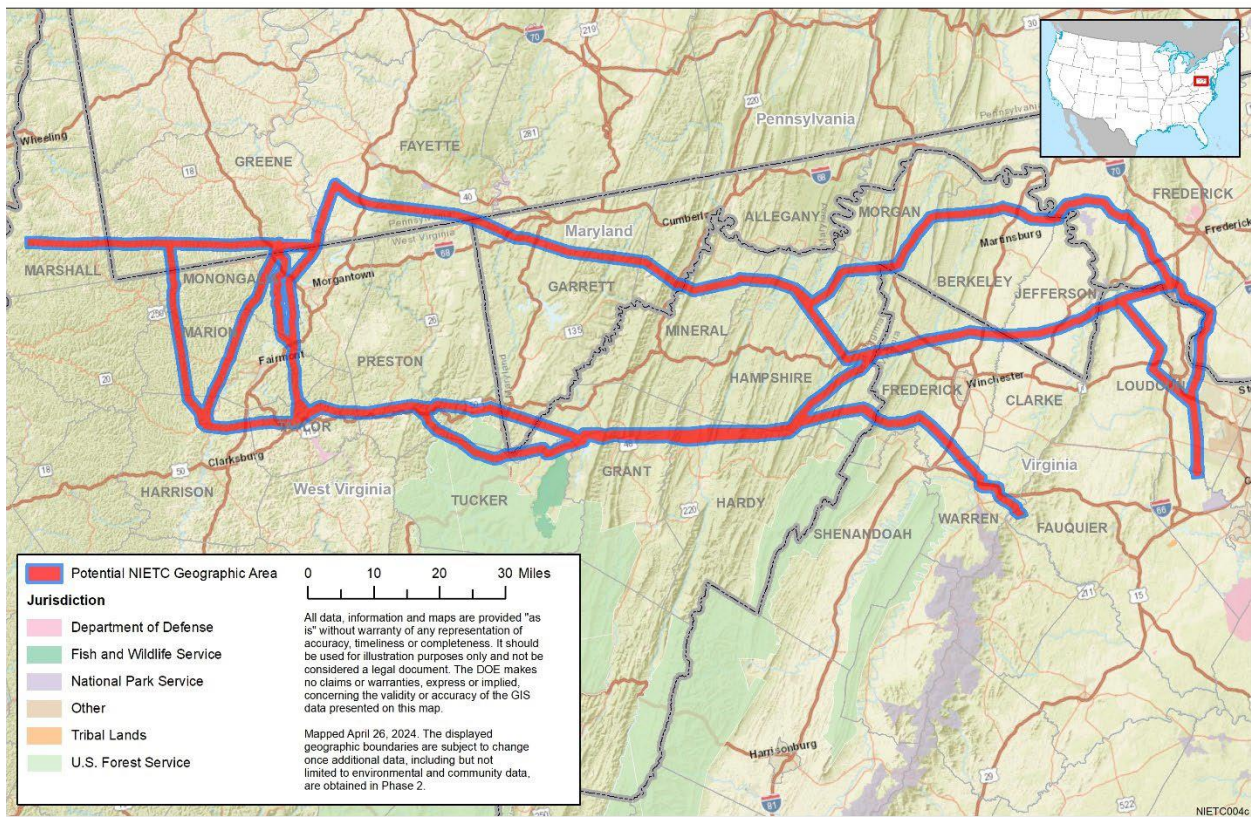
Map A(3)(a). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Electrical Infrastructure

Mid-Atlantic - Canada



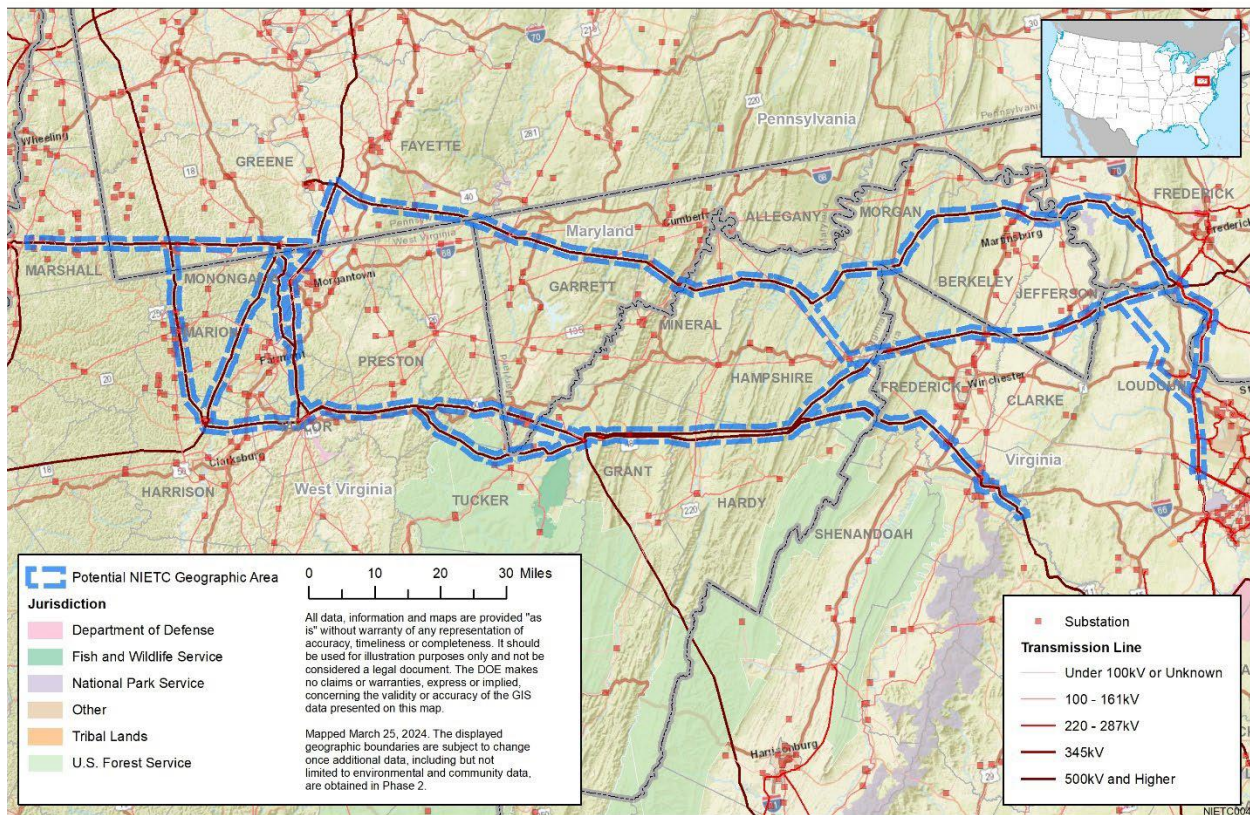
Map A(3)(b). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Environmental Information

Mid-Atlantic



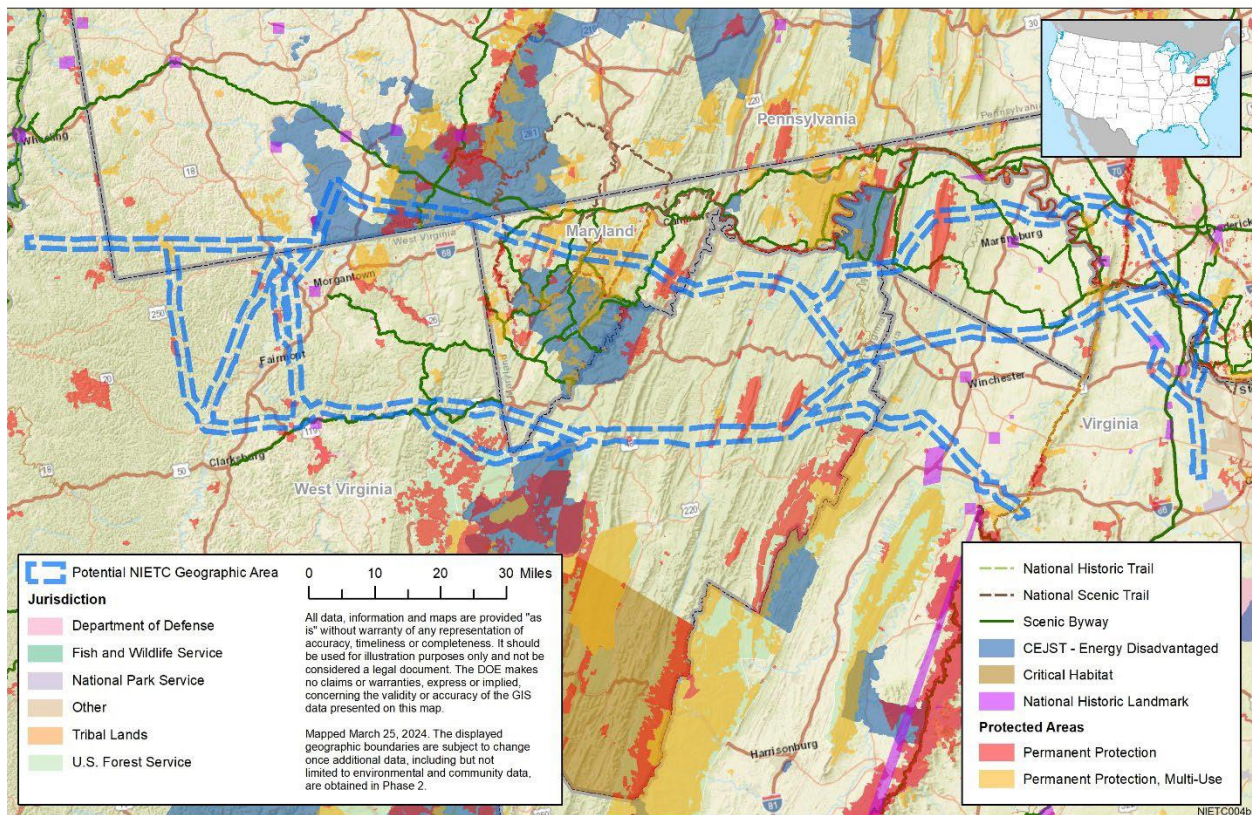
Map A(4). Mid-Atlantic Phase 2 Preliminary NIETC

Mid-Atlantic



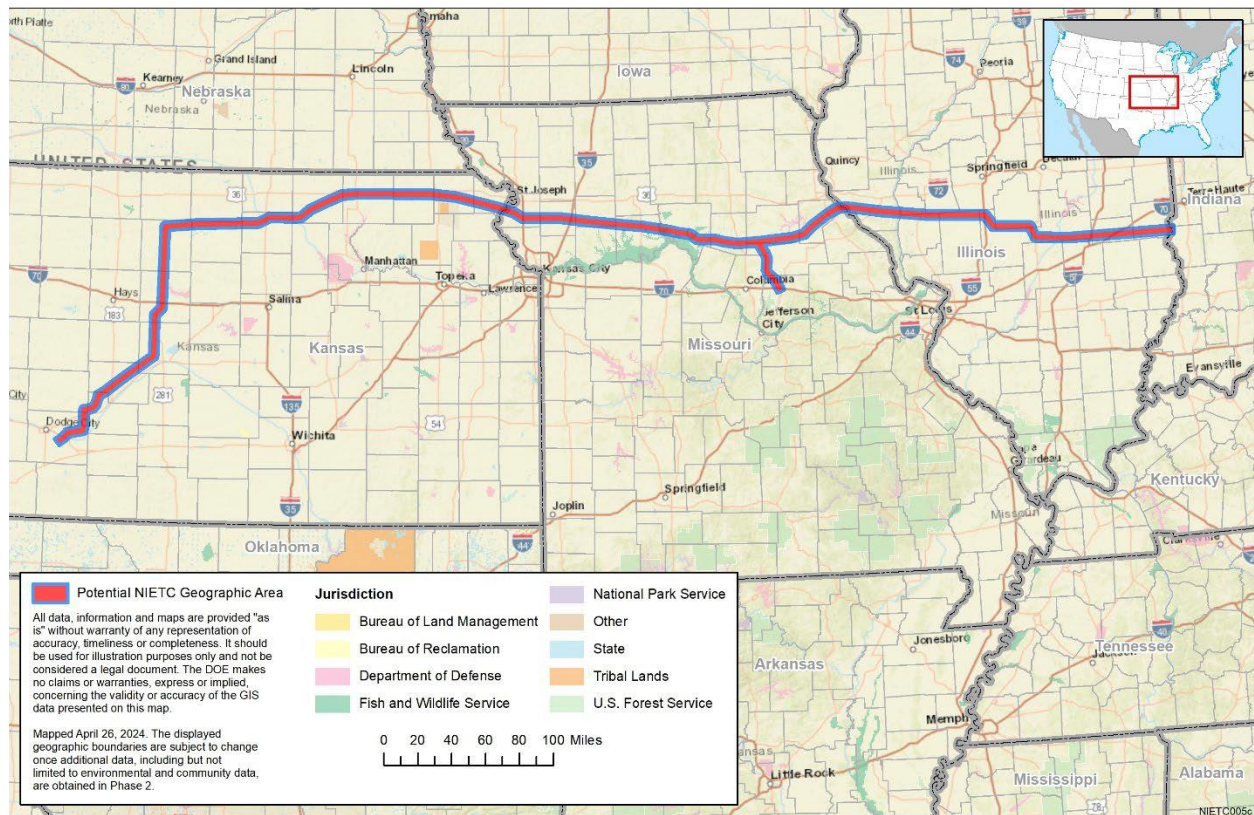
Map A(4)(a). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Electrical Infrastructure

Mid-Atlantic



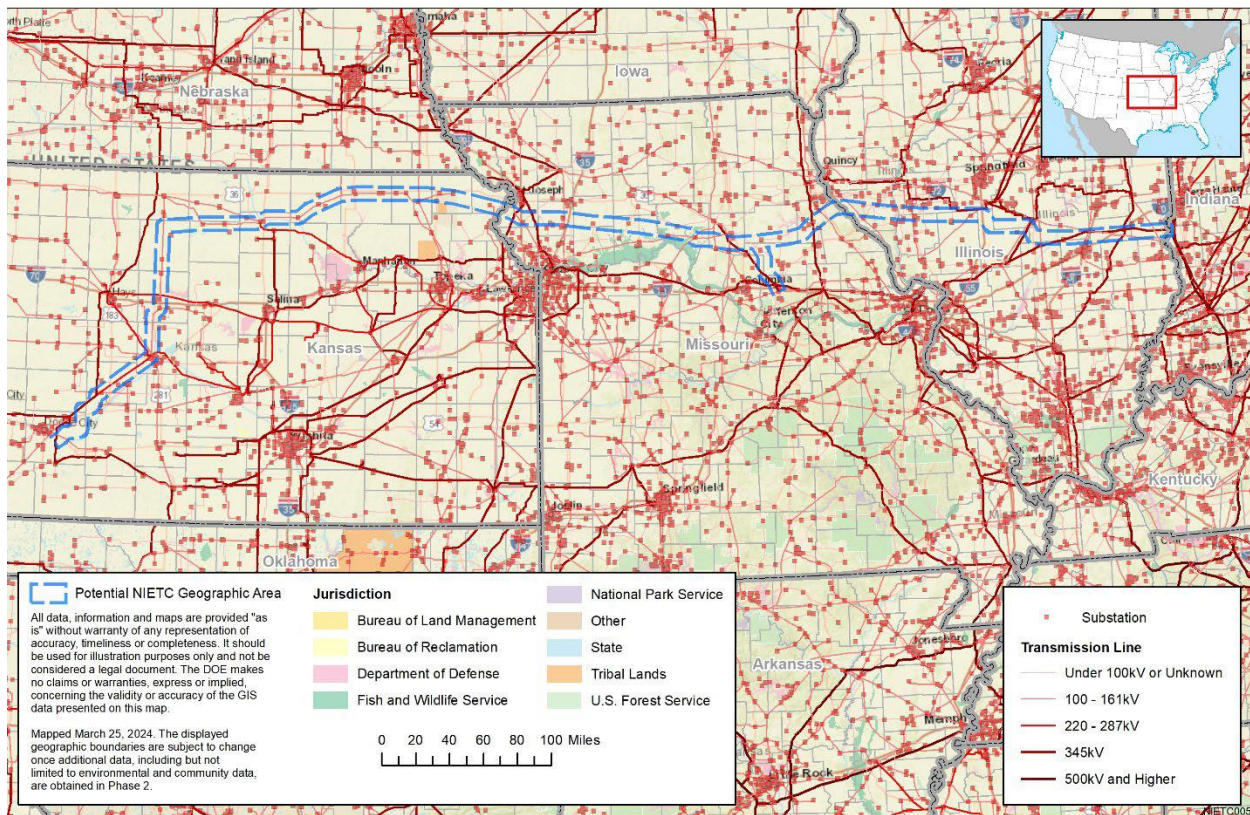
Map A(4)(b). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Environmental Information

Midwest - Plains



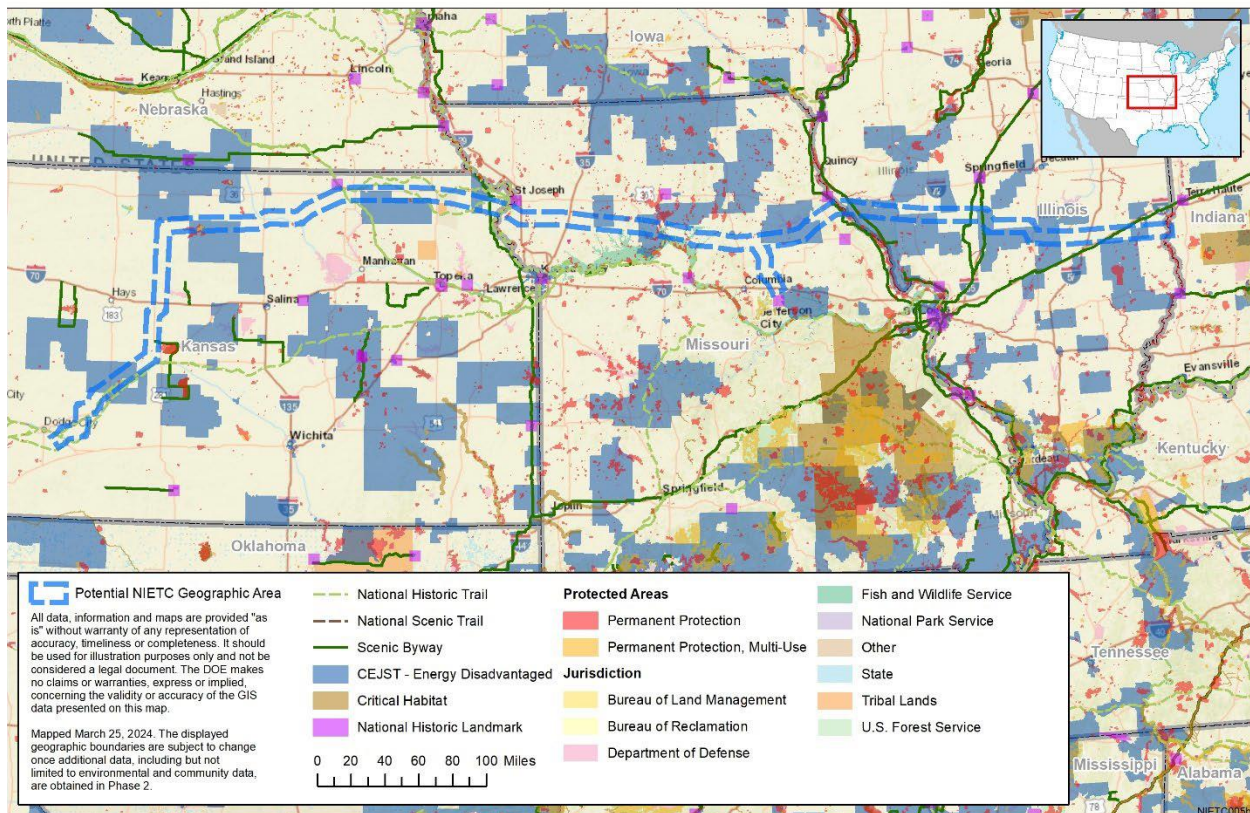
Map A(5). Midwest-Plains Phase 2 Preliminary NIETC

Midwest - Plains



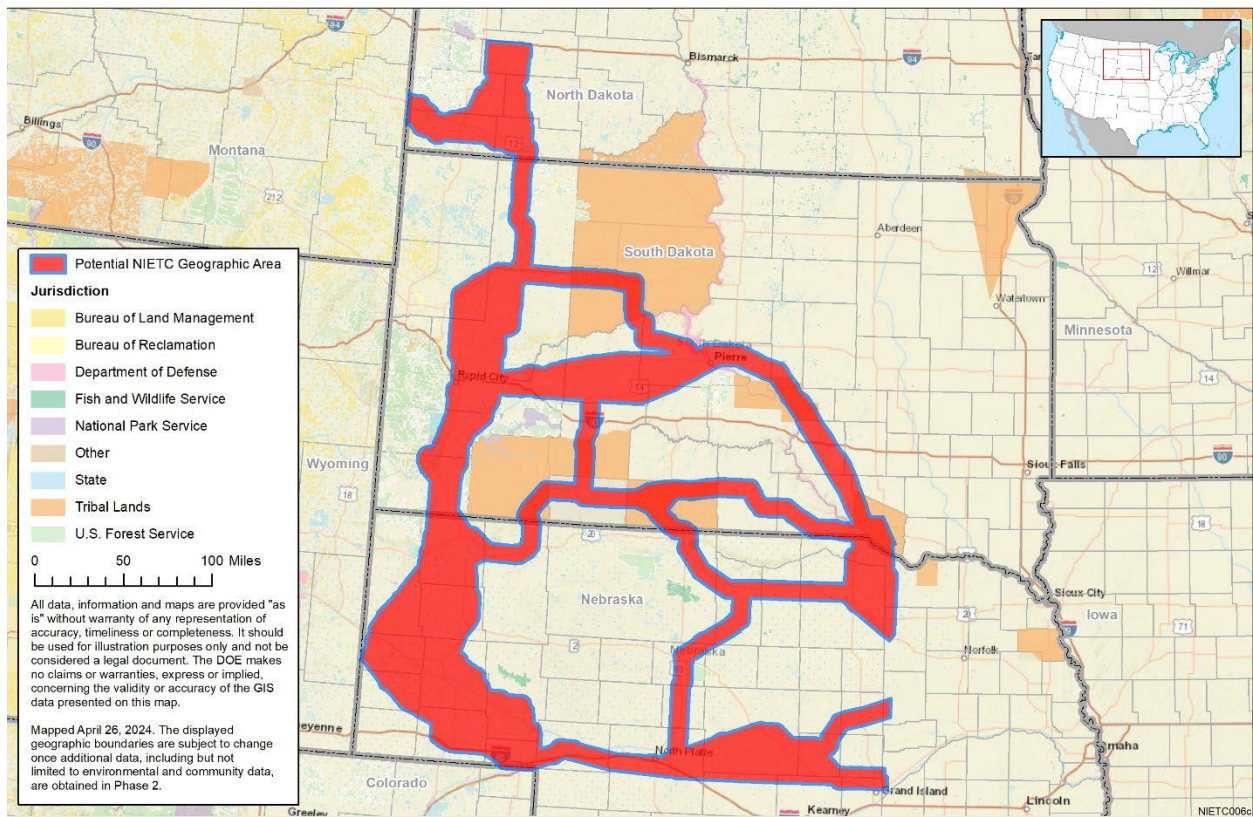
Map A(5)(a). Midwest-Plains Phase 2 Preliminary NIETC with Electrical Infrastructure

Midwest - Plains



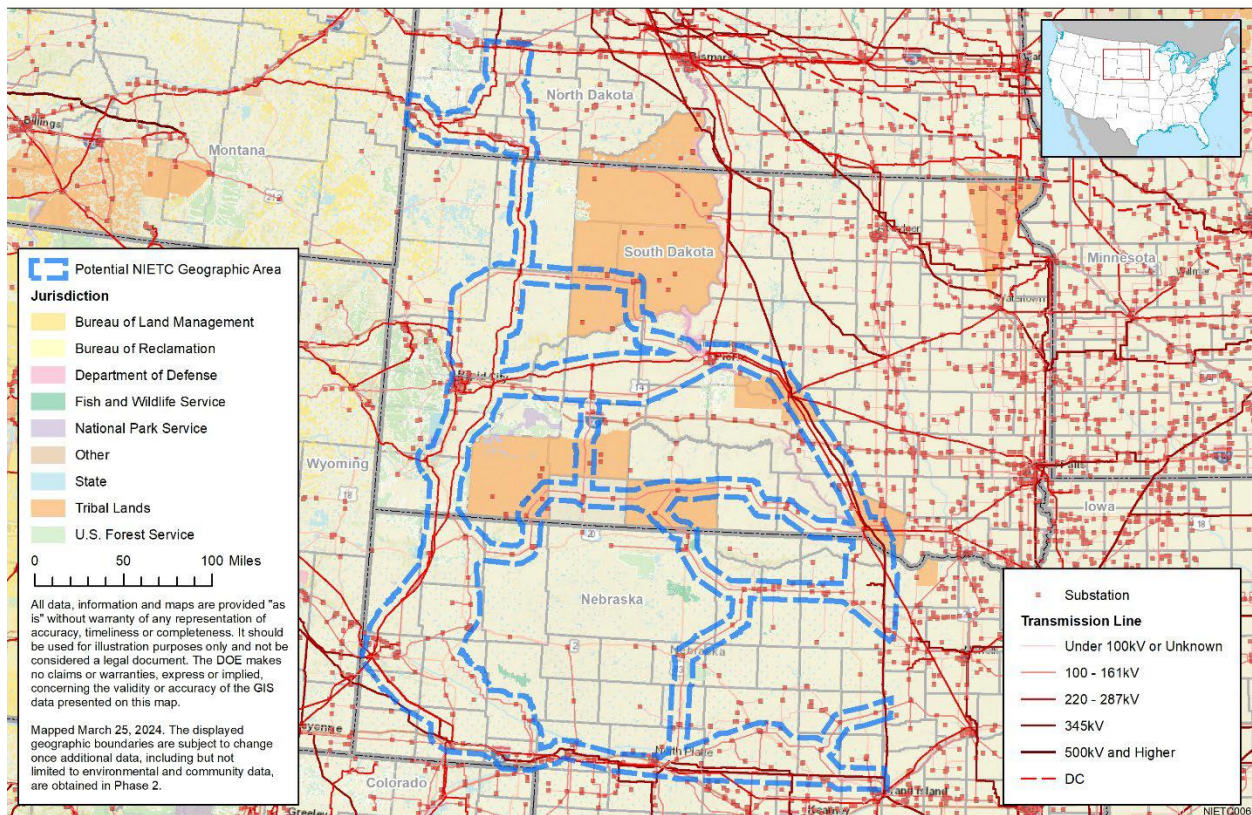
Map A(5)(b). Midwest-Plains Phase 2 Preliminary NIETC with Environmental Information

Northern Plains



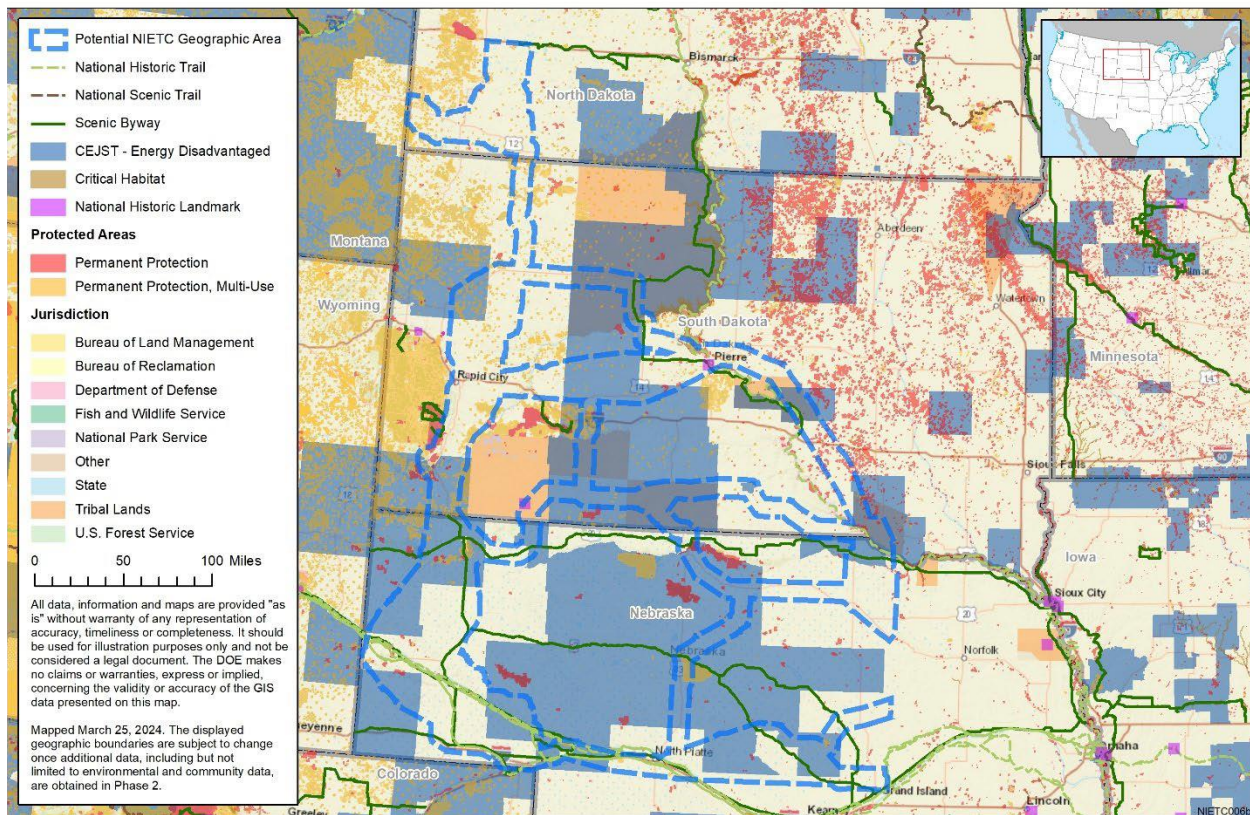
Map A(6). Northern Plains Phase 2 Preliminary NIETC

Northern Plains



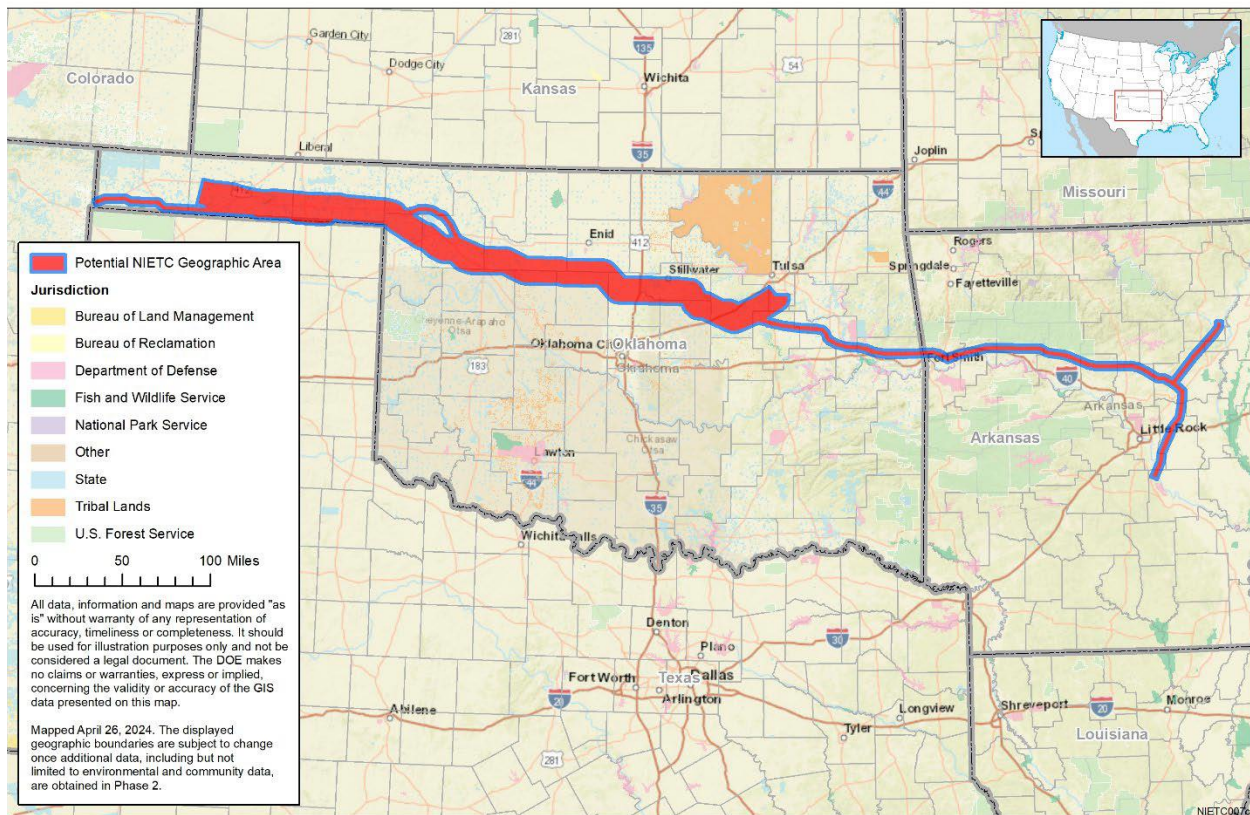
Map A(6)(a). Northern Plains Phase 2 Preliminary NIETC with Electrical Infrastructure

Northern Plains



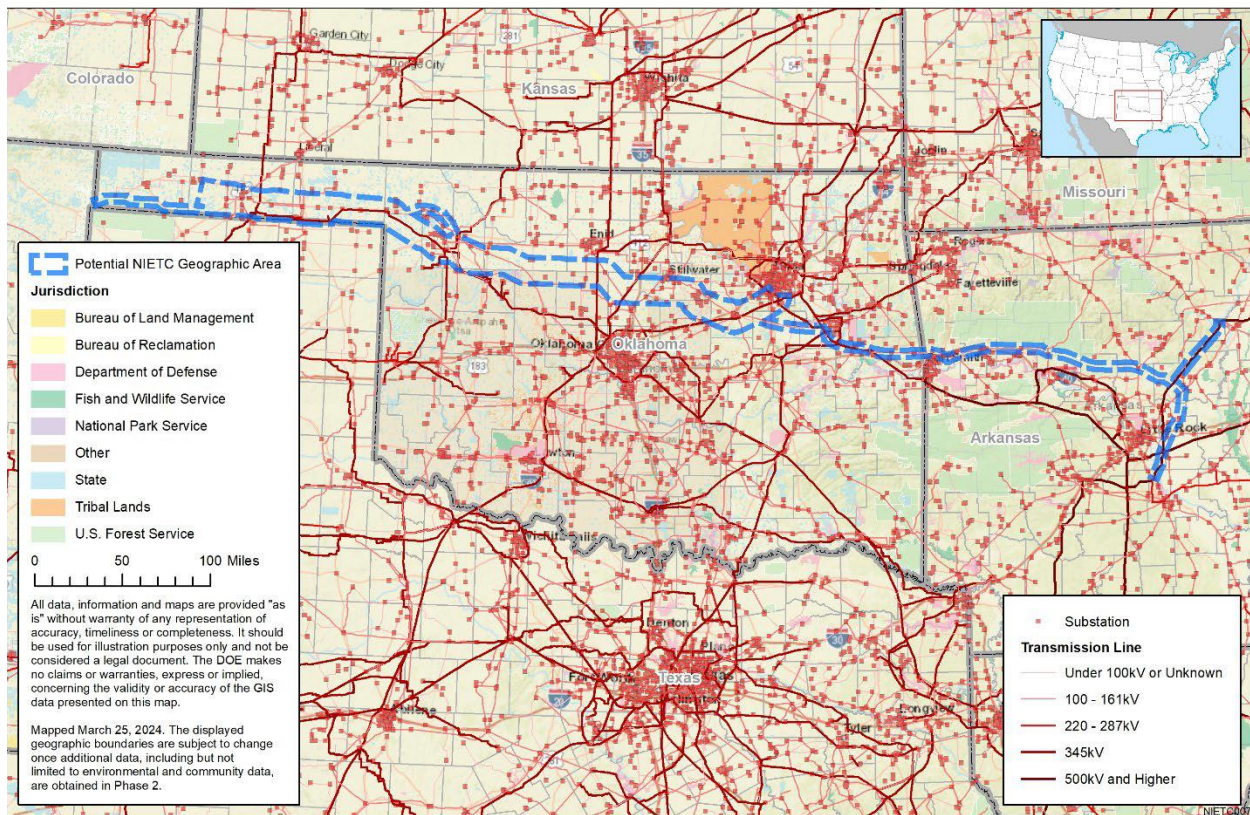
Map A(6)(b). Northern Plains Phase 2 Preliminary NIETC with Environmental Information

Delta - Plains



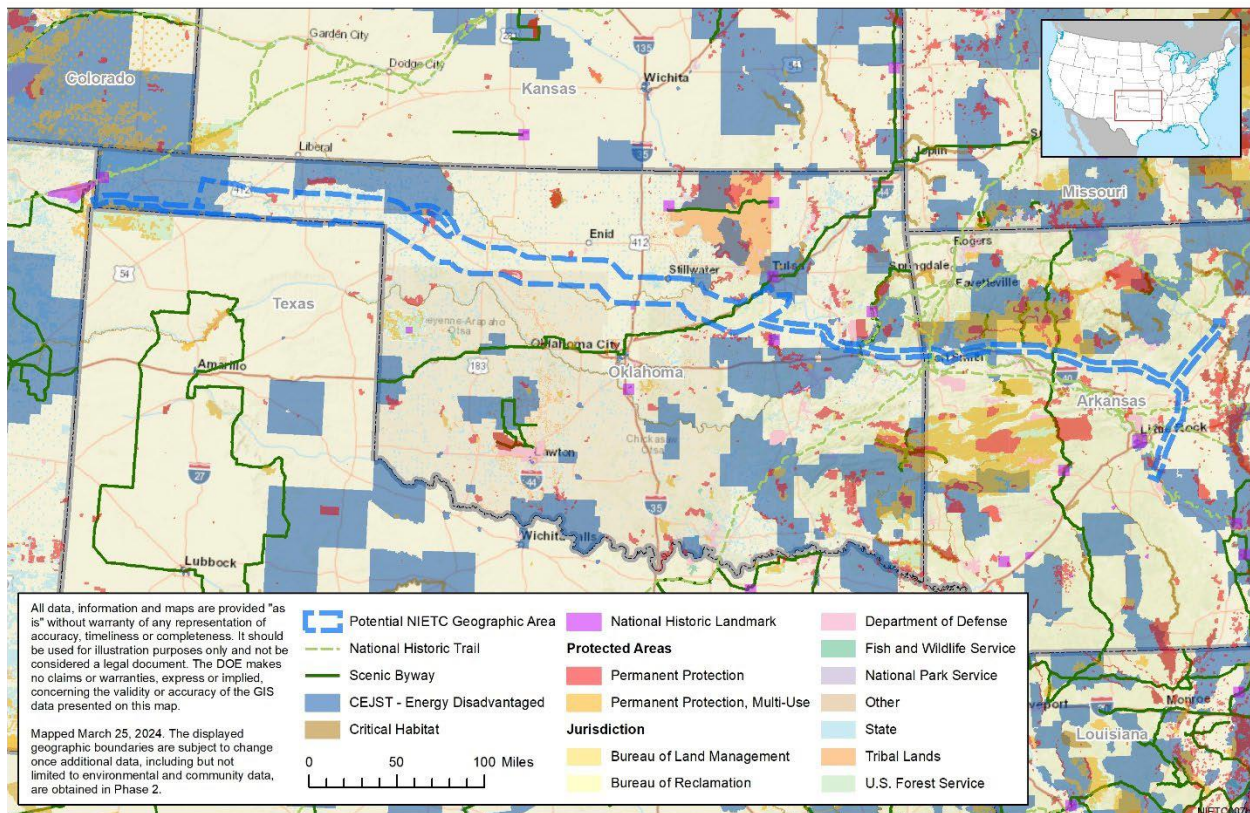
Map A(7). Delta-Plains Phase 2 Preliminary NIETC

Delta - Plains



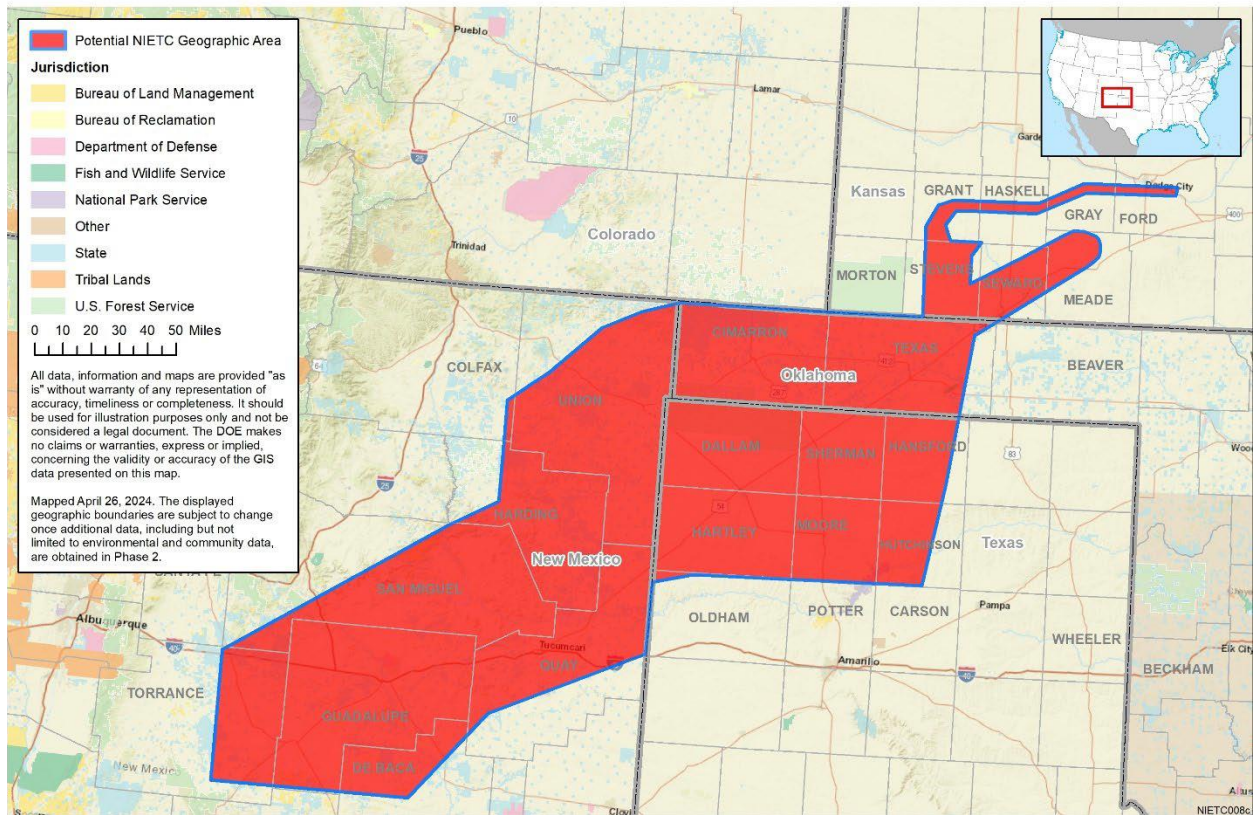
Map A(7)(a). Delta-Plains Phase 2 Preliminary NIETC with Electrical Infrastructure

Delta - Plains



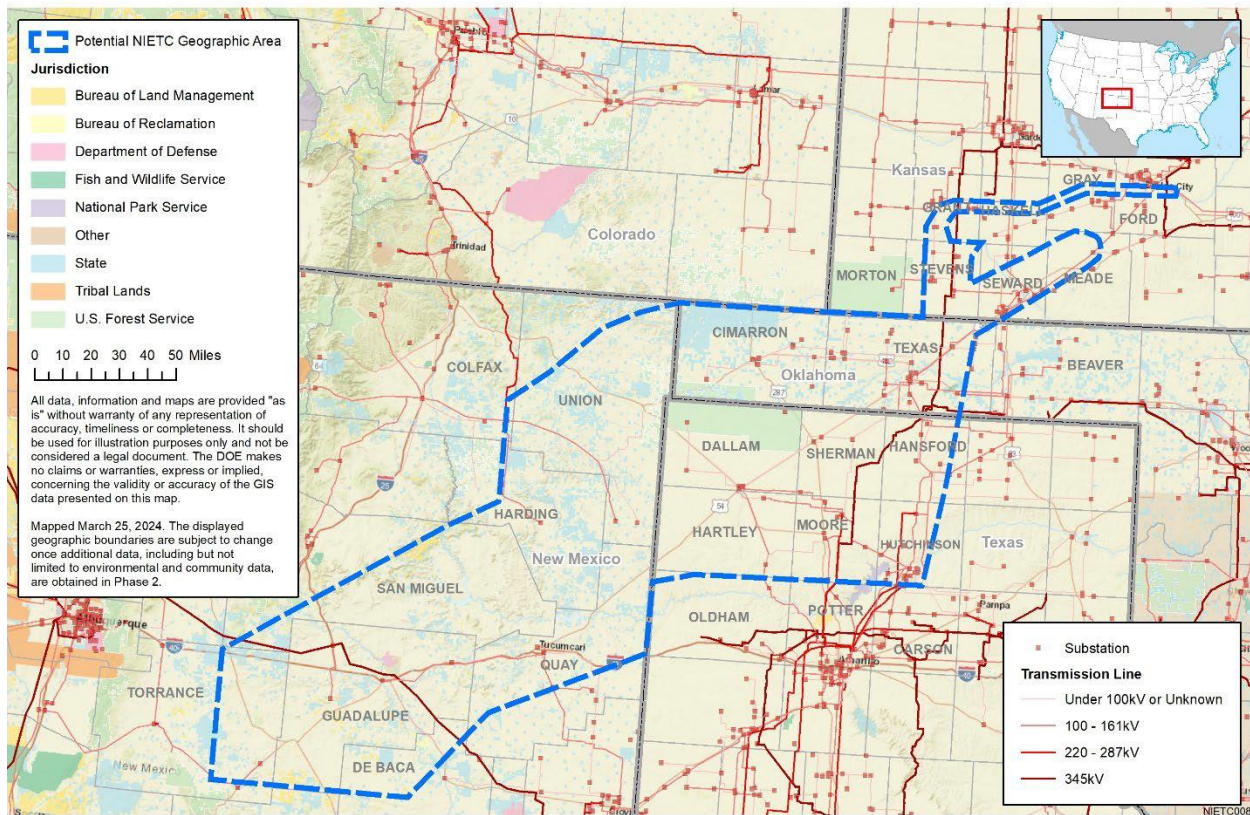
Map A(7)(b). Delta-Plains Phase 2 Preliminary NIETC with Environmental Information

Plains - Southwest



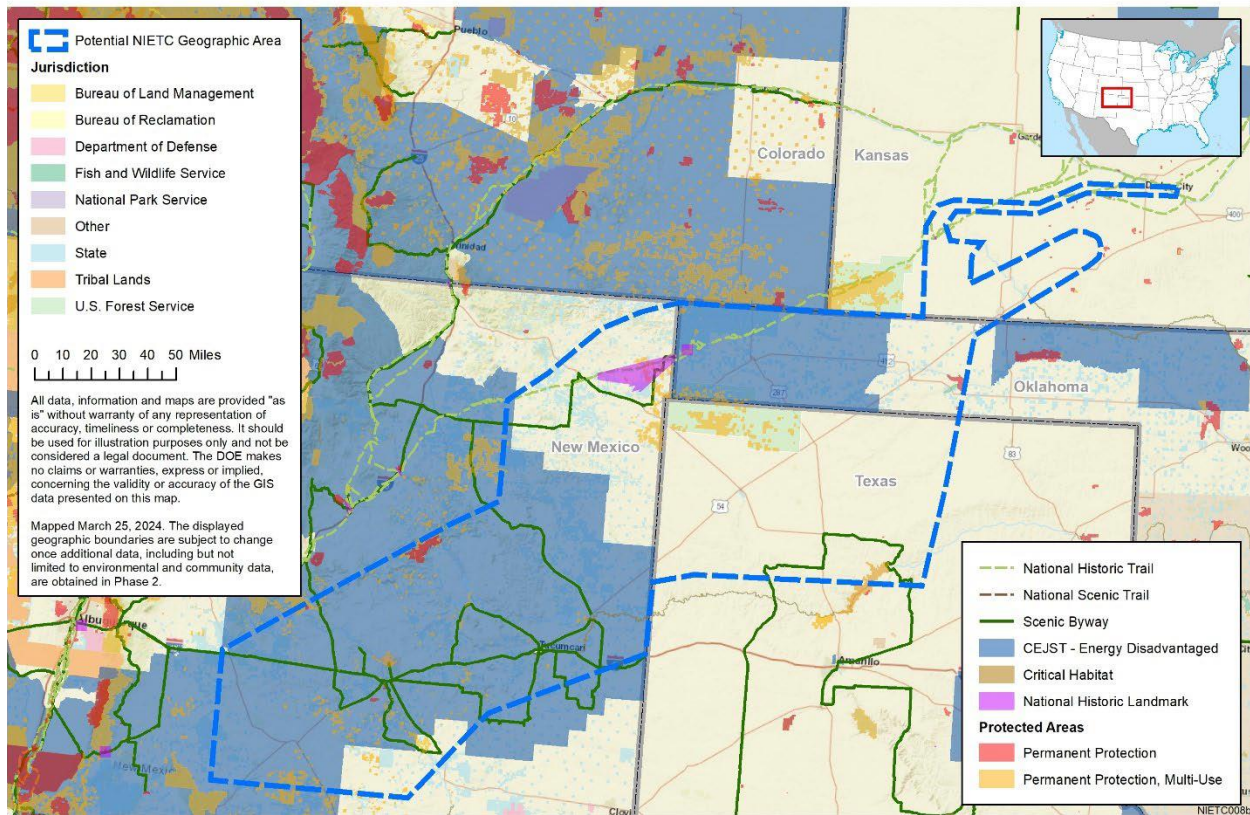
Map A(8). Plains-Southwest Phase 2 Preliminary NIETC

Plains - Southwest



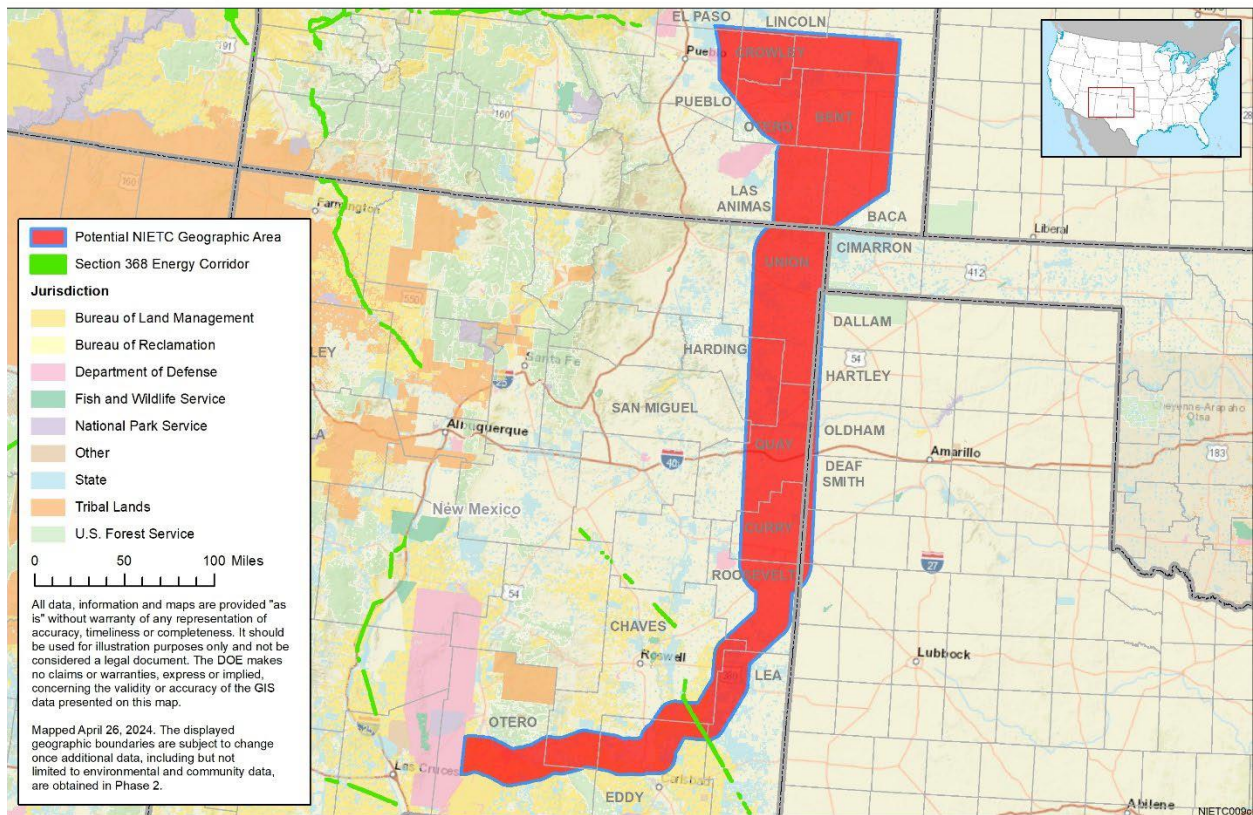
Map A(8)(a). Plains-Southwest Phase 2 Preliminary NIETC with Electrical Infrastructure

Plains - Southwest



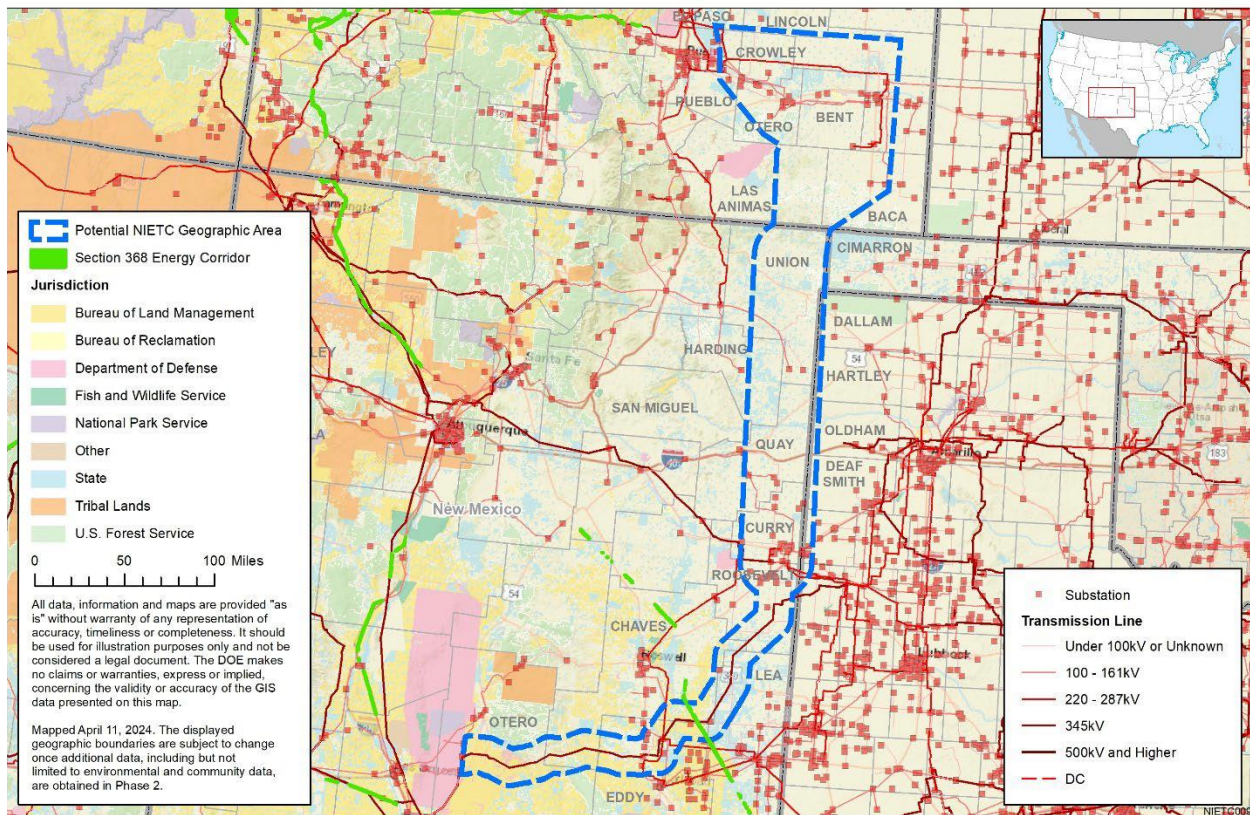
Map A(8)(b). Plains-Southwest Phase 2 Preliminary NIETC with Environmental Information

Mountain - Plains - Southwest



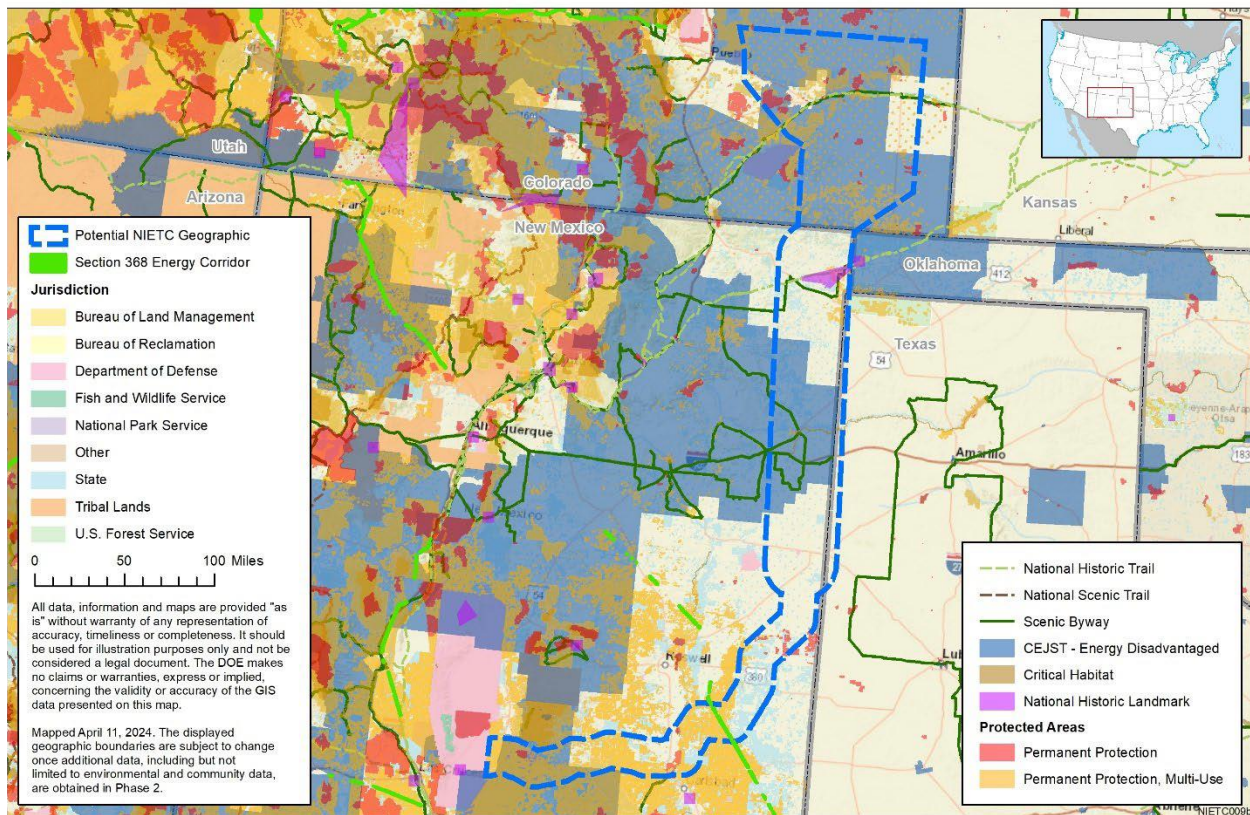
Map A(9). Mountain-Plains-Southwest Phase 2 Preliminary NIETC

Mountain - Plains - Southwest



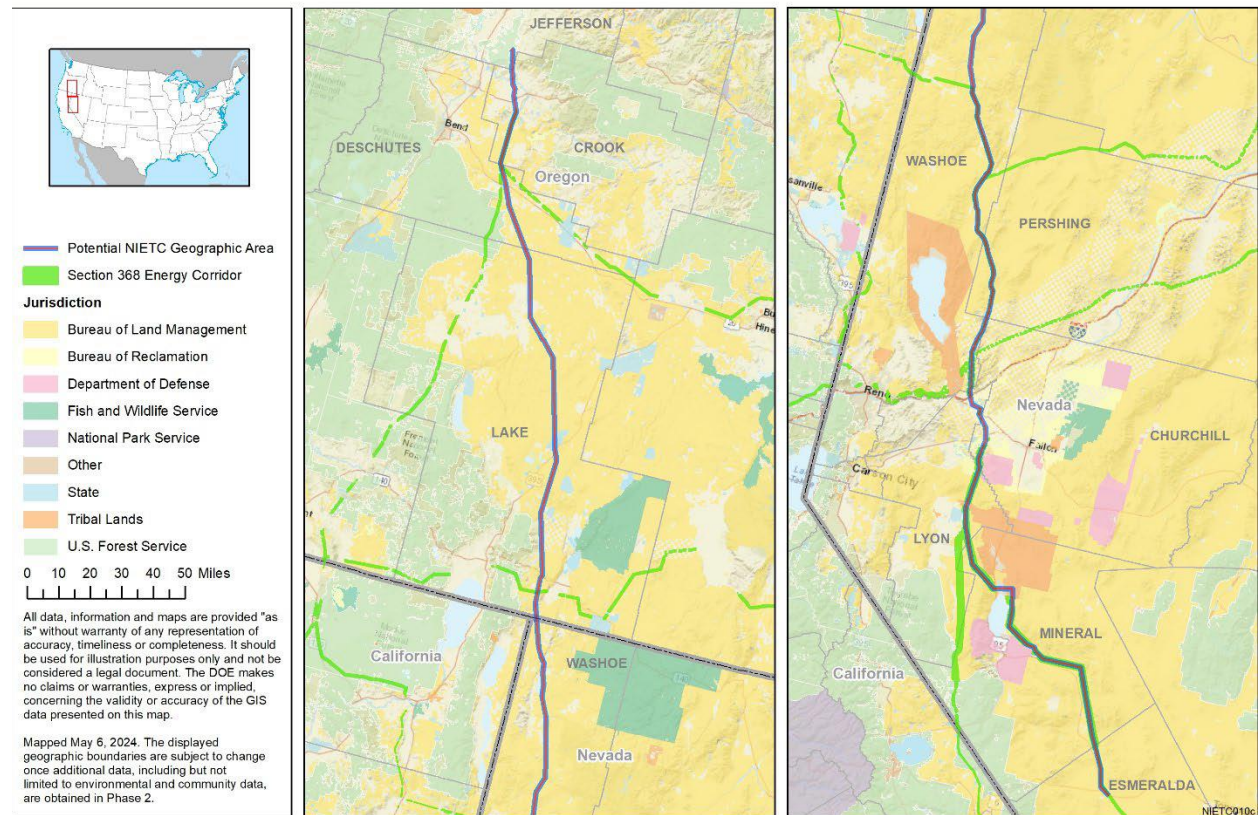
Map A(9)(a). Mountain-Plains-Southwest Phase 2 Preliminary NIETC with Electrical Infrastructure

Mountain - Plains - Southwest



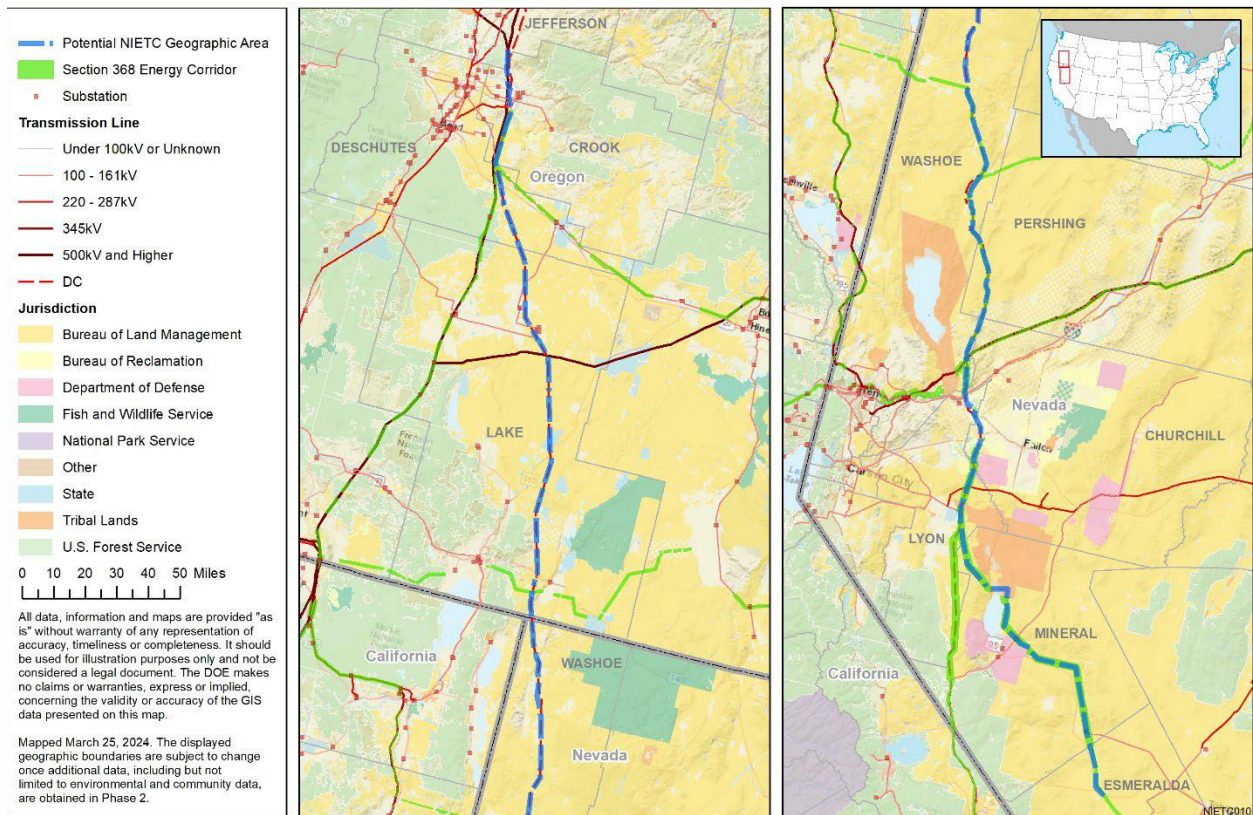
Map A(9)(b). Mountain-Plains-Southwest Phase 2 Preliminary NIETC with Environmental Information

Mountain - Northwest



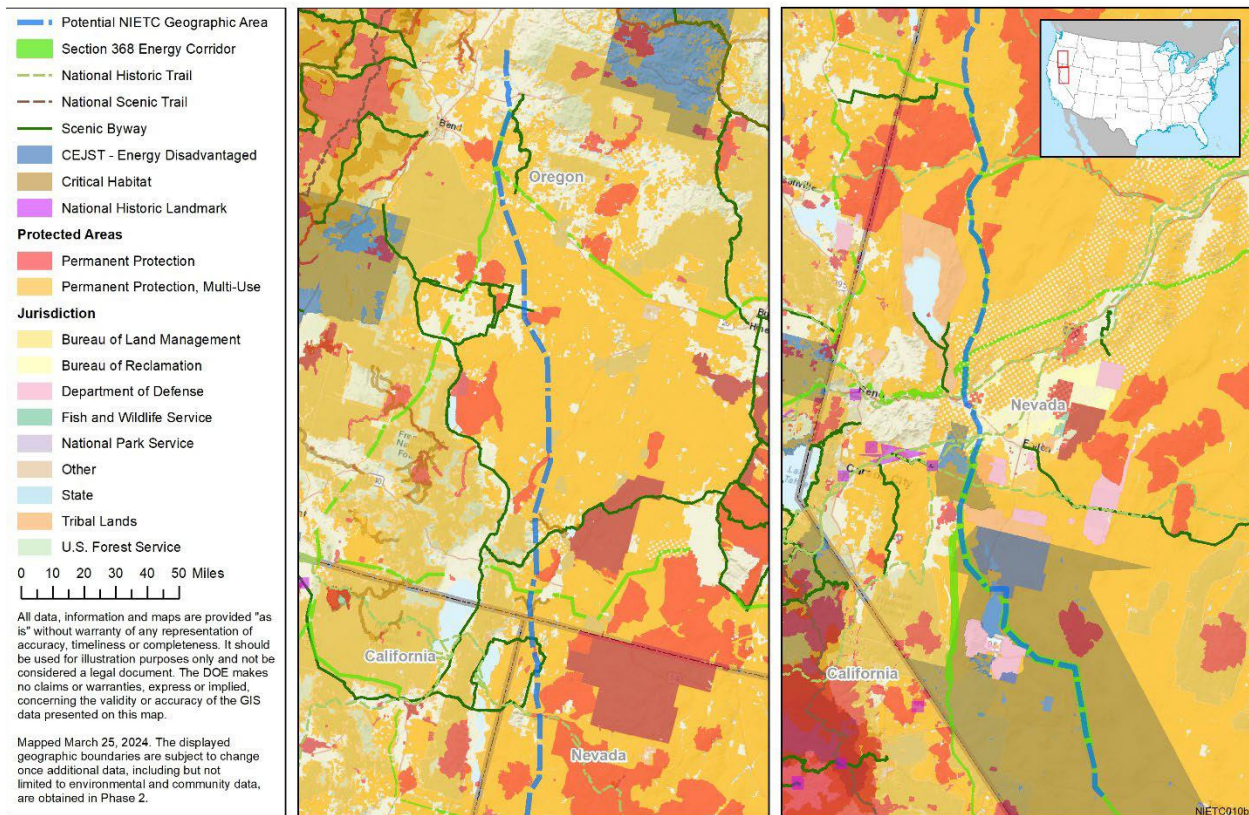
Map A(10). Mountain-Northwest Phase 2 Preliminary NIETC

Mountain - Northwest



Map A(10)(a). Mountain-Northwest Phase 2 Preliminary NIETC with Electrical Infrastructure

Mountain - Northwest



Map A(10)(b). Mountain-Northwest Phase 2 Preliminary NIETC with Environmental Information

Appendix B: ROW Advocates Existing ROW Geospatial Mapping⁸⁶

⁸⁶ All ROW Advocate recommended routes are also in PDF at <https://library.edf.org/AssetLink/14ixhg852mlis17f0831ah864os7s451.pdf> and in ArcGIS shapefiles at <https://library.edf.org/AssetLink/h441o5q4s41qs0twx18ma6853ypgbu2p.zip>.

New York - New England

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

++ Active

- - Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/indicators>, <https://www.bts.gov/home/indicators/usa-railroads>.

Forgotten Railways, Roads & Places, *Abandoned & Out of Service Railroad Lines*, 2024, <https://www.forgottenrailroads.com/>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativerland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cip/ai/geo/shapefiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cip/ai/geo/shapefiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33/47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

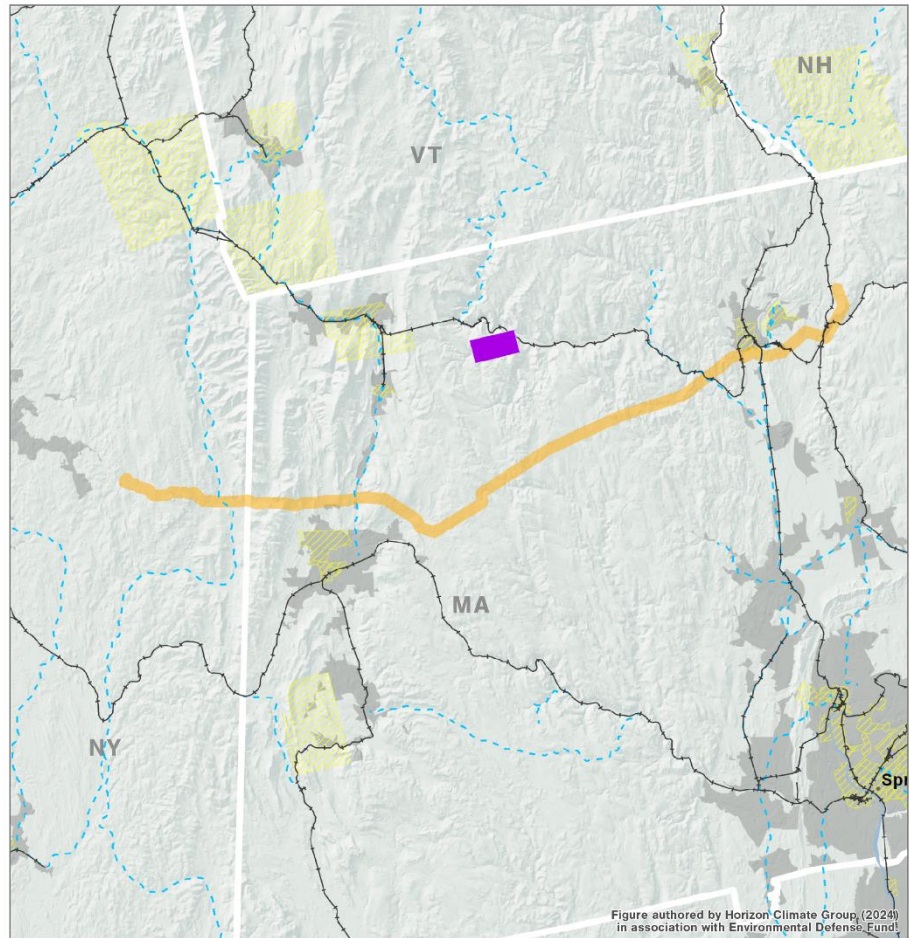


Figure authored by Horizon Climate Group, (2024) in association with Environmental Defense Fund



Map B(1)(a). New York-New England Phase 2 Preliminary NIETC with Active and Abandoned Rail

New York - New England

Highway

 DOE preliminary National Interest Electric Transmission Corridor

Highways

 Interstate
 Other highway

Population and land ownership


 Federally designated disadvantaged community
 Federally recognized tribal land
 Urban area
 National Registry of Historic Places site with Native American significance*
 National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/epo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, *NHS 2023-04-03*, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nal.gov/info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=American+Indian+Area+Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210292>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 8, 2023, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/97.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

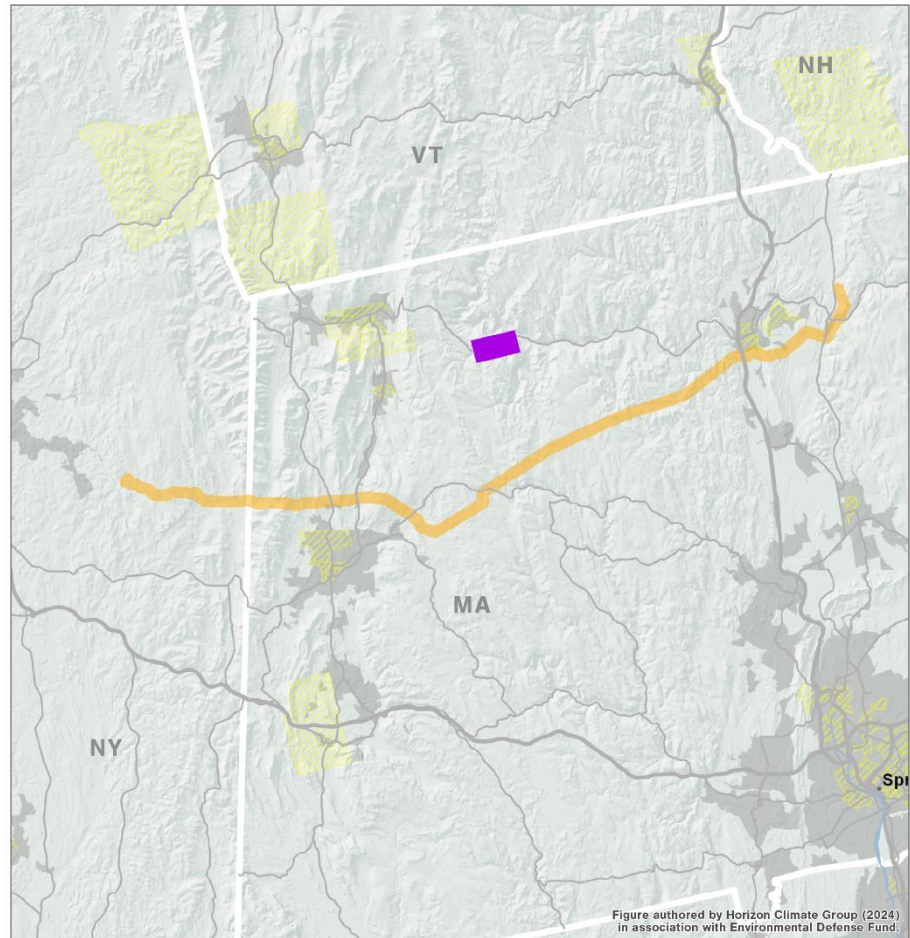


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(1)(b). New York-New England Phase 2 Preliminary NIETC with Roadways

New York - New England

Electric transmission

- DOE preliminary National Interest Electric Transmission Corridor

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform:transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvoland.info/ro/dataset/bureau-of-indian-affairs-and-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=American+Indian+Area+Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/os/downloads/3/33.47/57.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

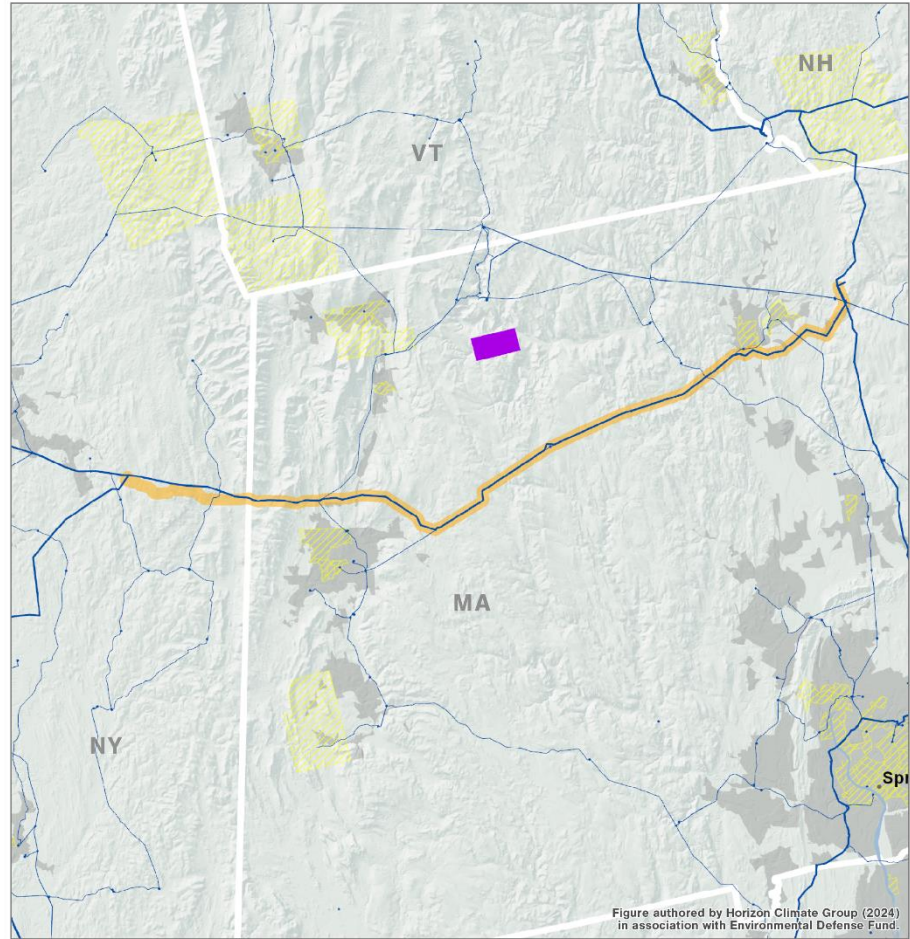


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(1)(c). New York-New England Phase 2 Preliminary NIETC with Electric Transmission

New York - New England


Natural gas pipeline

 DOE preliminary National Interest Electric Transmission Corridor

Natural gas infrastructure


 Pipeline

Population and land ownership

 Federally designated disadvantaged community

 Federally recognized tribal land

 Urban area

 National Registry of Historic Places site with Native American significance*

 National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

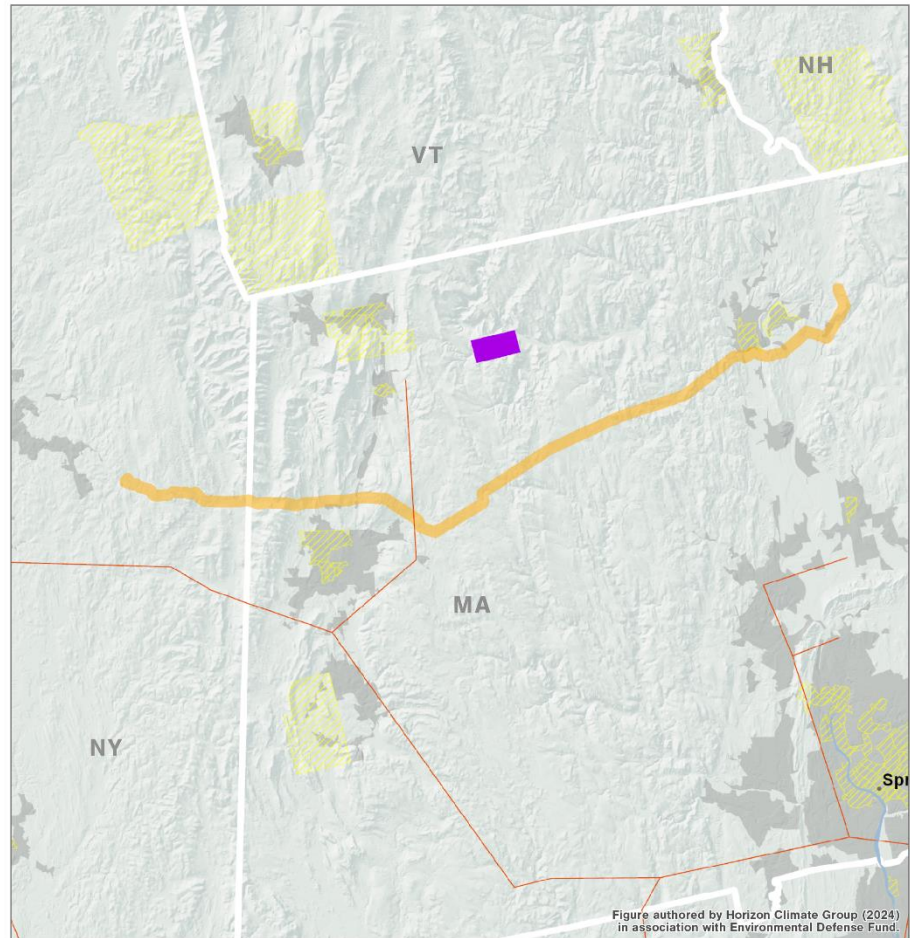
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

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Map B(1)(d). New York-New England Phase 2 Preliminary NIETC with Natural Gas Pipelines

New York - New England

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- **Suggested expansion** of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- - - Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

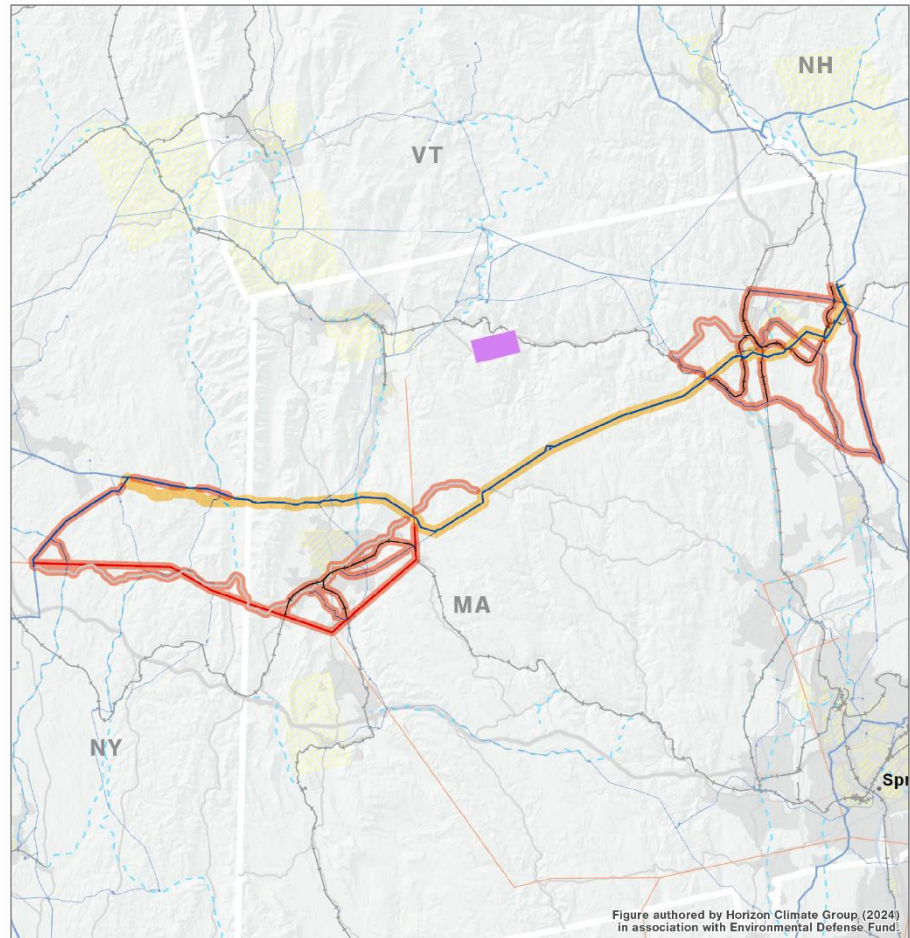
Natural gas infrastructure

- Pipeline

Population and land ownership

- ▨ Federally designated disadvantaged community
- ▨ Federally recognized tribal land
- ▨ Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(1)(e). ROW Advocates New York-New England Expanded NIETC. See also Fig. 1.

Mid-Atlantic - Canada

Rail

DOE preliminary National Interest
Electric Transmission Corridor

Rail lines

++ Active

- - Abandoned

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*,
October 2021, <https://www.bts.gov/home/iron>,
<http://h1b2a2a8d4ab24d5f9c9e4171d9e6244bc>.

Forgotten Railways, Roads & Places, *Abandoned & Out of Service
Railroad Lines*, 2024, <https://www.forgottenrailroads.com/p/the-map.html>.

Bureau of Indian Affairs, *American Indian and Alaska Native Land
Area Representation*, September 2023, <https://data.nativerland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, *American Indian/Alaska Native/Native Hawaiian
Areas*, 2022, <https://www.census.gov/c2k10/gis/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, *National
Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

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<https://www.census.gov/c2k10/gis/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, *Climate and Economic Justice
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*This map shows only a small fraction of significant sites that
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Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.



Map B(2)(a). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Active and Abandoned Rail

Mid-Atlantic - Canada

Highway

 DOE preliminary National Interest Electric Transmission Corridor

Highways

 Interstate
 Other highway

Population and land ownership


 Federally designated disadvantaged community
 Federally recognized tribal land
 Urban area
 National Registry of Historic Places site with Native American significance*
 National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, *NHS_2023-04-03*, April 2023. https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023. <https://data.nai.vland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022. <https://www.census.gov/cg-bin/geo/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014. <https://irma.nps.gov/DataStore/Reference/Profile/2210250>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023. <https://www.census.gov/cg-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022. <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/197.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the *National Register of Historic Places*. This data may also contain locational inaccuracies inherent to the *National Register* dataset.

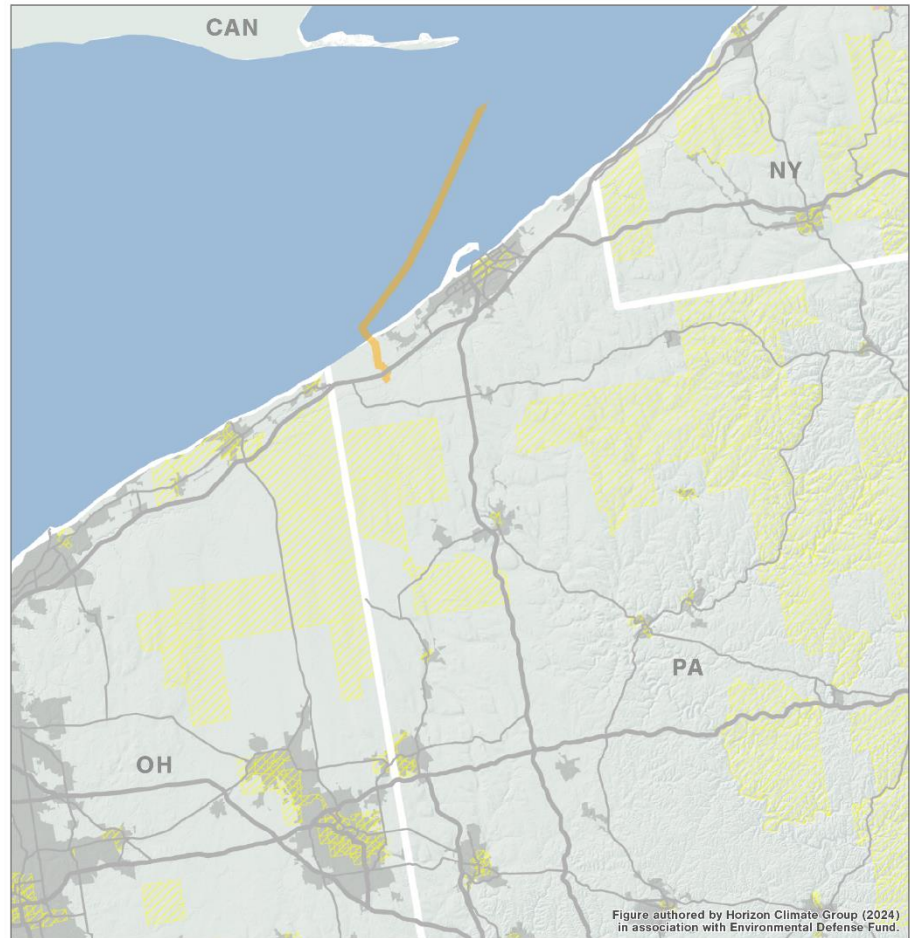


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(2)(b). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Roadways

Mid-Atlantic - Canada

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line

≥ 345 kV transmission line

Substation

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure
Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform:transmission-lines/about>.

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Bureau of Indian Affairs, American Indian and Alaska Native Land Area
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US Census Bureau, American Indian/Alaska Native/Native Hawaiian
Areas, 2022, [https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=American Indian Area Geography](https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=American%20Indian%20Area%20Geography).

US Department of the Interior, National Park Service, National Register of
Historic Places, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles:
Urban Areas (2020), January 6, 2023, [https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=Urban Areas](https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=Urban%20Areas).

Council on Environmental Quality, Climate and Economic Justice
Screening Tool Version 1.0, November 2022, <https://cej.screeningtool.geoplatform.gov/en/downloads/3/3347/57.5>.

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Places. The data may also contain locational inaccuracies inherent to the
National Register dataset.



Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(2)(c). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Electric Transmission

Mid-Atlantic - Canada

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and
Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, American Indian and Alaska Native Land
Area Representation, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian
Areas, 2022, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National
Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/
Line Shapefiles: Urban Areas (2020), January 6, 2023,
<https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice
Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

*This map shows only a small fraction of significant sites that
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inaccuracies inherent to the National Register dataset.

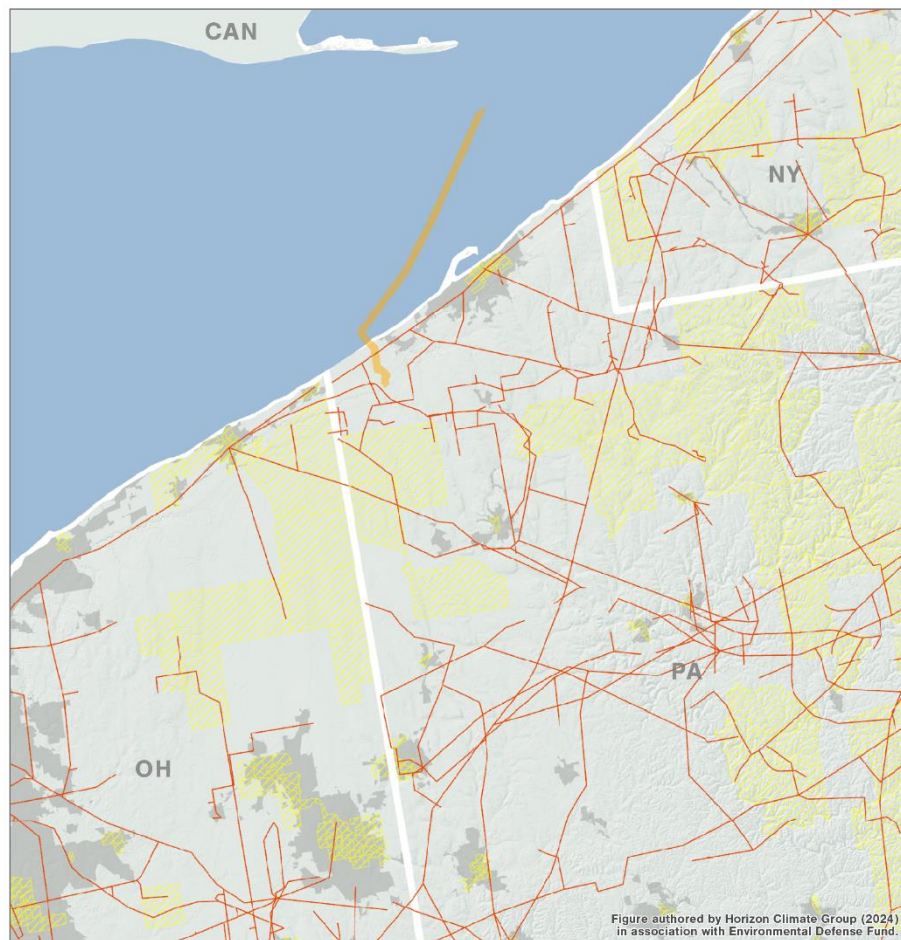


Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(2)(d). Mid-Atlantic-Canada Phase 2 Preliminary NIETC with Natural Gas Pipelines

Mid-Atlantic - Canada

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- **Suggested expansion** of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- - Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

- Pipeline

Additional options

- Theoretical offshore line

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(2)(e). ROW Advocates Mid-Atlantic-Canada Expanded NIETC. See also Fig. 2.

Mid-Atlantic

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

++ Active

- - Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/indicators>, <https://www.bts.gov/home/indicators/usa-railroads>.

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Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nal.gov/dataset/bureau-of-indian-affairs-land-area-representations>.

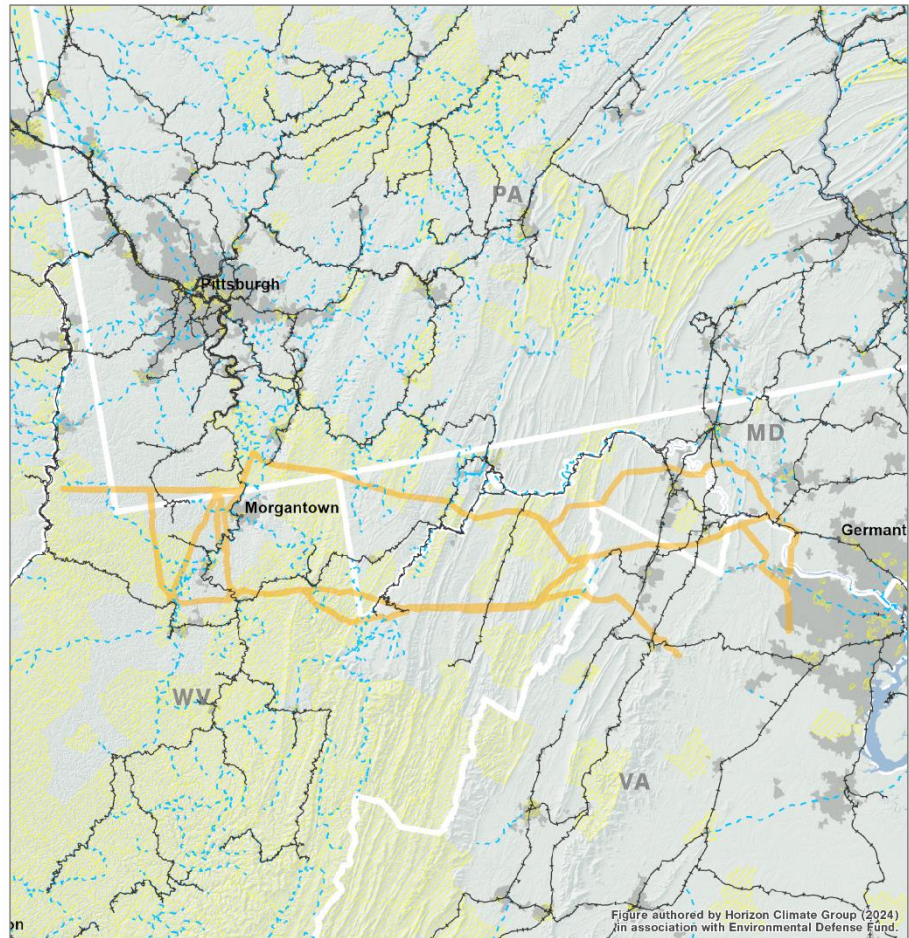
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/c2k10/geographies/areas/indian-american-areas>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/geographies/shapefiles/urban-areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.cej.gov/en/downloads/43/33/47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(3)(a). Mid-Atlantic Phase 2 Preliminary NIETC with Active and Abandoned Rail

Mid-Atlantic Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, *NHS 2023-04-03*, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nalvland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

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US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 8, 2023, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/97.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the *National Register of Historic Places*. The data may also contain locational inaccuracies inherent to the *National Register* dataset.

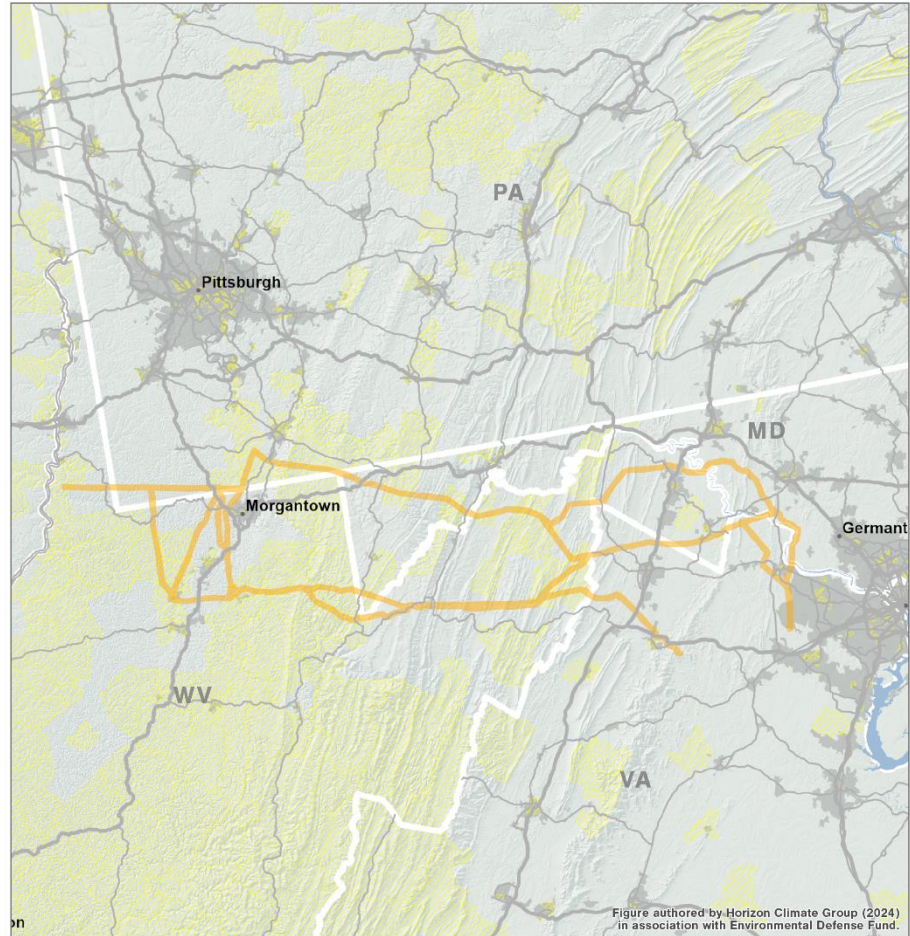


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(3)(b). Mid-Atlantic Phase 2 Preliminary NIETC with Roadways

Mid-Atlantic

Electric transmission

DOE preliminary National Interest Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line

≥ 345 kV transmission line

Substation

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform:transmission-lines/about>.

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US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/os/downloads/3/33.47/97.5>.

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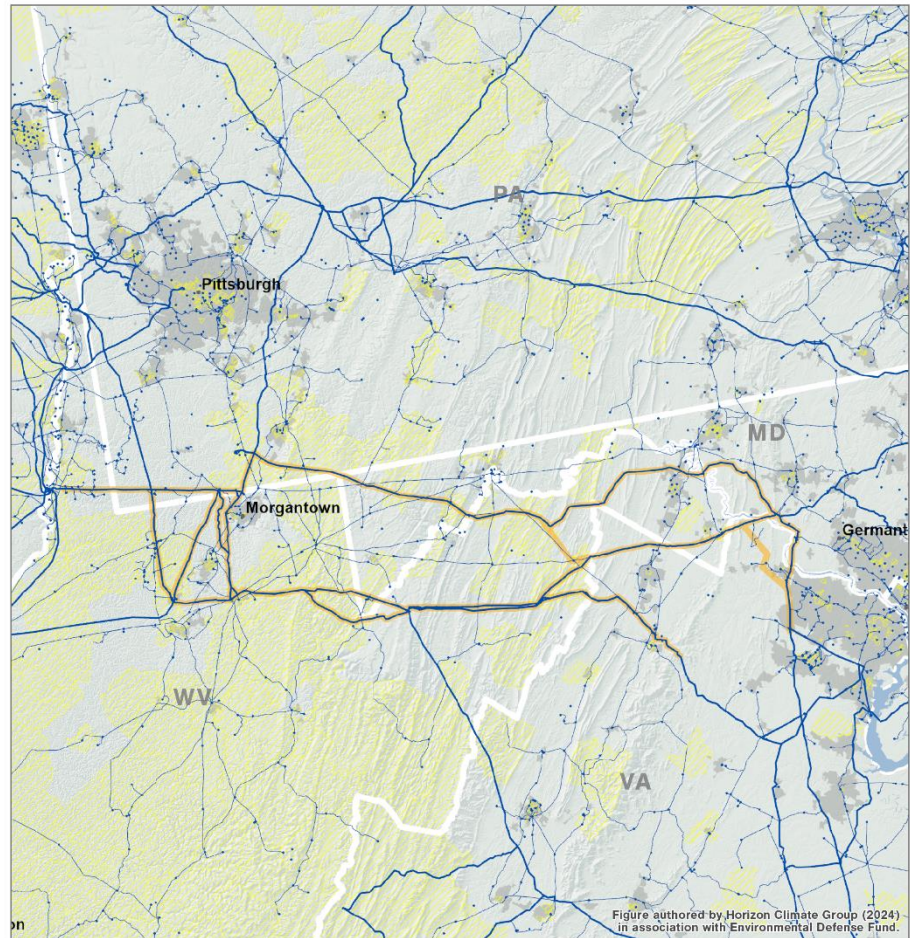


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(3)(c). Mid-Atlantic Phase 2 Preliminary NIETC with Electric Transmission

Mid-Atlantic

Natural gas pipeline

DOE preliminary National Interest Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intra-state Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

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US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

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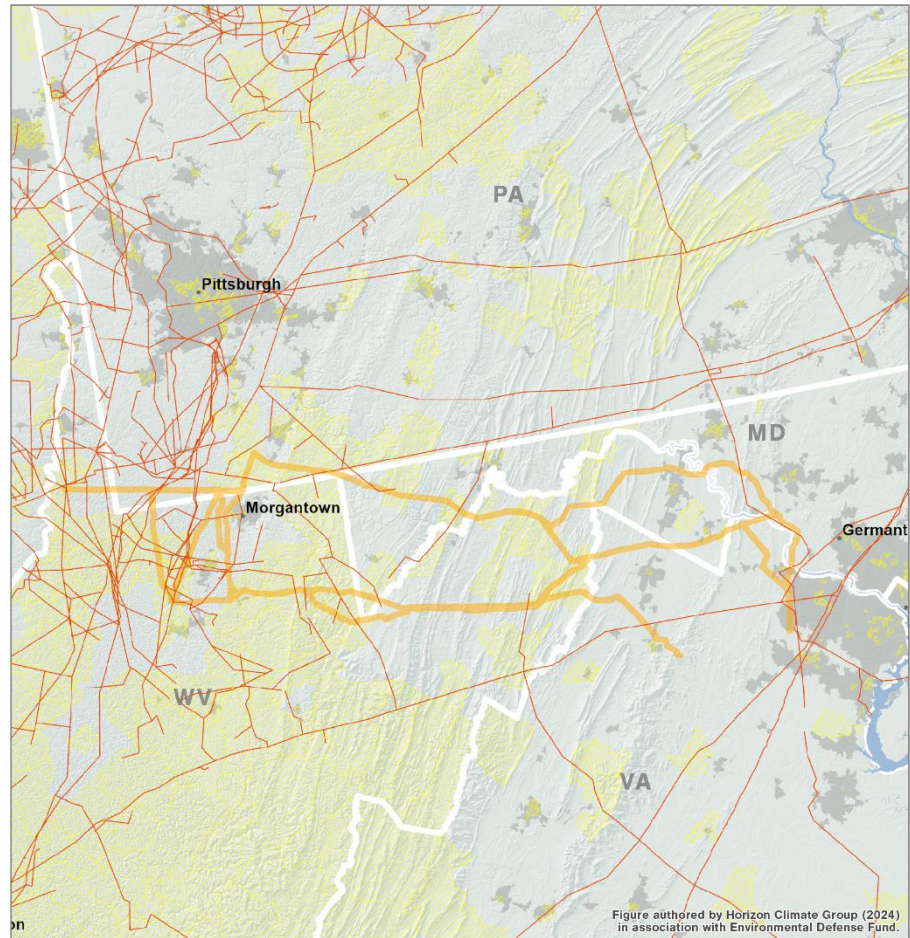


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

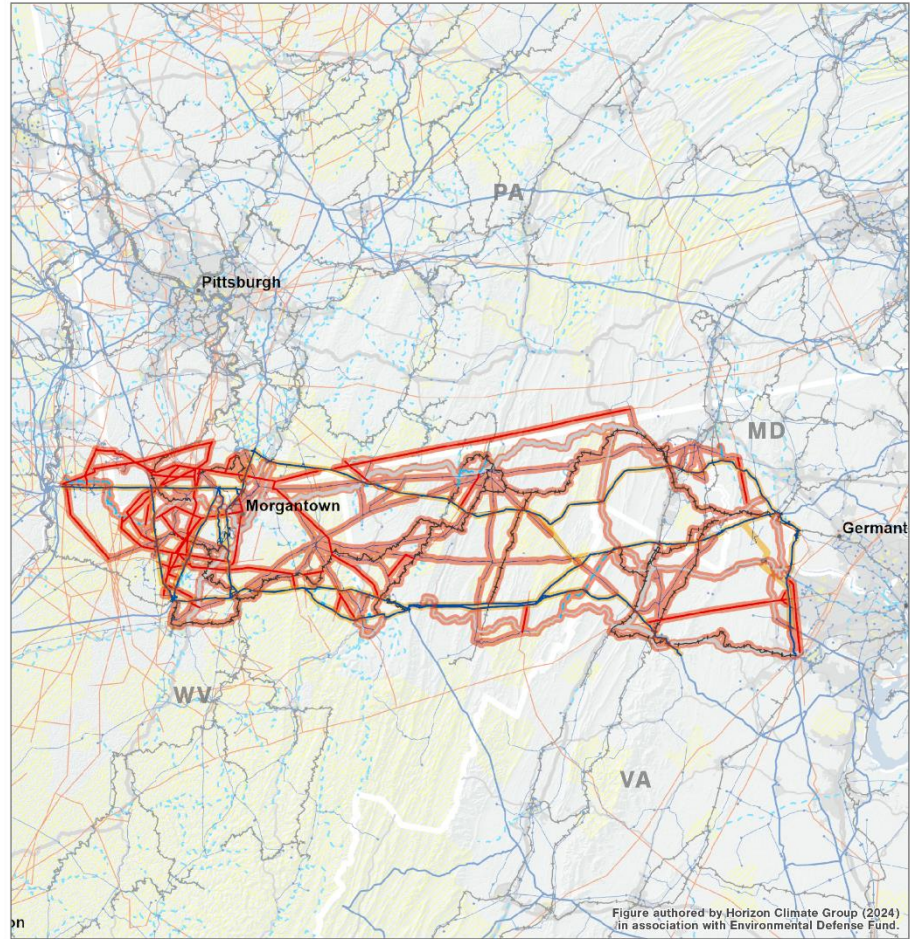
Map B(3)(d). Mid-Atlantic Phase 2 Preliminary NIETC with Natural Gas Pipelines

Mid-Atlantic

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor
- Rail lines**
 - Active
 - - - Abandoned
- Highways**
 - Interstate
 - Other highway
- Electric transmission infrastructure**
 - < 345 kV transmission line
 - ≥ 345 kV transmission line
 - Substation
- Natural gas infrastructure**
 - Pipeline
- Population and land ownership**
 - Federally designated disadvantaged community
 - Federally recognized tribal land
 - Urban area
 - National Registry of Historic Places site with Native American significance*
 - National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(3)(e). ROW Advocates Mid-Atlantic Expanded NIETC. See also Fig. 3.

Midwest - Plains ^{West}

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

++ Active

- - Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/items.html?tid=602&ao=42498-956471&db=62448c>.

Forgotten Railways, Roads & Places, *Abandoned & Out of Service Railroad Lines*, 2024, <https://www.fmrp.com/p/the-map.html>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natl.gov/indian-land-area-representation>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=American Indian Area Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=Urban Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/97.5>.

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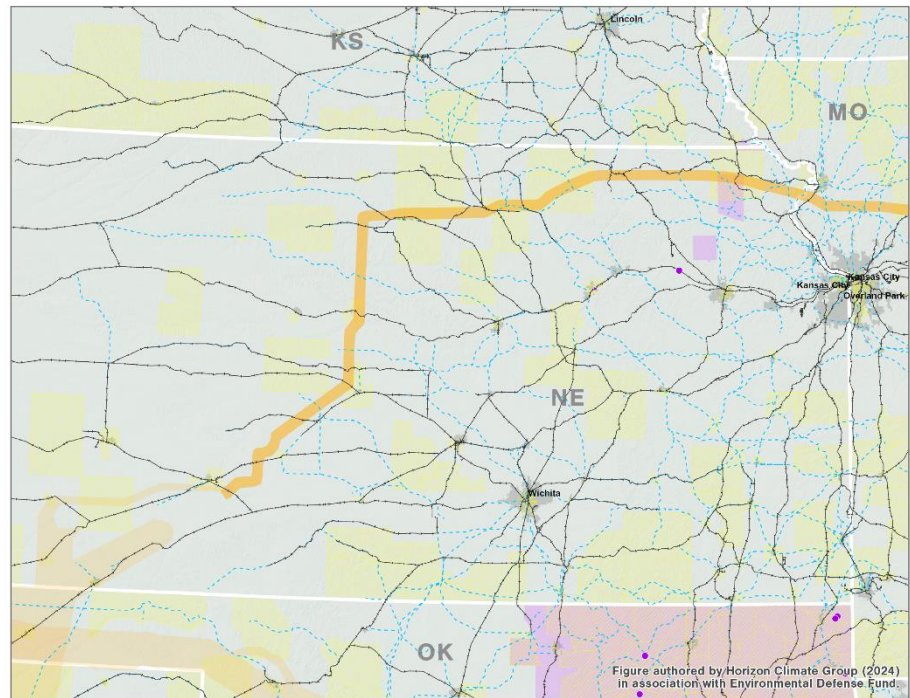


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund

Map B(4)(a). Western Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Midwest - Plains West Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

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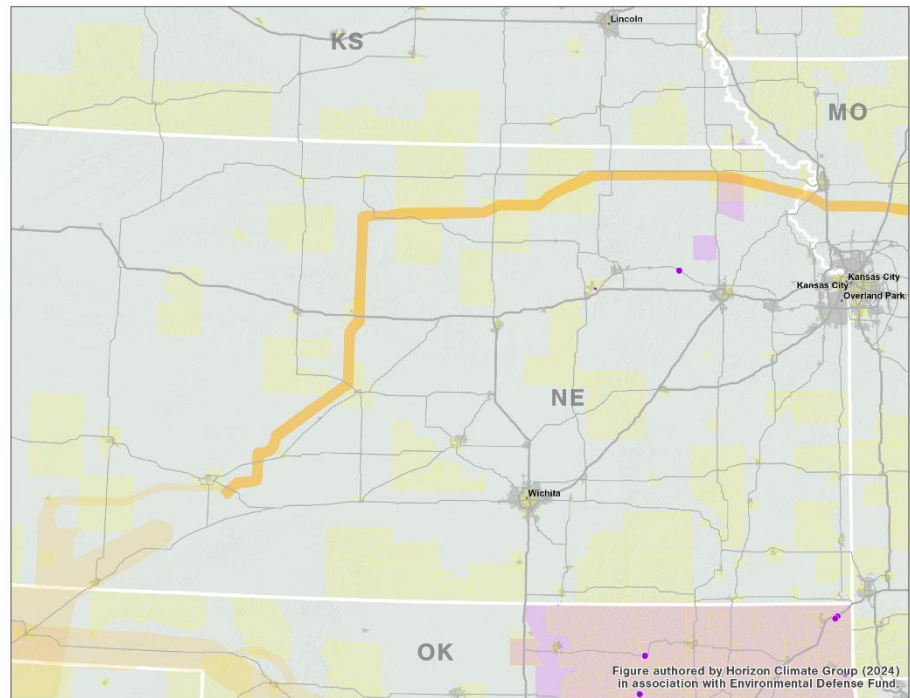
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US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210292>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 8, 2023, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/97.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(4)(b). Western Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Roadways

Midwest - Plains West

Electric transmission

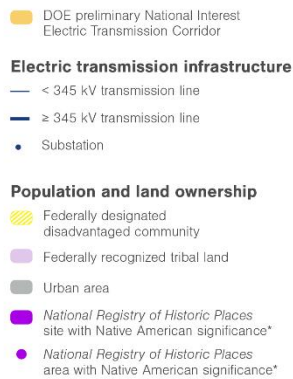


Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

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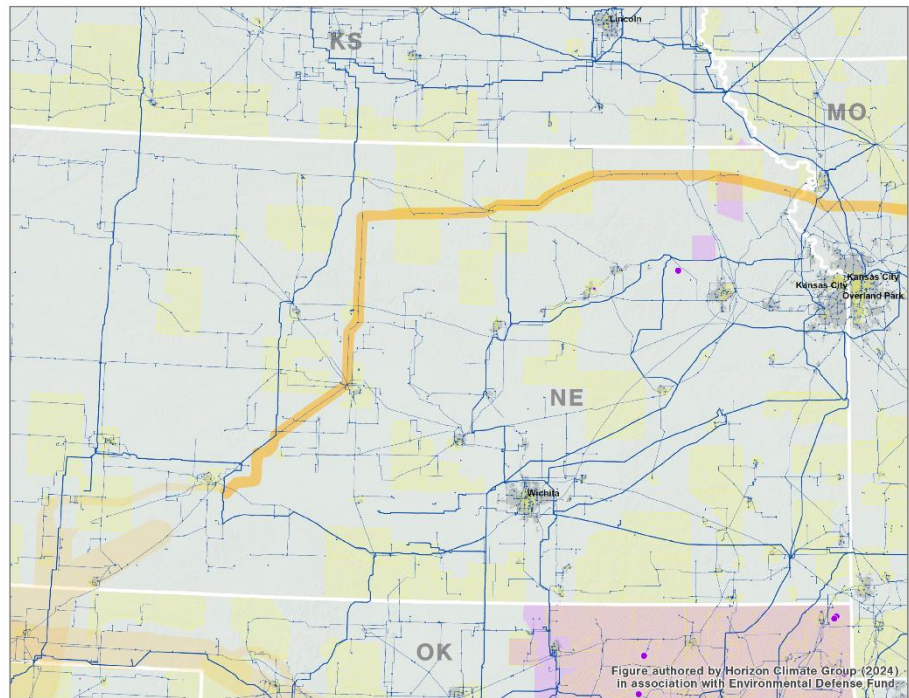
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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/os/downloads/3/3347/975>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(4)(c). Western Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Electric Transmission

Midwest - Plains West

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intra-state Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

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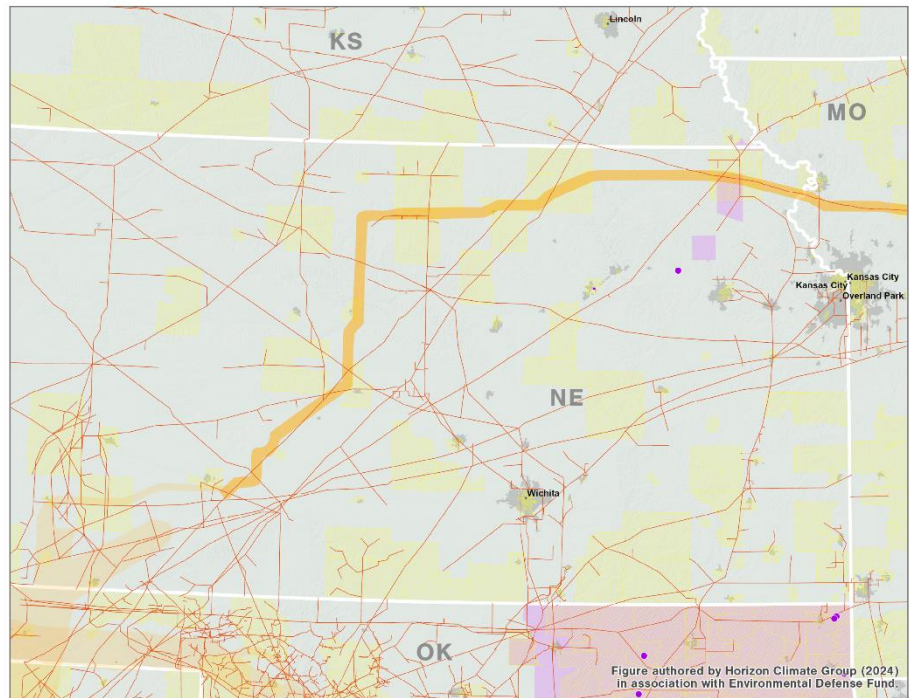
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US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33/47/37.5>.

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Map B(4)(d). Western Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Midwest - Plains ^{West}

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor
- Rail lines**
 - Active
 - - - Abandoned
- Highways**
 - Interstate
 - Other highway
- Electric transmission infrastructure**
 - < 345 kV transmission line
 - ≥ 345 kV transmission line
 - Substation
- Natural gas infrastructure**
 - Pipeline
- Population and land ownership**
 - Federally designated disadvantaged community
 - Federally recognized tribal land
 - Urban area
 - National Registry of Historic Places site with Native American significance*
 - National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

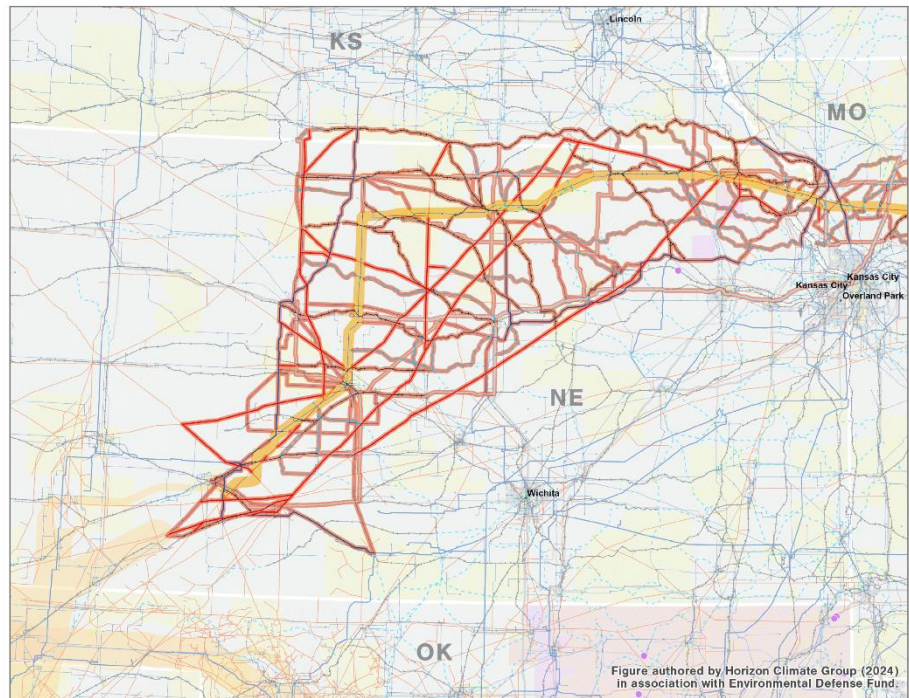


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(4)(e). ROW Advocates Western Portion of Midwest-Plains Expanded NIETC

Rail



Midwest - Plains East Highway

DOE preliminary National Interest
Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated
disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places
site with Native American significance*
National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration,
NHS 2023-04-03, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land
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US Census Bureau, American Indian/Alaska Native/Native Hawaiian
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US Census Bureau, Geography Division, 2022 TIGER/
Line Shapefiles: Urban Areas (2020), January 8, 2023,
<https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice
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*This map shows only a small fraction of significant sites that
exist, and is limited by the publicly available data in the National
Register of Historic Places. The data may also contain locational
inaccuracies inherent to the National Register dataset.

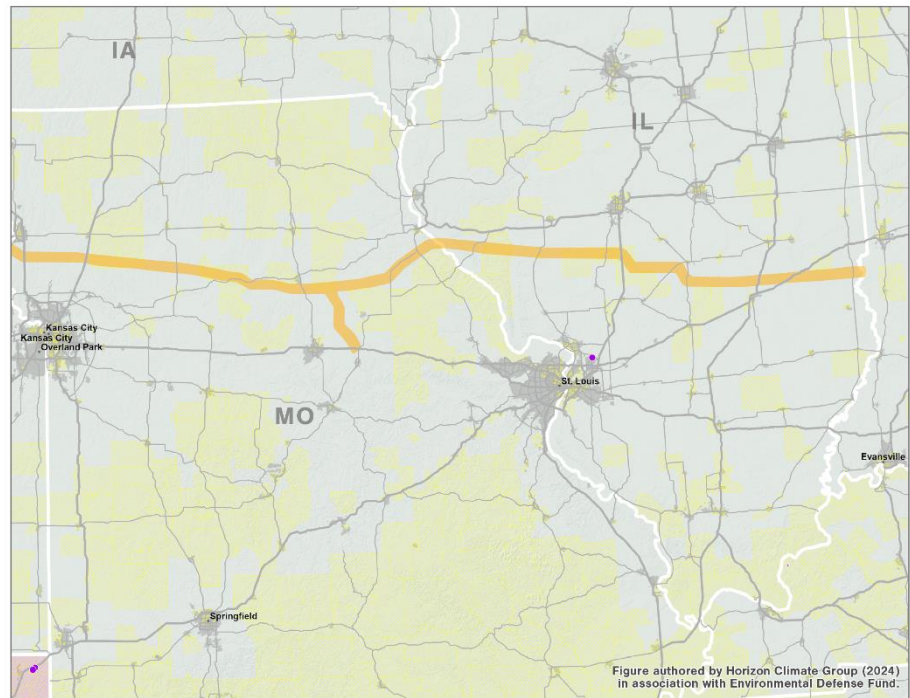


Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(4)(g). Eastern Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Roadways

Midwest - Plains East

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform-transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

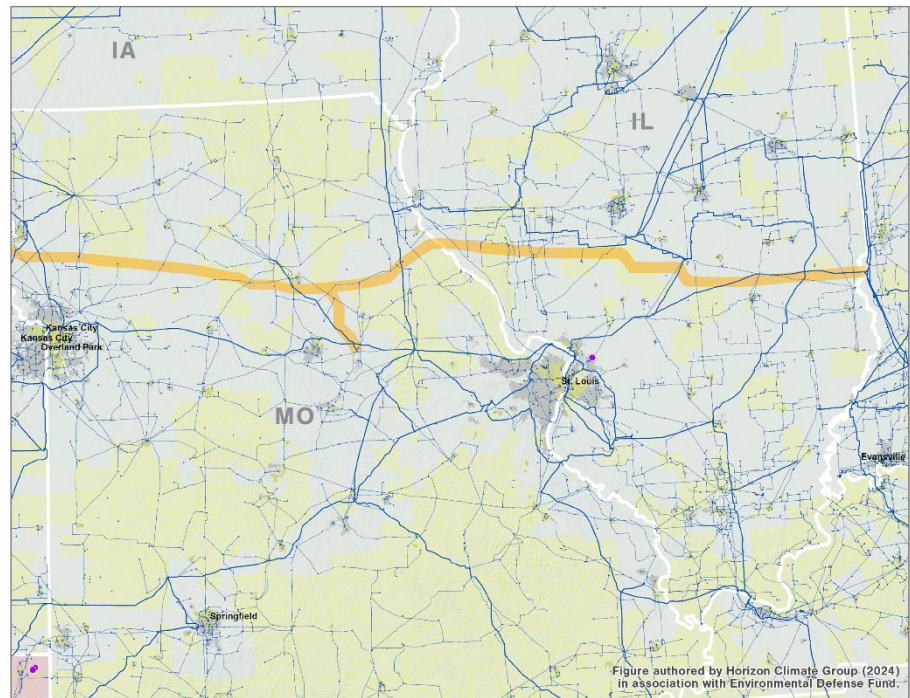
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cpl/bn/gao/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33/47/37.5>.

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Map B(4)(h). Eastern Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Electric Transmission

Midwest - Plains East

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intra-state Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

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US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

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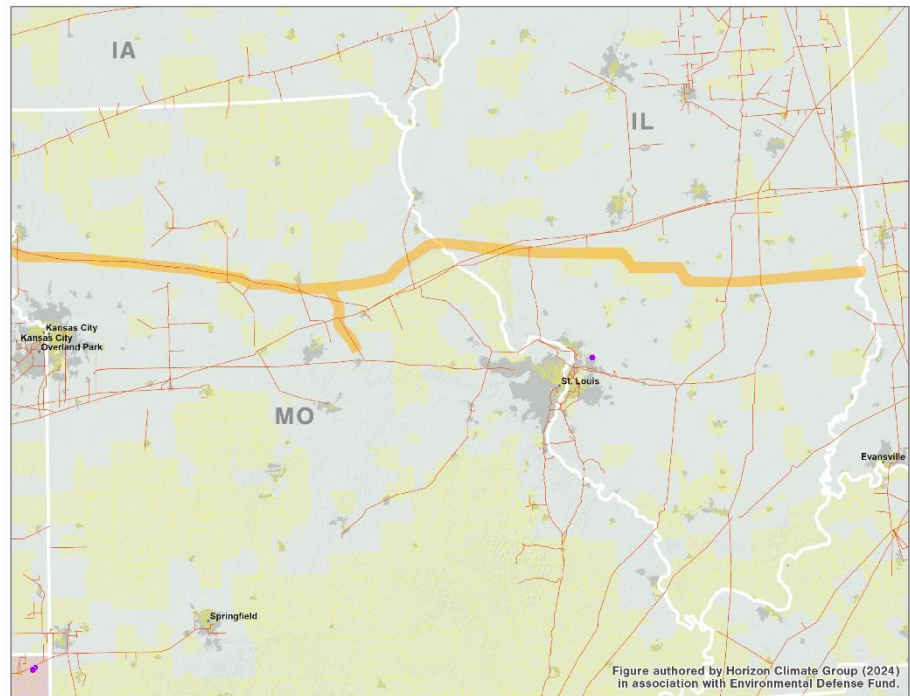
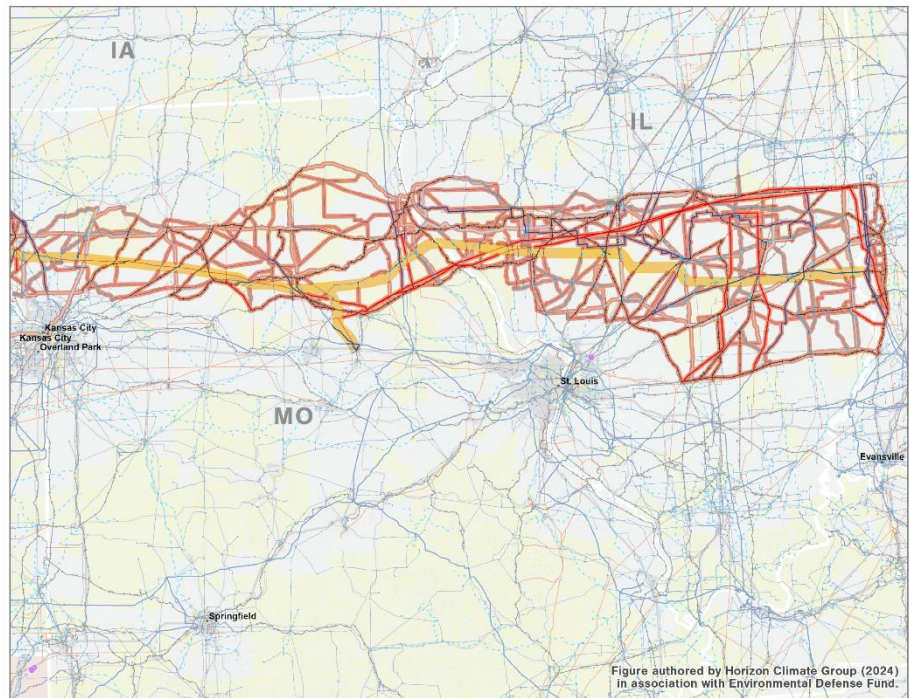


Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(4)(i). Eastern Portion of the Midwest-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Midwest - Plains East

Potential NIETC expansion



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Map B(4)(j). ROW Advocates Eastern Portion of Midwest-Plains Expanded NIETC

Midwest - Plains

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

Active

Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/doe/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/items.htm?tid=602&ao=424&956471d2b9e62a48c>.

Forgotten Railways, Roads & Places, *Abandoned & Out of Service Railroad Lines*, 2024, <https://www.fmrp.com/p/the-map.html>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlindand.info/ro/dataset/bureau-of-indian-affairs-and-area-representations>.

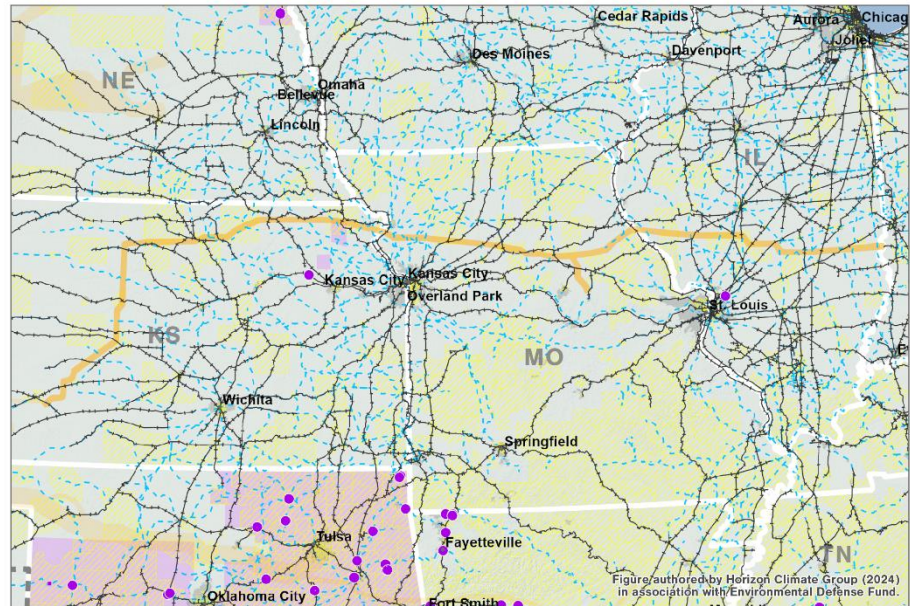
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*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the *National Register of Historic Places*. The data may also contain locational inaccuracies inherent to the *National Register* dataset.



Map B(4)(k). Midwest-Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Midwest - Plains

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Infrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.html.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

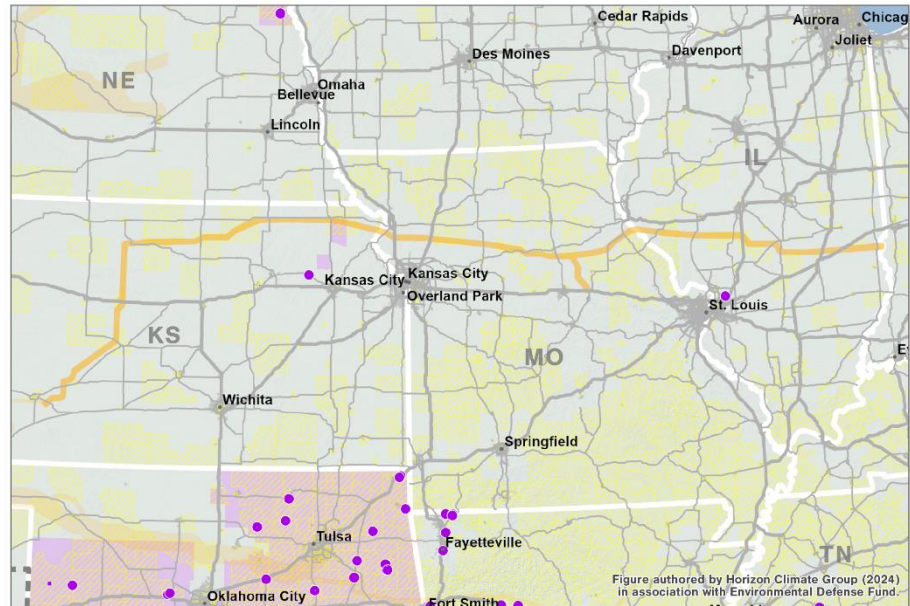
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cpl/bin/gov/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cpl/bin/gov/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

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Map B(4)(l). Midwest-Plains Phase 2 Preliminary NIETC with Roadways

Midwest - Plains

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line
≥ 345 kV transmission line
Substation

Population and land ownership

Federally designated
disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places
site with Native American significance*
National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.
US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvetand.info/nei/dataset/bureau-of-indian-affairs-land-area-representation>.

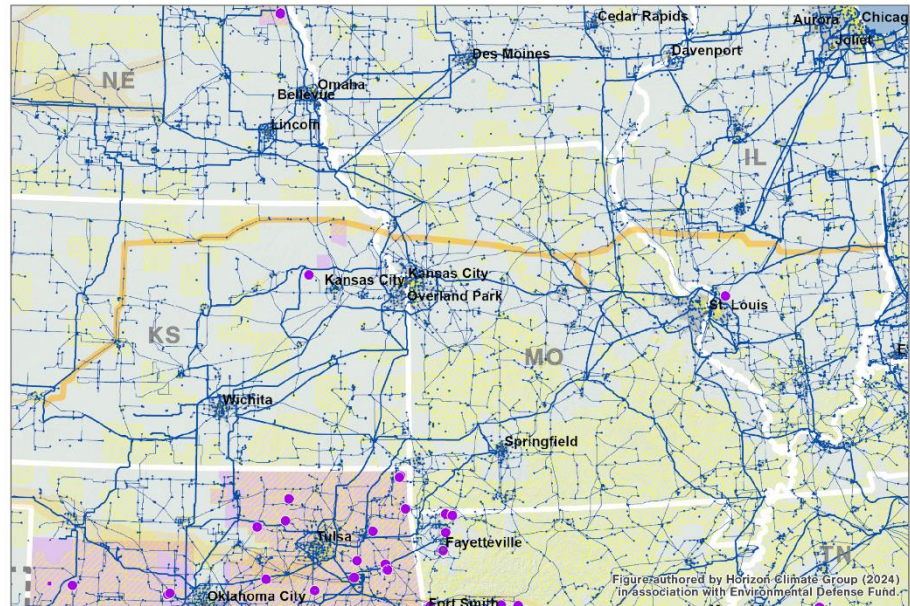
US Census Bureau, American Indian/Alaska Native/Hawaiian Areas, 2022, [https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American Indian/Alaska Native/Hawaiian Areas](https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American%20Indian%20Alaska%20Native%20Hawaiian%20Areas), 2022, <https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American Indian/Alaska Native/Hawaiian Areas>.

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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/enr/downloads/32347497>.

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Map B(4)(m). Midwest-Plains Phase 2 Preliminary NIETC with Electric Transmission

Midwest - Plains

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, "Natural Gas Interstate and
Intrastate Pipelines," April 2020, https://www.eia.gov/maps/layer_info-m.php.

Bureau of Indian Affairs, American Indian and Alaska Native Land
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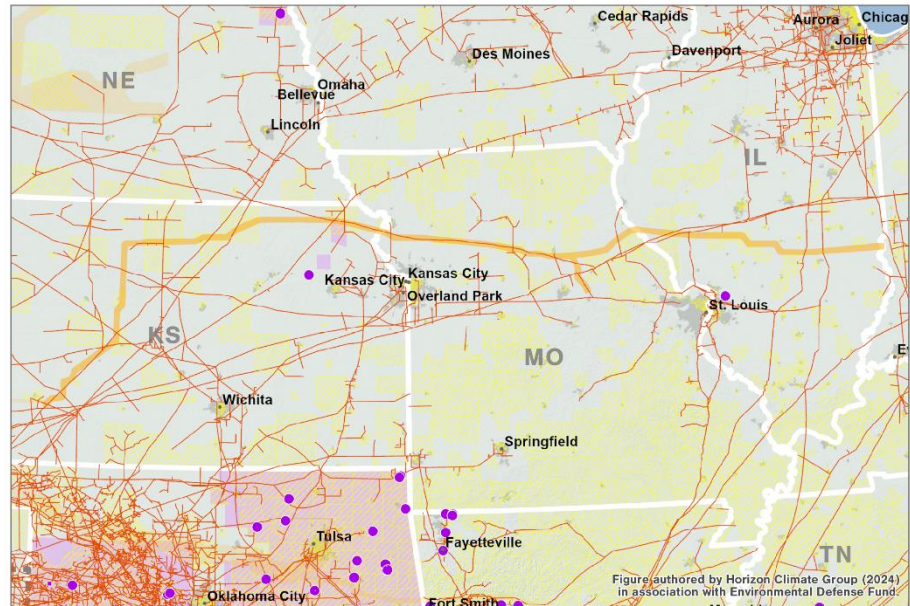


Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(4)(n). Midwest-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Midwest - Plains

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- - - Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

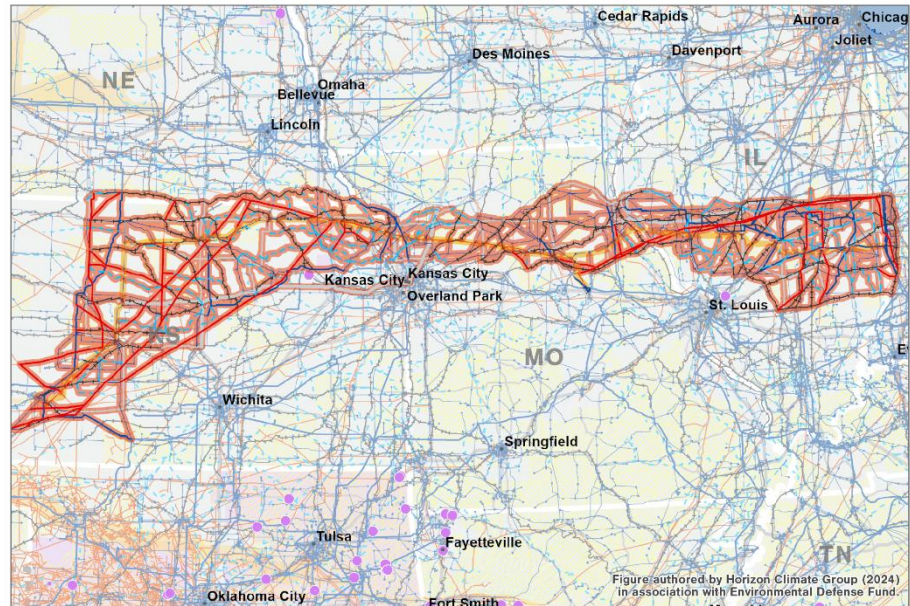
- Pipeline

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- ↔ B2B HDVC tie
- Interconnection seam



*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

Map B(4)(o). ROW Advocates Midwest-Plains Expanded NIETC. See Fig. 4.

Northern Plains

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

Active

Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/tbls.htm>.

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Bureau of Indian Affairs, *American Indian and Alaska Native Land Area Representation*, September 2023, <https://data.natl.gov/indian-land-area-representation>.

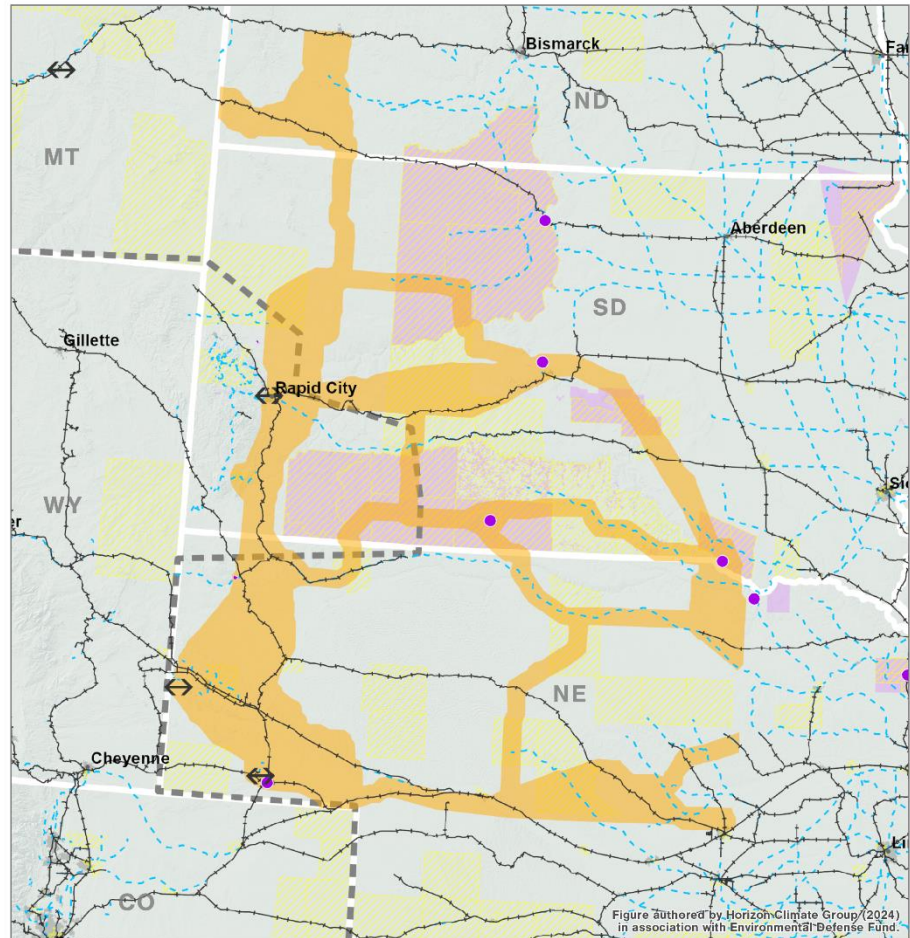
US Census Bureau, *American Indian/Alaska Native/Native Hawaiian Areas*, 2022, <https://www.census.gov/c2k2/geo/indian-areas/index.php?year=2022&layergroup=American%20Indian%20Area%20Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://nps.gov/datastore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, *2022 TIGER/Line Shapefiles: Urban Areas (2020)*, January 6, 2023, <https://www.census.gov/c2k2/geo/tiger/line-shapefiles/2022/urban-areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://cejtool.ceq.gov/>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(5)(a). Northern Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Northern Plains

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate

Other highway

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/doe/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, "NHS_2023/04/01, April 2023," https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natl.gov/indian-land-area-representation/>.

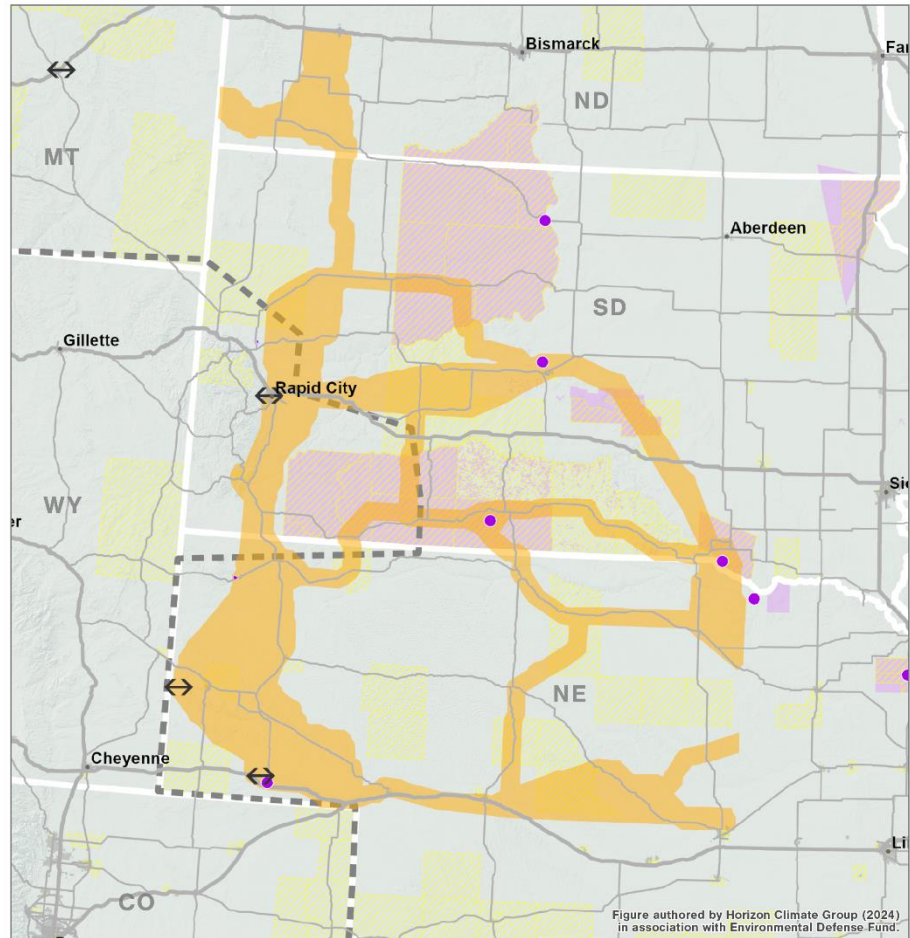
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=American+Indian+Area+Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://nrmz.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33/47/57.5>.

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Map B(5)(b). Northern Plains Phase 2 Preliminary NIETC with Roadways

Northern Plains

Electric transmission

DOE preliminary National Interest Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line

≥ 345 kV transmission line

Substation

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform::transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvetland.info/nei/dataset/bureau-of-indian-affairs-land-area-representation>.

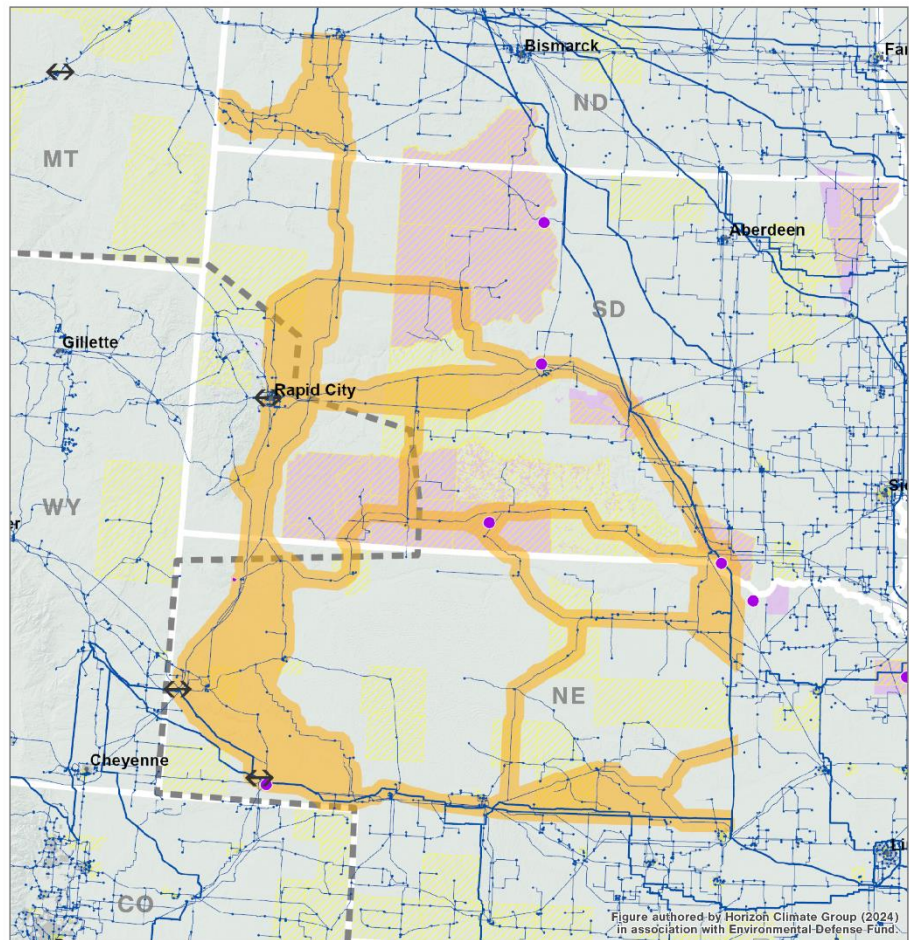
US Census Bureau, American Indian/Alaska Native/Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American%20Indian%20Alaska%20Native%20Hawaiian%20Areas>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210286>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/geographies/shapefiles/index.php?year=2022&layergroup=Urban%20Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/0314716976>.

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Map B(5)(c). Northern Plains Phase 2 Preliminary NIETC with Electric Transmission

Northern Plains

Natural gas pipeline

DOE preliminary National Interest Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, *American Indian and Alaska Native Land Area Representation*, September 2023, <https://data.nativeland.info/nd/dataset/bureau-of-indian-affairs-land-area-representations>.

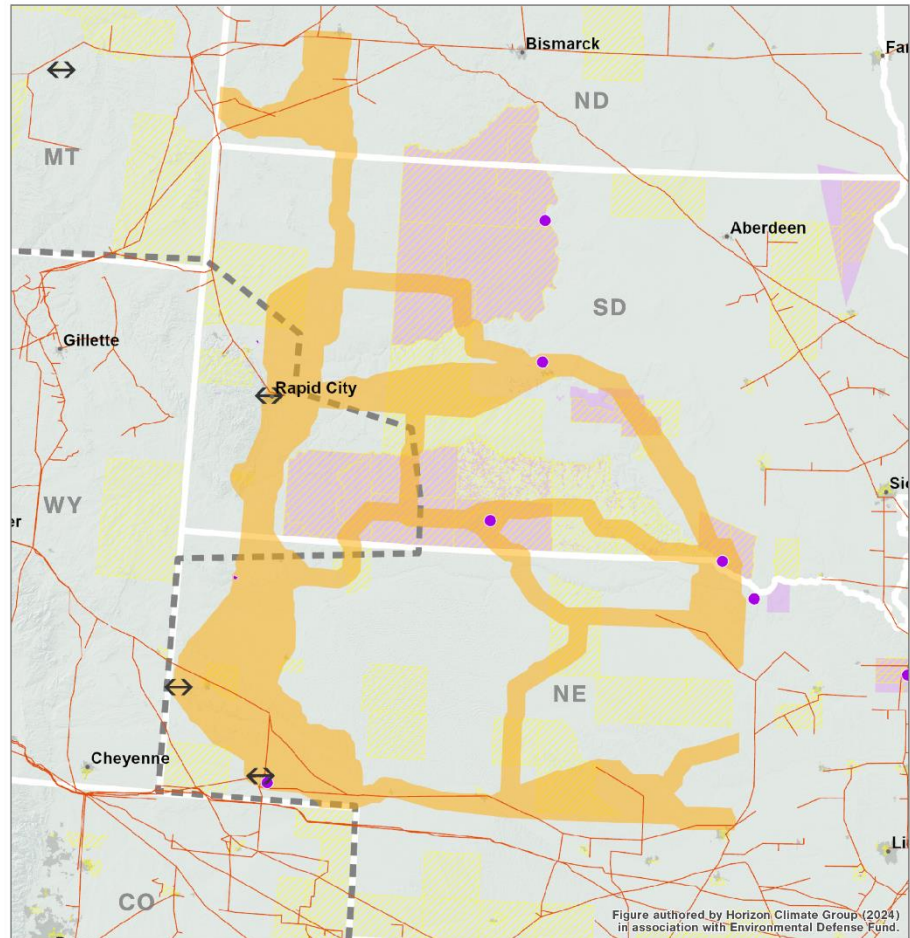
US Census Bureau, *American Indian/Alaska Native/Native Hawaiian Areas*, 2022, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=American-Indian-Areas-Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, *Climate and Economic Justice Screening Tool Version 1.0*, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(5)(d). Northern Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Northern Plains

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor
- Rail lines**
 - ++ Active
 - Abandoned
- Highways**
 - Interstate
 - Other highway
- Electric transmission infrastructure**
 - < 345 kV transmission line
 - ≥ 345 kV transmission line
 - Substation
- Natural gas infrastructure**
 - Pipeline
- Population and land ownership**
 - Federally designated disadvantaged community
 - Federally recognized tribal land
 - Urban area
 - National Registry of Historic Places site with Native American significance*
 - National Registry of Historic Places area with Native American significance*
- Regional transmission context**
 - ↔ B2B HVDC tie
 - Interconnection seam

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

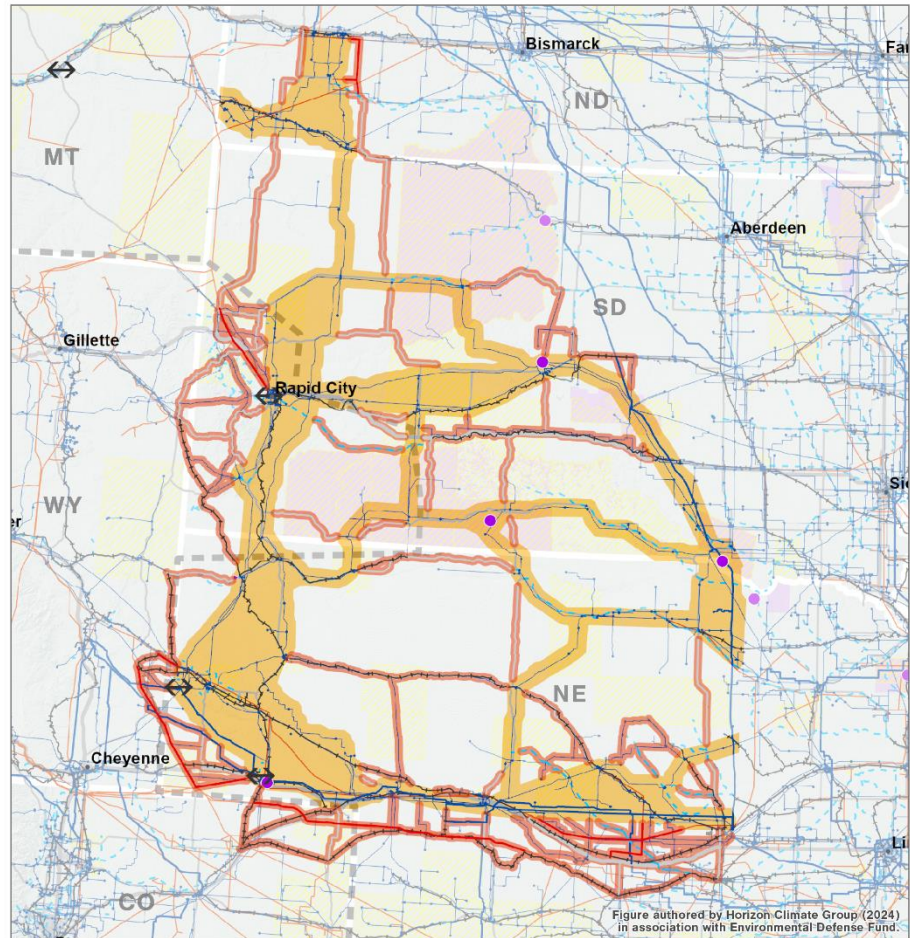


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(5)(e). ROW Advocates Northern Plains Expanded NIETC. See Fig. 5.

Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(6)(a). Western Portion of Delta-Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Delta - Plains West

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, "NHS 2023/04/01, April 2023," https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvoland.info/no/dataset/bureau-of-indian-affairs-and-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gpo/napofiles/index.php?year=2022&layergroup=American+Indian+Area+Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gpo/napofiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33/47/57.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

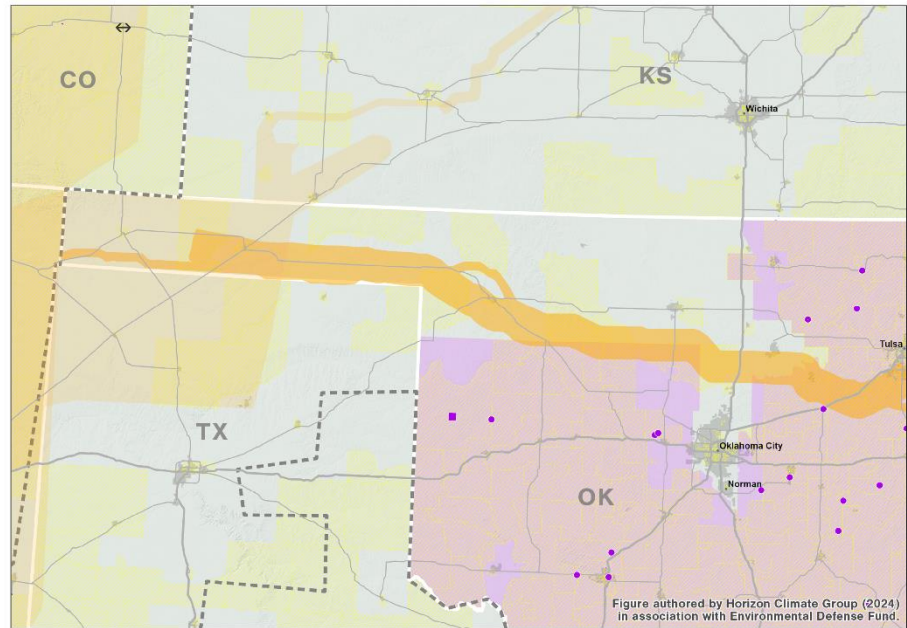


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(6)(b). Western Portion of Delta-Plains Phase 2 Preliminary NIETC with Roadways

Delta - Plains West

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- ↔ B2B HDVC tie
- Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform::transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvetand.info/ndc/data/bureau-of-indian-affairs-land-area-representation>.

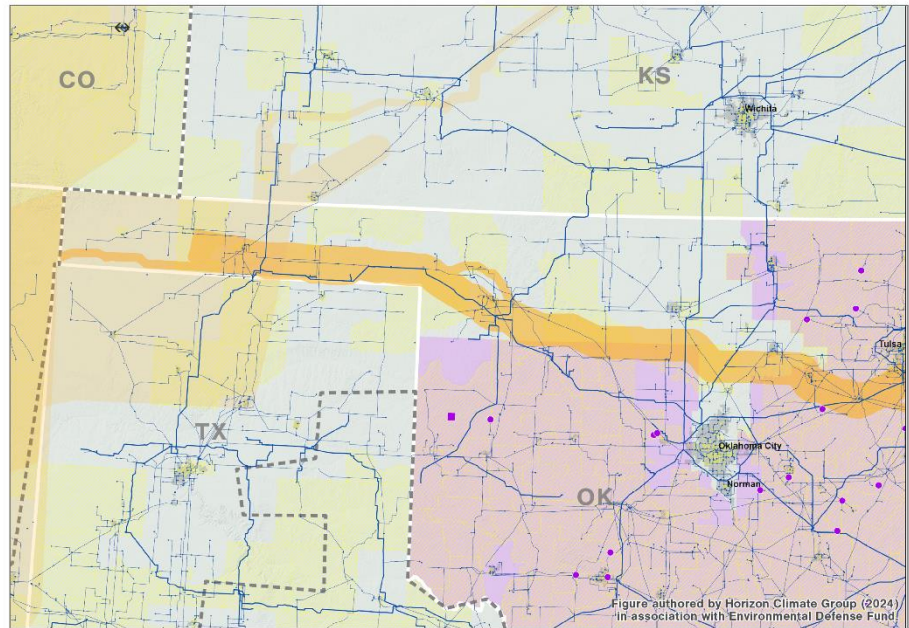
US Census Bureau, American Indian/Alaska Native/Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American%20Indian%20Alaska%20Native%20Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210286>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/geographies/shapefiles/index.php?year=2022&layergroup=Urban%20Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/download/32347/675>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(6)(c). Western Portion of Delta-Plains Phase 2 Preliminary NIETC with Electric Transmission

Delta - Plains West

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Infrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, *American Indian and Alaska Native Land Area Representation*, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

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Council on Environmental Quality, *Climate and Economic Justice Screening Tool Version 1.0*, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33/47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

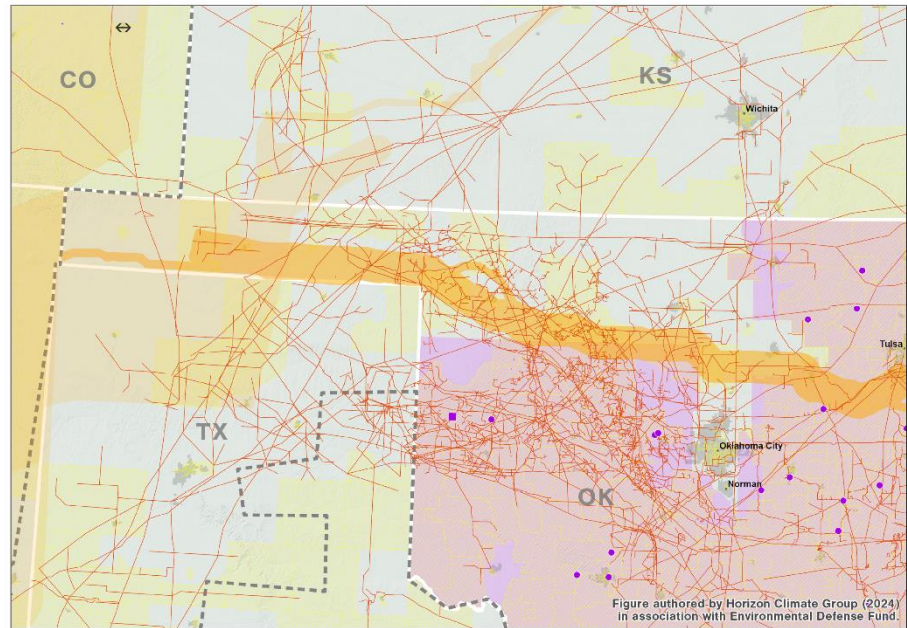
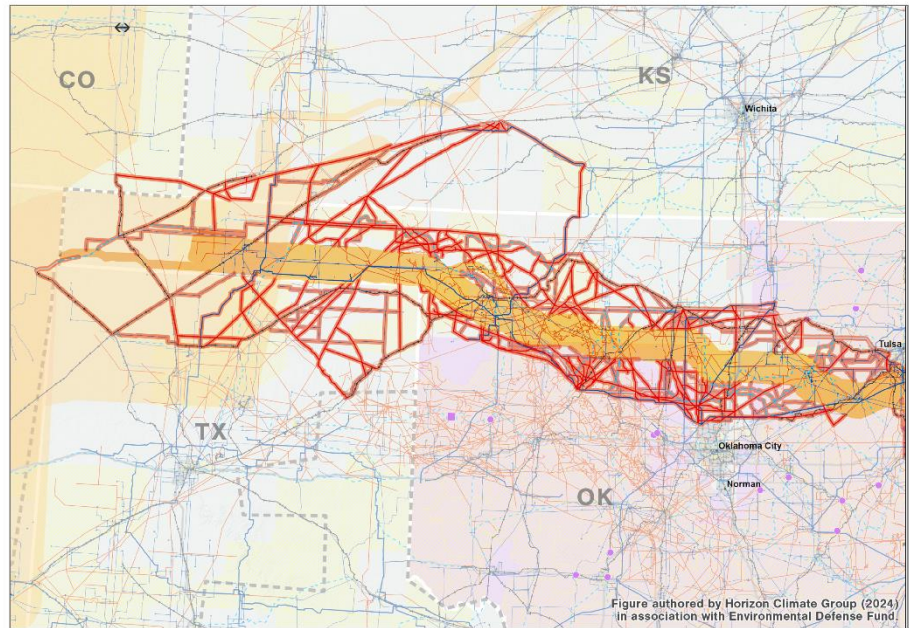


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(6)(d). Western Portion of Delta-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Delta - Plains West

Potential NIETC expansion



*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

Map B(6)(e). ROW Advocates Western Portion of Delta-Plains Expanded NIETC

Delta - Plains East

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

Active

Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/items.htm?hd-bca2a04a042458c956471d2b9e62a48c>.

Forgotten Railways, Roads & Places, *Abandoned & Out of Service Railroad Lines*, 2024, <https://www.fmrp.com/p/the-map.html>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvoland.info/no/dataset/bureau-of-indian-affairs-and-area-representations>.

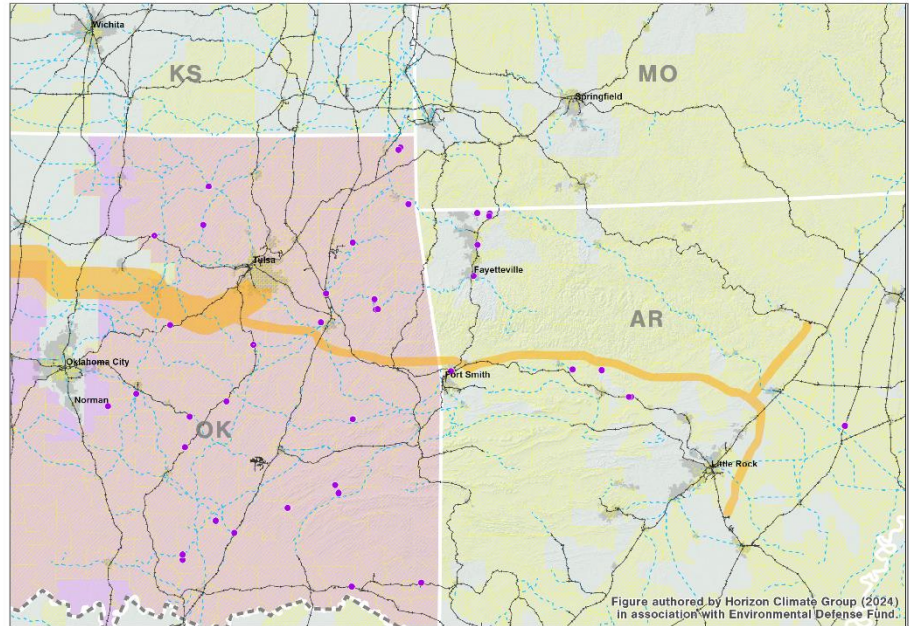
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US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

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Map B(6)(f). Eastern Portion of Delta-Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Delta - Plains East

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, "NHS_2023/04/01, April 2023," https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvoland.info/no/dataset/bureau-of-indian-affairs-and-area-representations>.

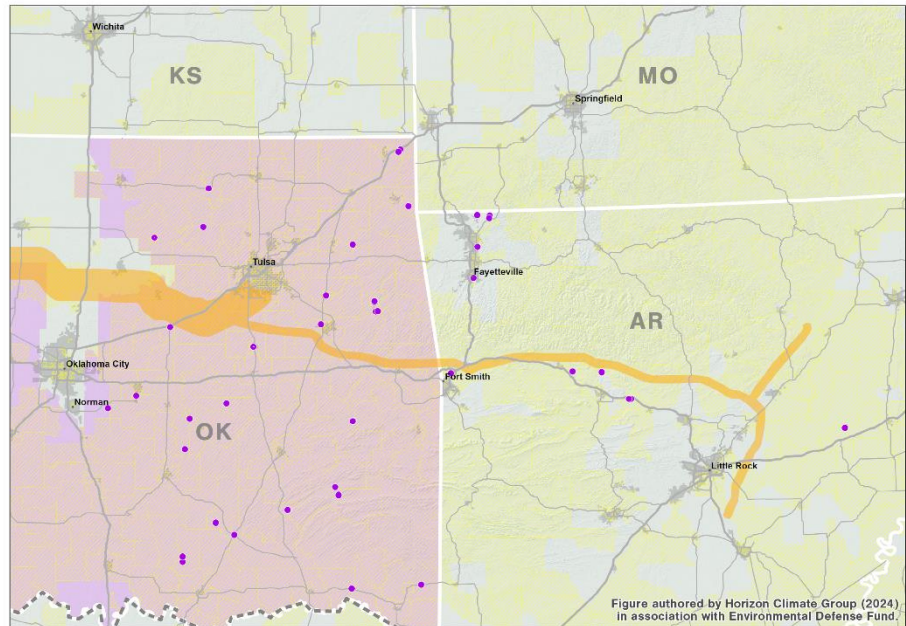
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=American%20Indian%20Area%20Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

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Map B(6)(g). Eastern Portion of Delta-Plains Phase 2 Preliminary NIETC with Roadways

Delta - Plains East

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- ↔ B2B HVDC tie
- Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform::transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvetland.info/nei/dataset/bureau-of-indian-affairs-land-area-representation>.

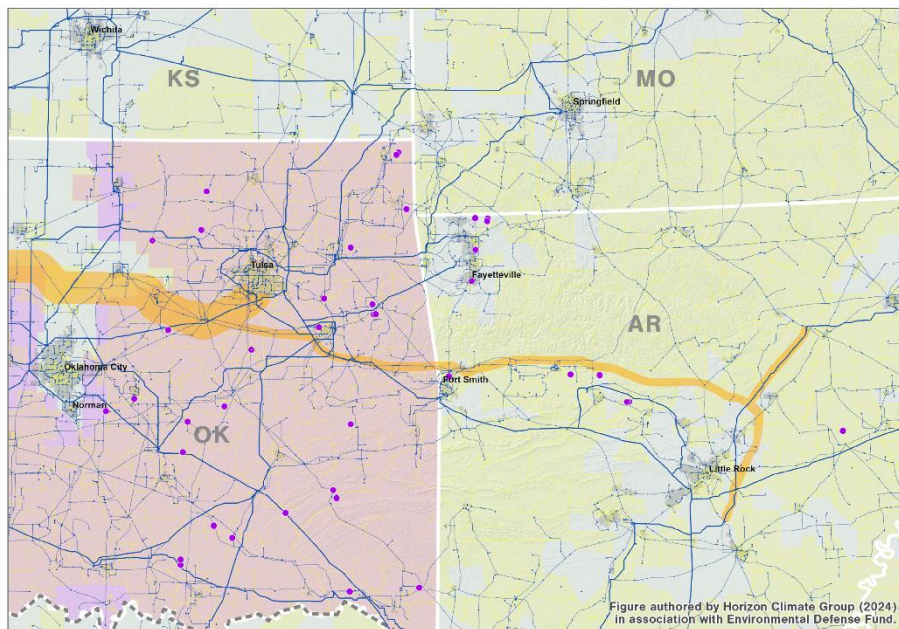
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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/enr/downloads/323-47-6976>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(6)(h). Eastern Portion of Delta-Plains Phase 2 Preliminary NIETC with Electric Transmission

Delta - Plains East

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and
Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rvt.

Bureau of Indian Affairs, *American Indian and Alaska Native Land
Area Representation*, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

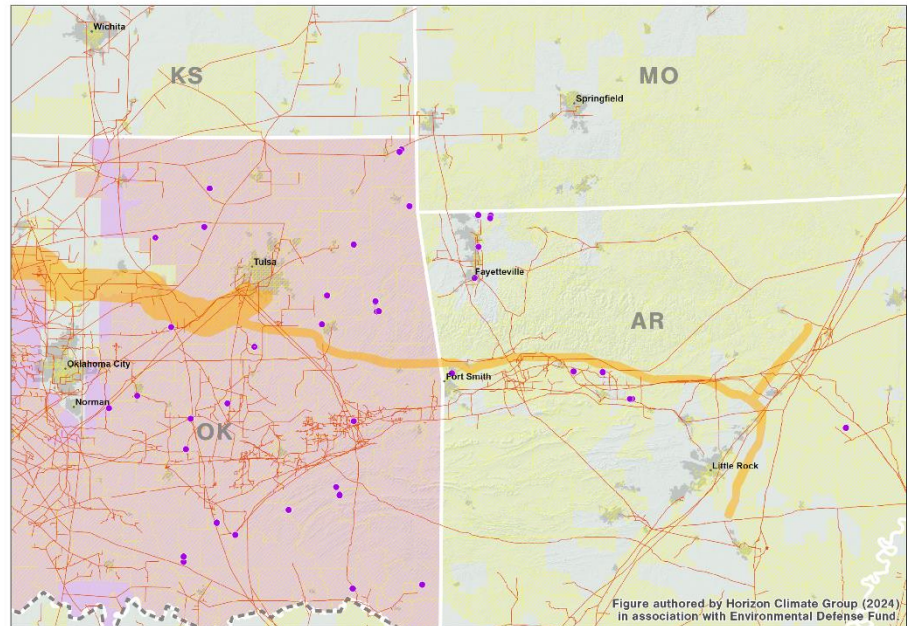
US Census Bureau, *American Indian/Alaska Native/Native Hawaiian
Areas*, 2022, <https://www.census.gov/cg/bn/gao/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, *National
Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/
Line Shapefiles: Urban Areas (2020), January 6, 2023,
<https://www.census.gov/cg/bn/gao/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, *Climate and Economic Justice
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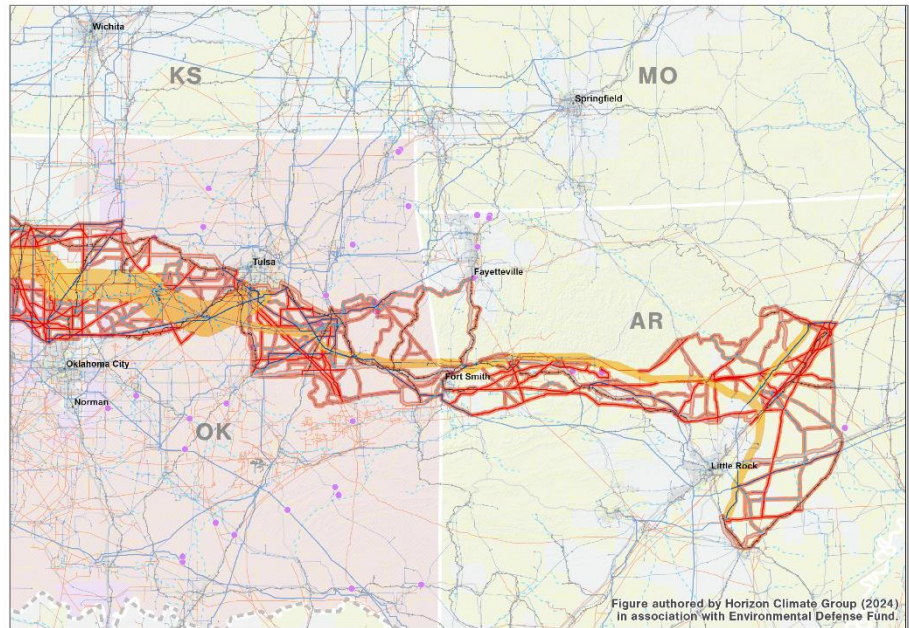
*This map shows only a small fraction of significant sites that
exist, and is limited by the publicly available data in the *National
Register of Historic Places*. The data may also contain locational
inaccuracies inherent to the *National Register* dataset.



Map B(6)(i). Eastern Portion of Delta-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Delta - Plains ^{East}

Potential NIETC expansion



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Map B(6)(j). ROW Advocates Eastern Portion of Delta-Plains Expanded NIETC

Delta - Plains

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

Active

Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home?lang=en>.

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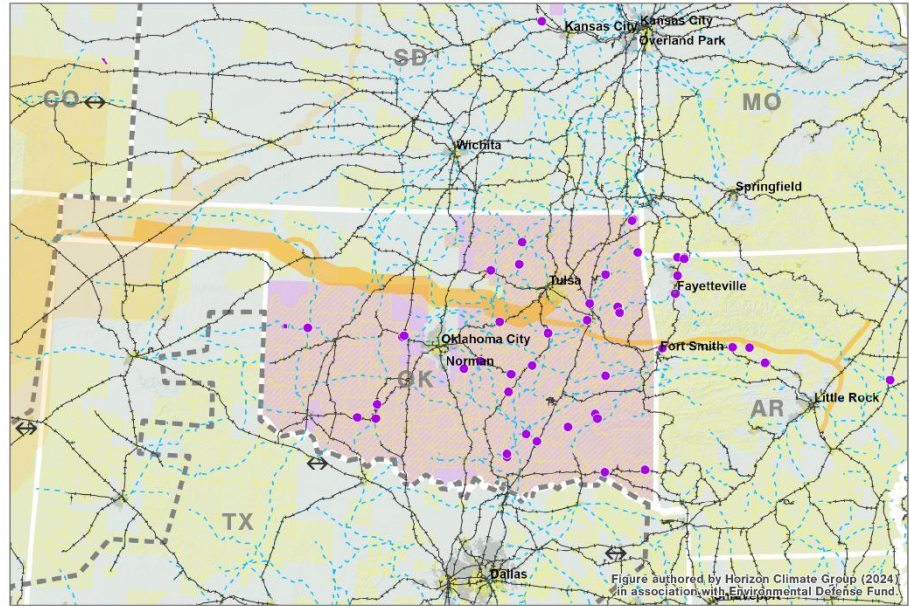
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Map B(6)(k). Delta-Plains Phase 2 Preliminary NIETC with Active and Abandoned Rail

Delta - Plains

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, "NHS_2023/04/01, April 2023," https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvoland.info/ro/dataset/bureau-of-indian-affairs-and-area-representations>.

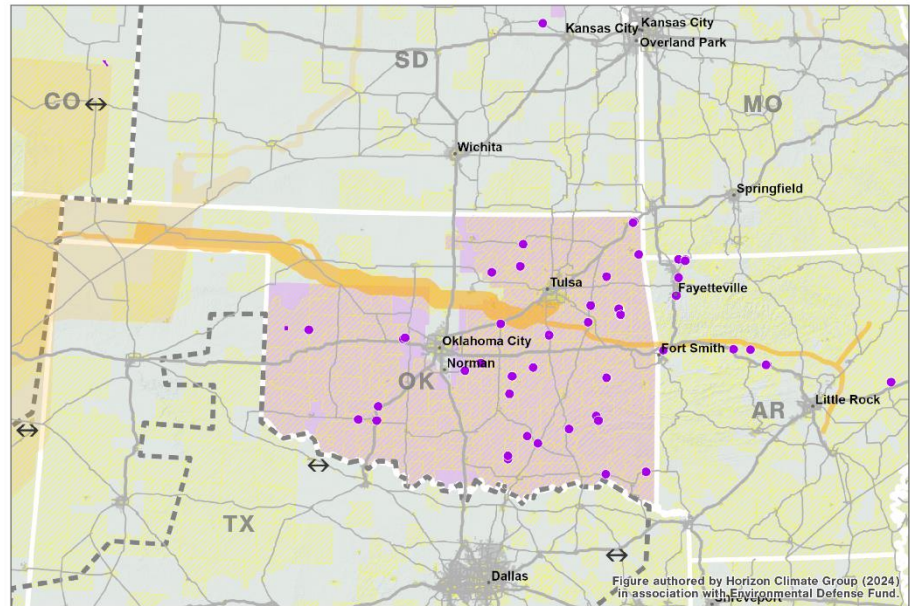
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=American%20Indian%20Area%20Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

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*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(6)(l). Delta-Plains Phase 2 Preliminary NIETC with Roadways

Delta - Plains

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line
≥ 345 kV transmission line
Substation

Population and land ownership

Federally designated
disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places
site with Native American significance*
National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.
US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform:transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natlvetland.info/nei/dataset/bureau-of-indian-affairs-land-area-representation>.

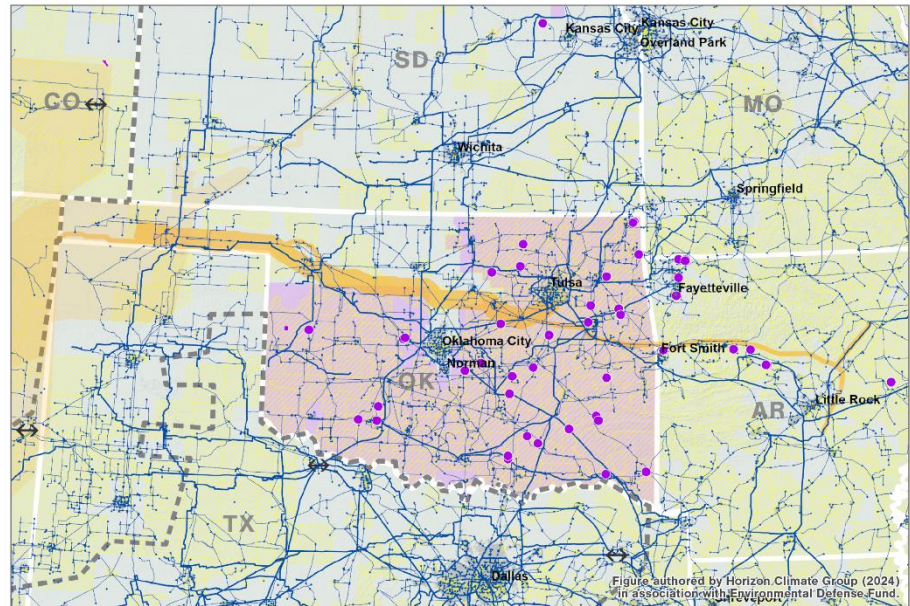
US Census Bureau, American Indian/Alaska Native/Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American%20Indian%20Alaska%20Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210286>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/geographies/shapefiles/index.php?year=2022&layergroup=Urban%20Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/download/323474975>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(6)(m). Delta-Plains Phase 2 Preliminary NIETC with Electric Transmission

Delta - Plains

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and
Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, *American Indian and Alaska Native Land
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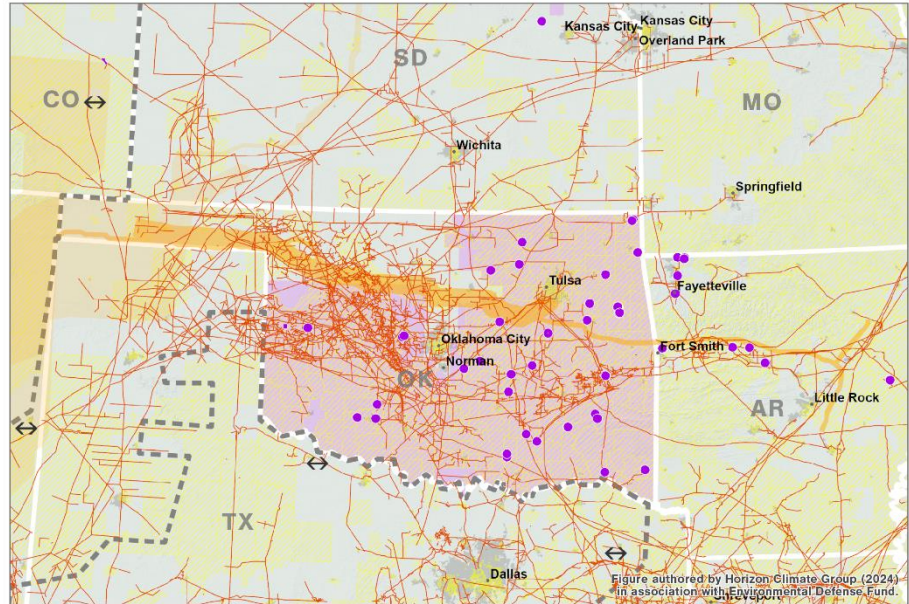
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Council on Environmental Quality, *Climate and Economic Justice
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*This map shows only a small fraction of significant sites that
exist, and is limited by the publicly available data in the *National
Register of Historic Places*. The data may also contain locational
inaccuracies inherent to the *National Register* dataset.



Map B(6)(n). Delta-Plains Phase 2 Preliminary NIETC with Natural Gas Pipelines

Delta - Plains

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- - - Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

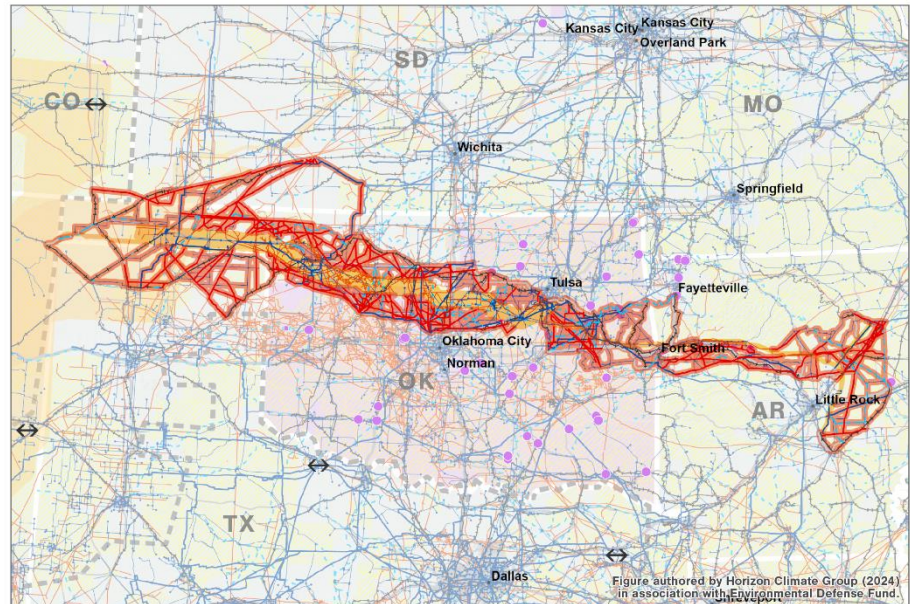
- Pipeline

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- ↔ B2B HDVC tie
- - - Interconnection seam



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Map B(6)(p). ROW Advocates Delta-Plains Expanded NIETC. See also Fig. 6.

Plains - Southwest

Rail

DOE preliminary National Interest Electric Transmission Corridor

Rail lines

++ Active

- - Abandoned

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

↔ B2B HDVC tie

- - Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

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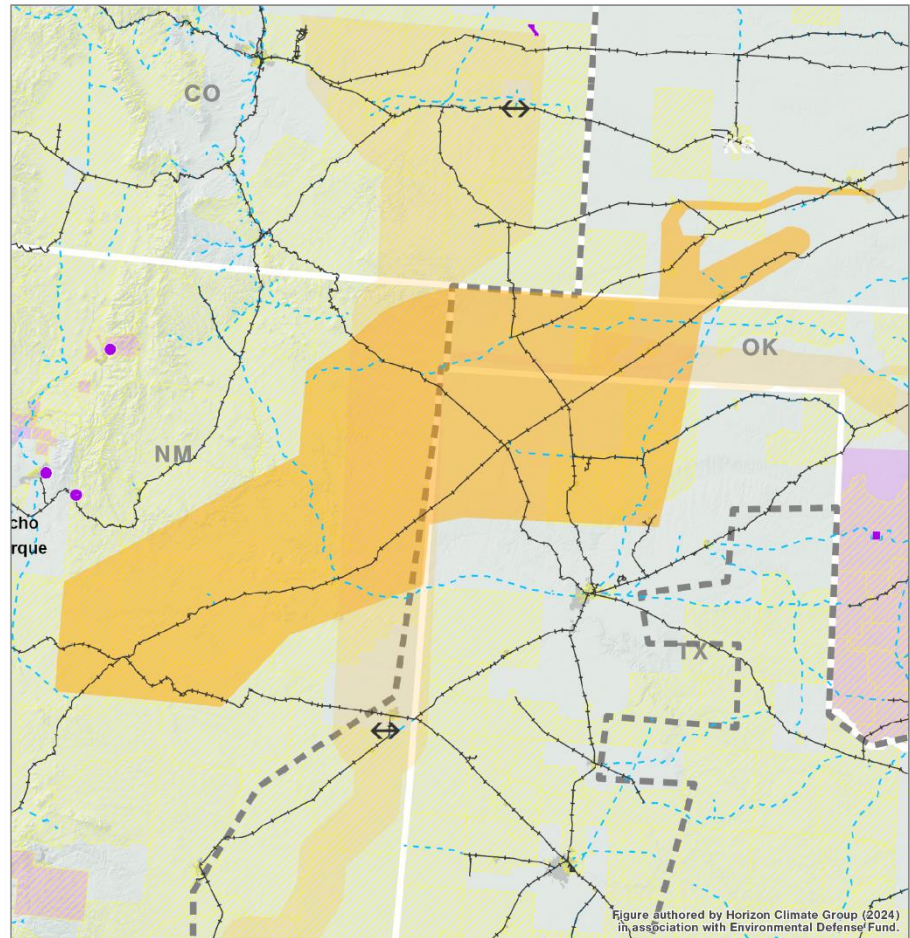
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US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://nrm.nps.gov/DataStore/Reference/Profile/2210280>.

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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/3347/57.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(7)(a). Plains-Southwest Phase 2 Preliminary NIETC with Active and Abandoned Rail

Plains - Southwest

Highway

DOE preliminary National Interest Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places site with Native American significance*
National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/doe/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, NHTS_2023/04/01, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhts_maps/.

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US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://nrmz.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gov/rhnapofiles/index.php?year=2022&layergroup=Urban%20Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.ceq.gov/en/downloads/3/3347/57.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

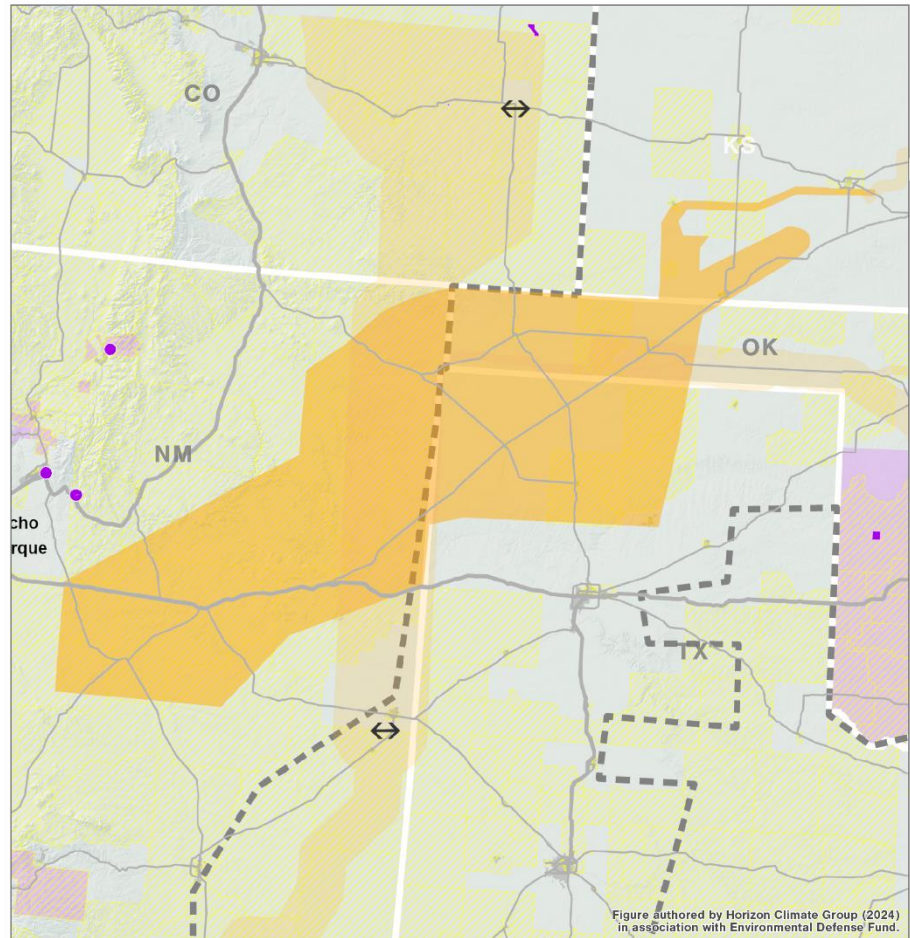


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(7)(b). Plains-Southwest Phase 2 Preliminary NIETC with Roadways

Plains - Southwest

Electric transmission

DOE preliminary National Interest Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line

≥ 345 kV transmission line

Substation

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/geoplatform-transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nal.usda.gov/dataset/bureau-of-indian-affairs-land-area-representation>.

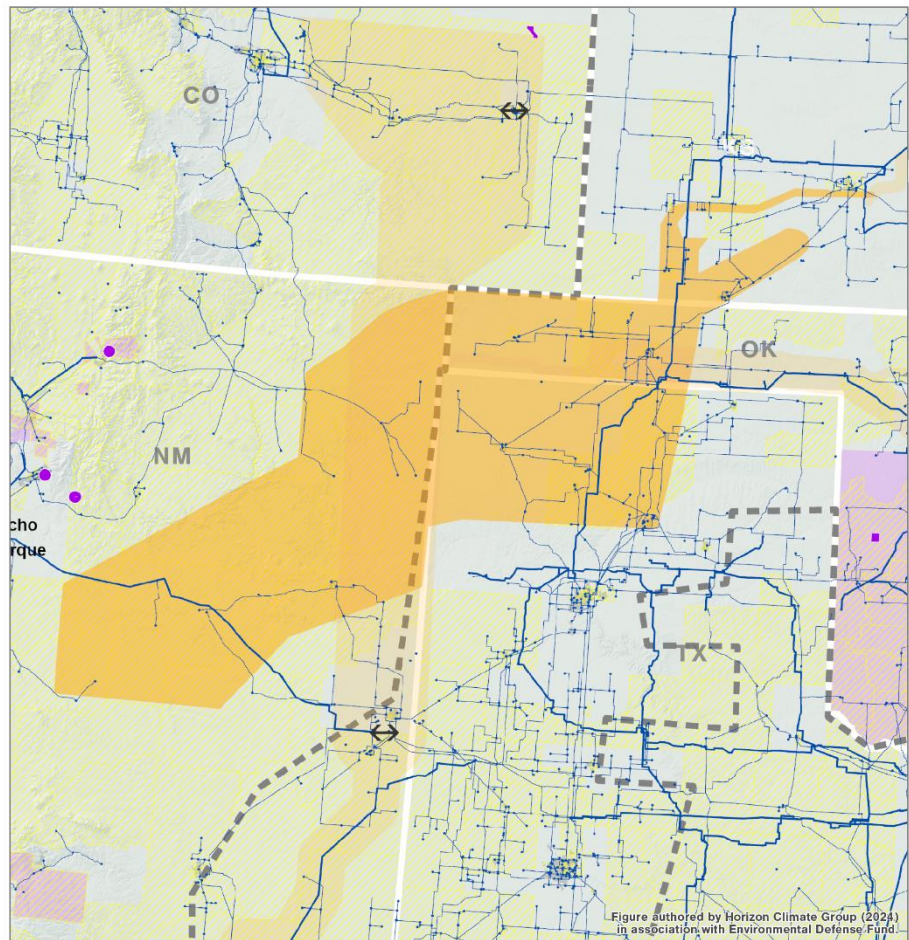
US Census Bureau, American Indian/Alaska Native/Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geos/shapefiles/index.php?year=2022&layergroup=American%20Indian%20Alaska%20Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210286>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/geographies/shapefiles/index.php?year=2022&layergroup=Urban%20Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/download/3347476976>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(7)(c). Plains-Southwest Phase 2 Preliminary NIETC with Electric Transmission

Plains - Southwest

Natural gas pipeline

DOE preliminary National Interest Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intra-state Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativeland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

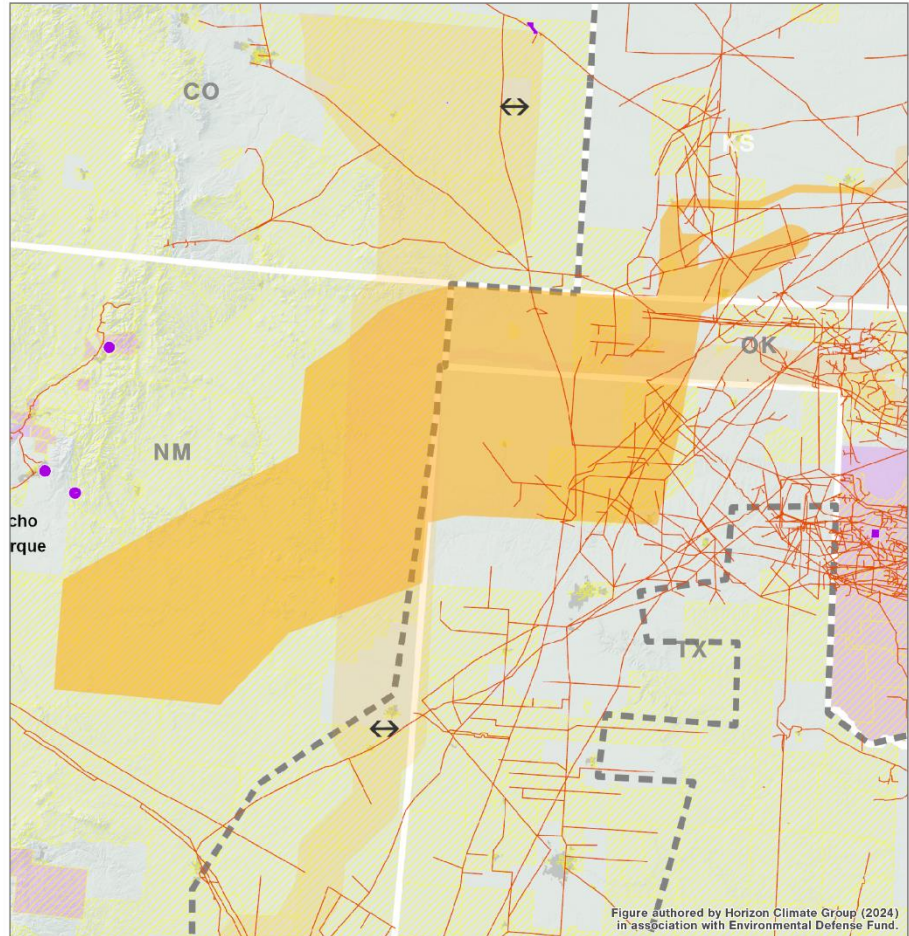
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gso/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(7)(d). Plains-Southwest Phase 2 Preliminary NIETC with Natural Gas Pipelines

Plains - Southwest

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

- Pipeline

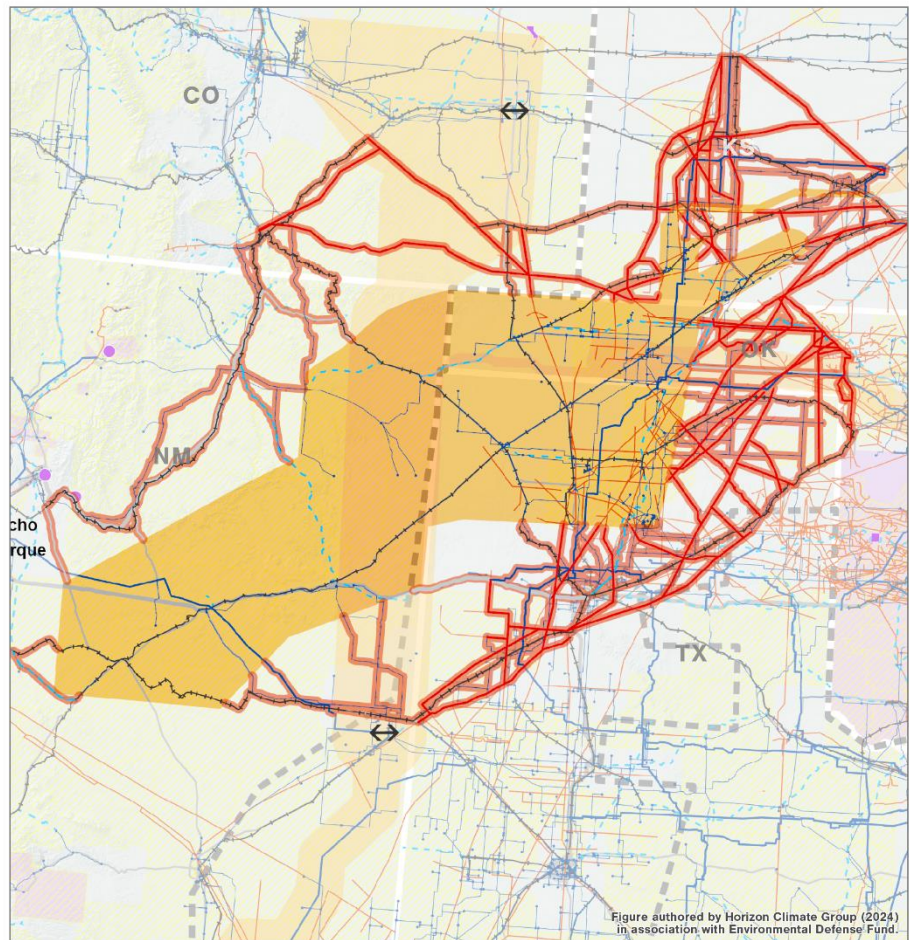
Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- B2B HDVC tie
- Interconnection seam

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(7)(e). ROW Advocates Plains-Southwest Expanded NIETC. See also Fig. 7.

Rail

 DOE preliminary National Interest Electric Transmission Corridor

Rail lines

Active

- Abandoned

Population and land ownership

 Federally designated disadvantaged community

 Federally recognized tribal land

Urban area

 National Registry of Historic Places
site with Native American significance*

- *National Registry of Historic Places*
area with Native American significance*

Regional transmission context

↔ B2B HDVC tie

== Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*,
Table 400-001, <http://www.bts.gov>.

October 2021, <https://www.arcgis.com/home/item.html?id=bca2aa04ab424d48c96d471d2be62a48c>.

Forgotten Railways, Roads & Places, Abandoned & Out of Service Railroad Lines, 2024, <https://www.frandp.com/p/the-map.html>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativoland.info/no/dataset/bureau-of-indian-affairs-land-area-representations>.

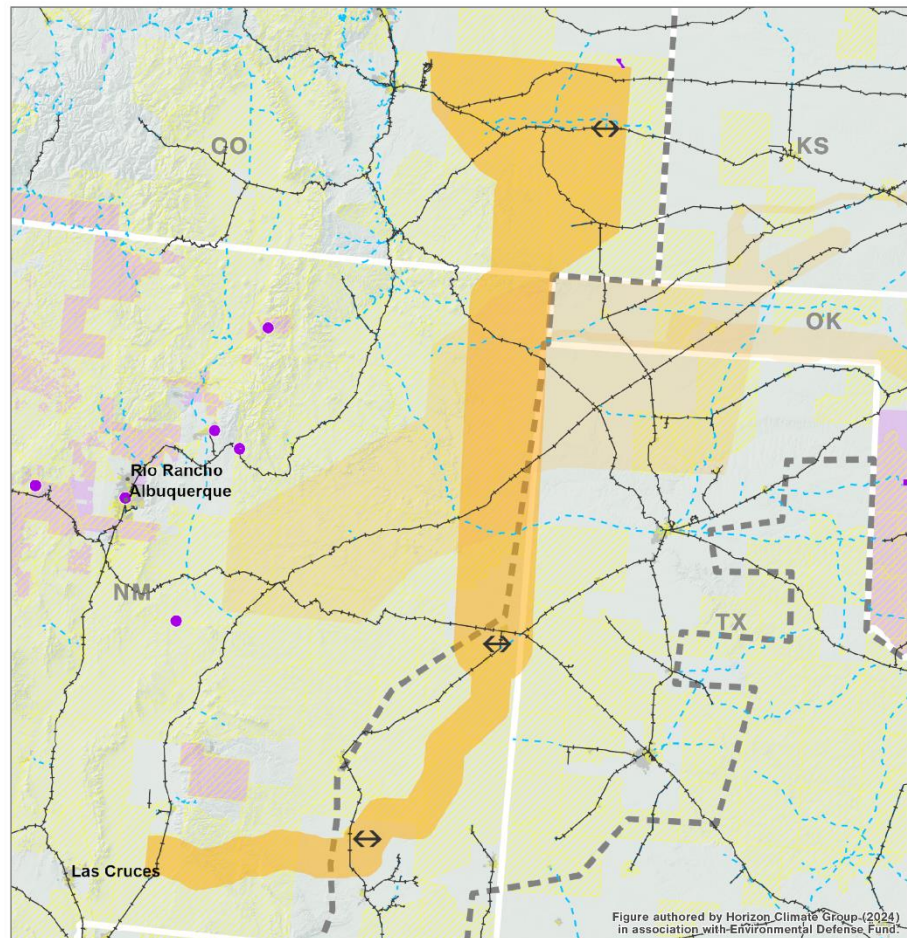
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cgi-bin/geo/snapfiles/index.php?year=2022&layergroup=American+Indian+Area+Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads#3/33.47/-97.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the *National Register of Historic Places*. The data may also contain locational inaccuracies inherent to the *National Register* dataset.



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Mountain - Plains - Southwest

Highway

DOE preliminary National Interest
Electric Transmission Corridor

Highways

Interstate
Other highway

Population and land ownership

Federally designated
disadvantaged community
Federally recognized tribal land
Urban area
National Registry of Historic Places
site with Native American significance*
National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie
Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration,
NHS_2023/04/01, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/.

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Representation, September 2023, <https://data.natlvoland.info/no/dataset/bureau-of-indian-affairs-and-area-representations>.

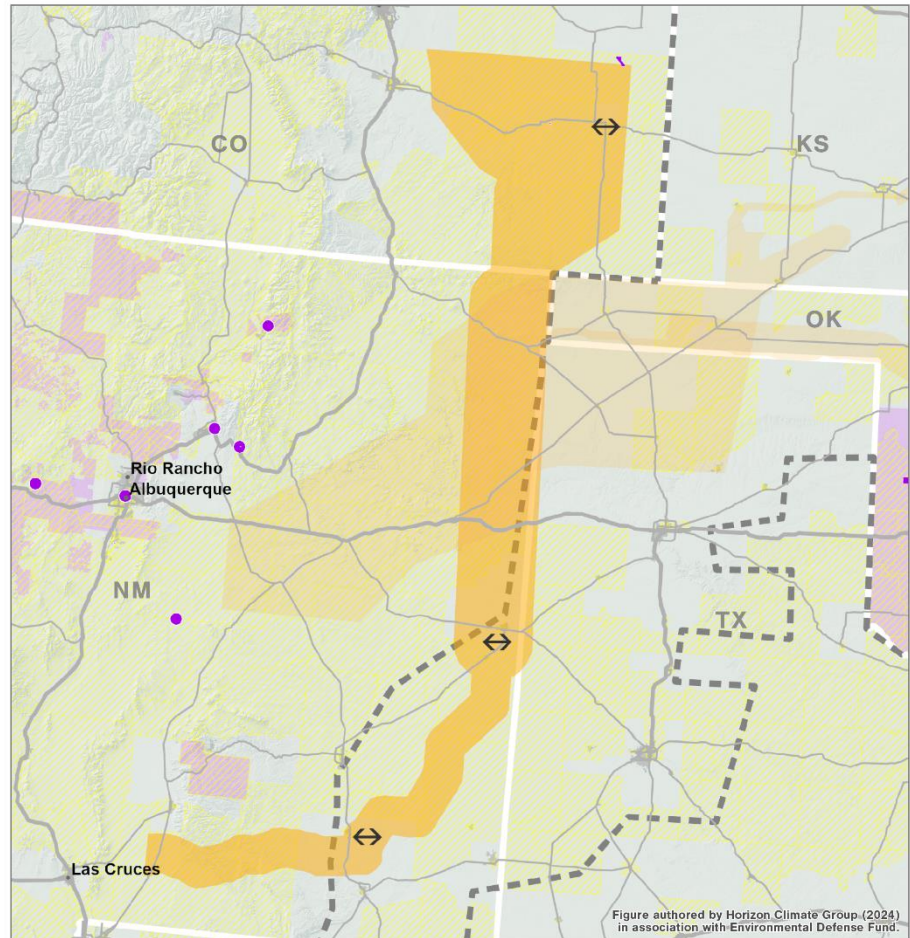
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Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg-bin/gpo/rhnapofiles/index.php?year=2022&layergroup=Urban%20Areas>.

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Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/3347/57.5>.

*This map shows only a small fraction of significant sites that exist, and is
limited by the publicly available data in the National Register of Historic
Places. The data may also contain locational inaccuracies inherent to the
National Register dataset.



Map B(8)(b). Mountain-Plains-Southwest Phase 2 Preliminary NIETC with Roadways

Mountain - Plains - Southwest

Electric transmission

DOE preliminary National Interest
Electric Transmission Corridor

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Population and land ownership

- Yellow hatched: Federally designated disadvantaged community
- Pink hatched: Federally recognized tribal land
- Grey: Urban area
- Purple dot: National Registry of Historic Places site with Native American significance*
- Purple dot: National Registry of Historic Places area with Native American significance*

Regional transmission context

- ↔ B2B HDVC tie
- Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.gov/data-arcgis.com/dataset/geoplatform:transmission-lines/about>.

US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.gov/data-arcgis.com/dataset/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nal.wildland.info/nal/dataset/bureau-of-indian-affairs-land-area-representations>.

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US Department of the Interior, National Park Service, National Register of Historic Places, May 2014, <https://irma.nps.gov/Dataset/History/Profile/2210088>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&agencygroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool version 1.0, November 2022, <https://cejtool.geoplatform.gov/enr/download/3/33/47/1975>.

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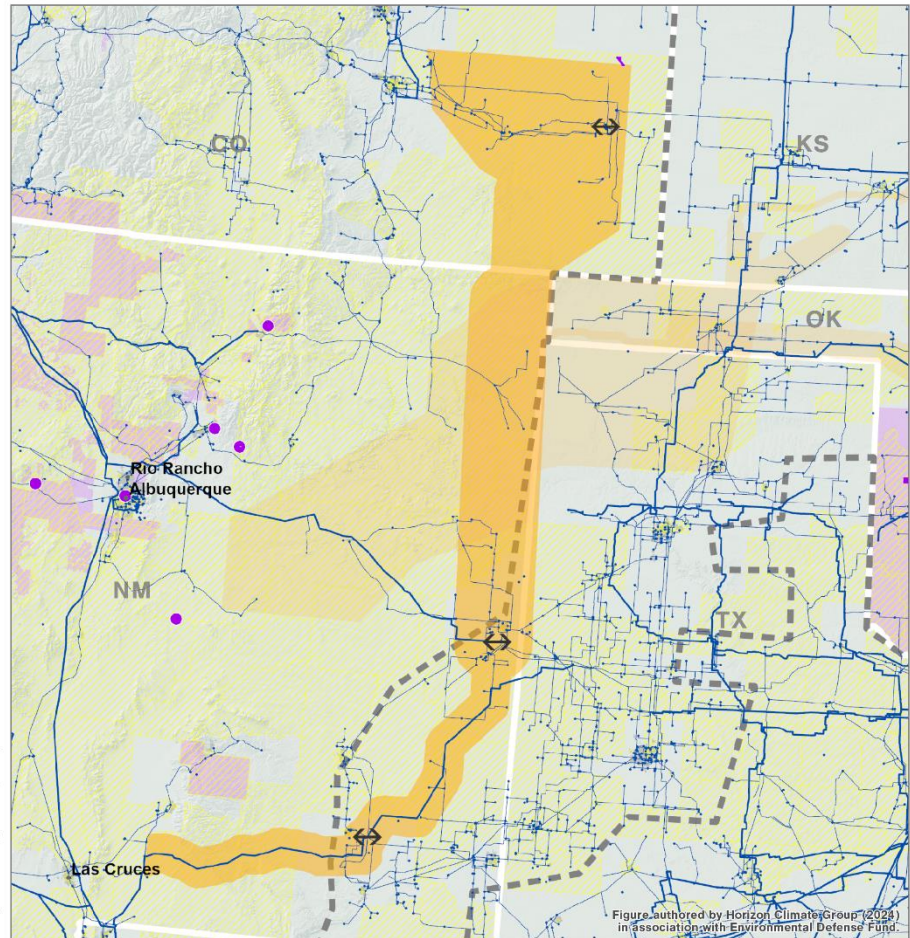


Figure authored by Horizon Climate Group (2023) in association with Environmental Defense Fund.

Map B(8)(c). Mountain-Plains-Southwest Phase 2 Preliminary NIETC with Electric Transmission

Mountain - Plains - Southwest

Natural gas pipeline

DOE preliminary National Interest
Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated
disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places
site with Native American significance*

National Registry of Historic Places
area with Native American significance*

Regional transmission context

B2B HDVC tie

Interconnection seam

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission
Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and
Intrastate Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, American Indian and Alaska Native Land
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US Census Bureau, American Indian/Alaska Native/Native Hawaiian
Areas, 2022, <https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, National
Register of Historic Places, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/
Line Shapefiles: Urban Areas (2020), January 6, 2023,
<https://www.census.gov/cgi-bin/gov/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice
Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

*This map shows only a small fraction of significant sites that
exist, and is limited by the publicly available data in the National
Register of Historic Places. The data may also contain locational
inaccuracies inherent to the National Register dataset.

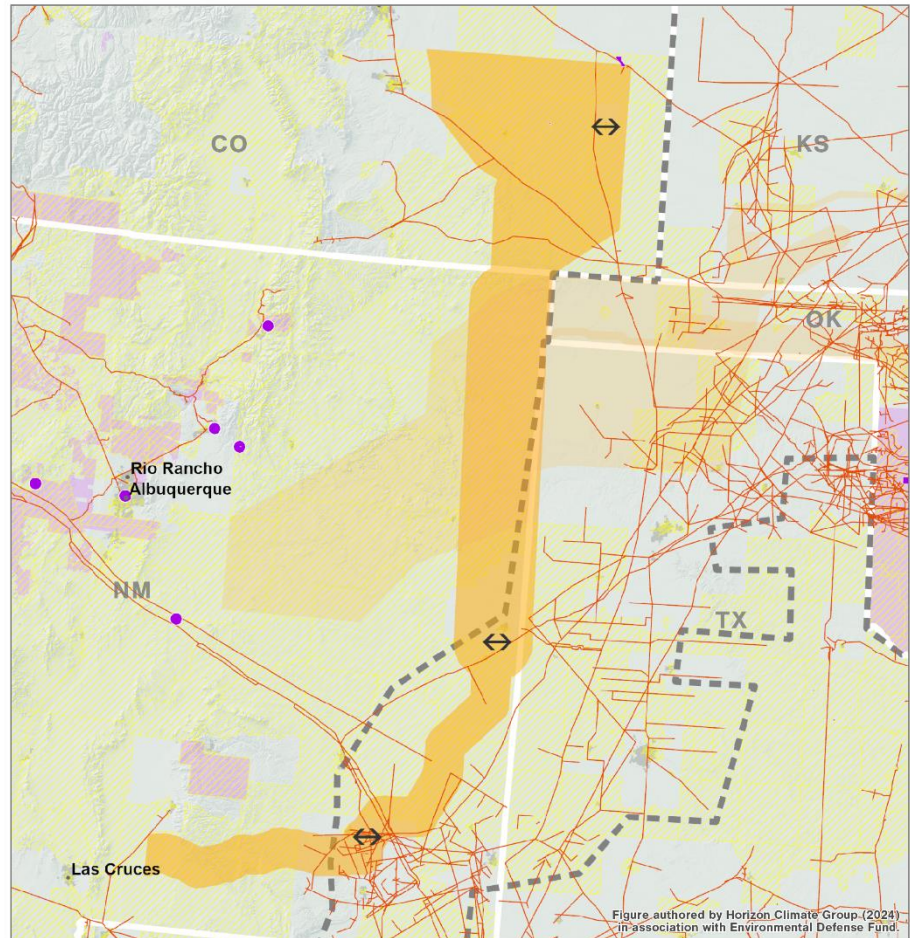


Figure authored by Horizon Climate Group (2024)
in association with Environmental Defense Fund.

Map B(8)(d). Mountain-Plains-Southwest Phase 2 Preliminary NIETC with Natural Gas Pipelines

Mountain - Plains - Southwest

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

- Pipeline

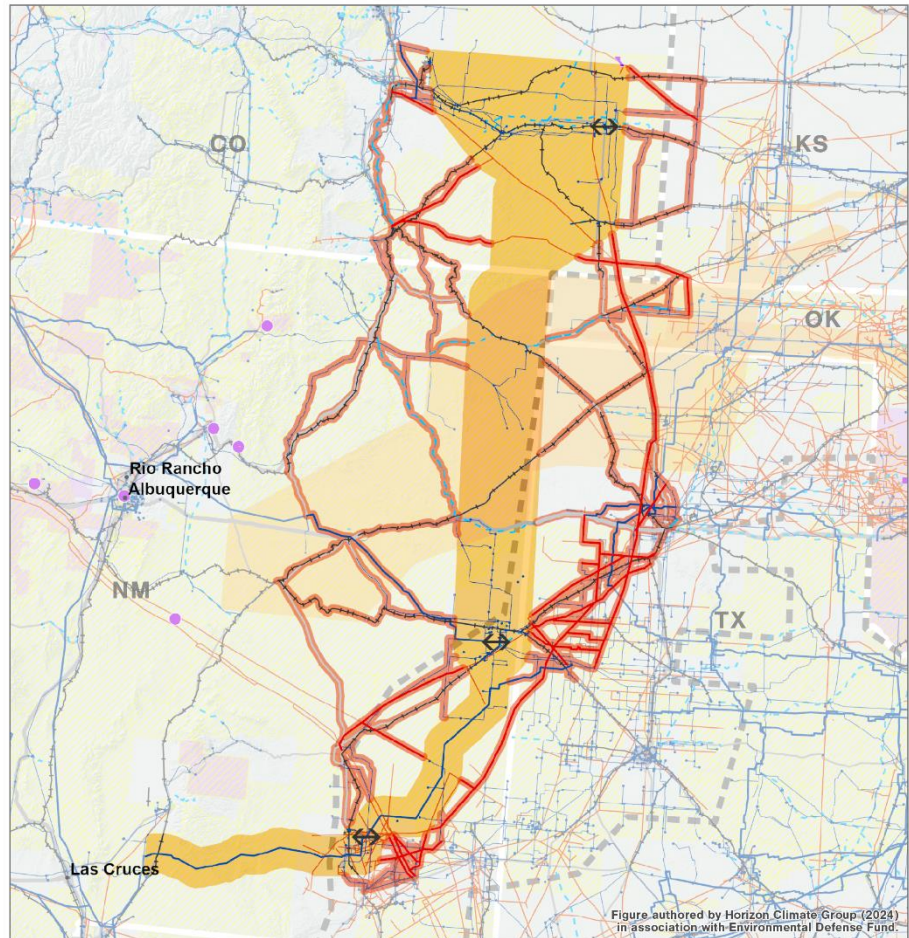
Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

Regional transmission context

- B2B HDVC tie
- Interconnection seam

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.



Map B(8)(e). ROW Advocates Mountain-Plains-Southwest Expanded NIETC. See also Fig. 8.

Mountain - Northwest

Rail


 DOE preliminary National Interest Electric Transmission Corridor

Rail lines

 Active


 Abandoned

Population and land ownership

 Federally designated disadvantaged community

 Federally recognized tribal land

 Urban area

 National Registry of Historic Places site with Native American significance*


 National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Bureau of Transportation Statistics, *USA Railroads*, October 2021, <https://www.bts.gov/home/indicators/indicators.aspx?indicators=1471&indicators=1471>.

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US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

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Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33/47/37.5>.

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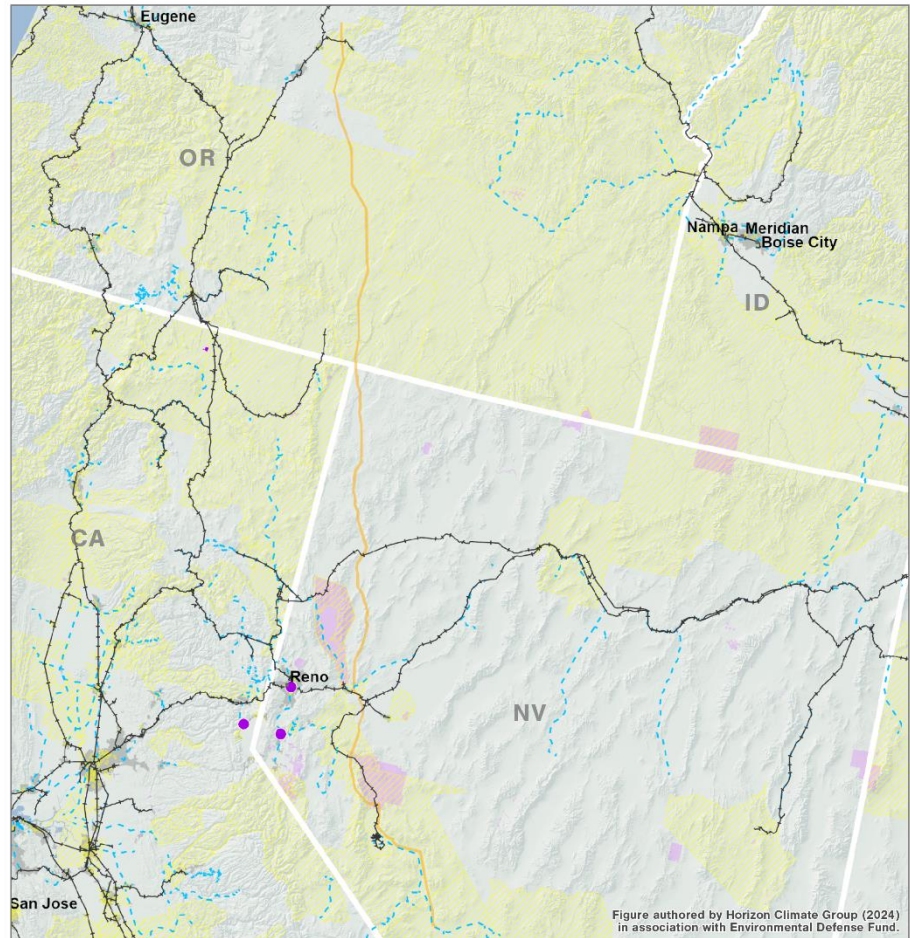


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.



Map B(9)(a). Mountain-Northwest Phase 2 Preliminary NIETC with Active and Abandoned Rail

Mountain - Northwest

Highway

 DOE preliminary National Interest Electric Transmission Corridor

Highways

 Interstate
 Other highway

Population and land ownership

 Federally designated disadvantaged community
 Federally recognized tribal land
 Urban area
 National Registry of Historic Places site with Native American significance*
 National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/epo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Transportation Federal Highway Administration, NHTS 2023-04-03, April 2023, https://www.fhwa.dot.gov/planning/national_highway_system/nhts_maps/.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nalveland.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

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US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 8, 2023, <https://www.census.gov/cgi-bin/geo/shapfiles/index.php?year=2022&layergroup=Urban+Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/3/33.47/97.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

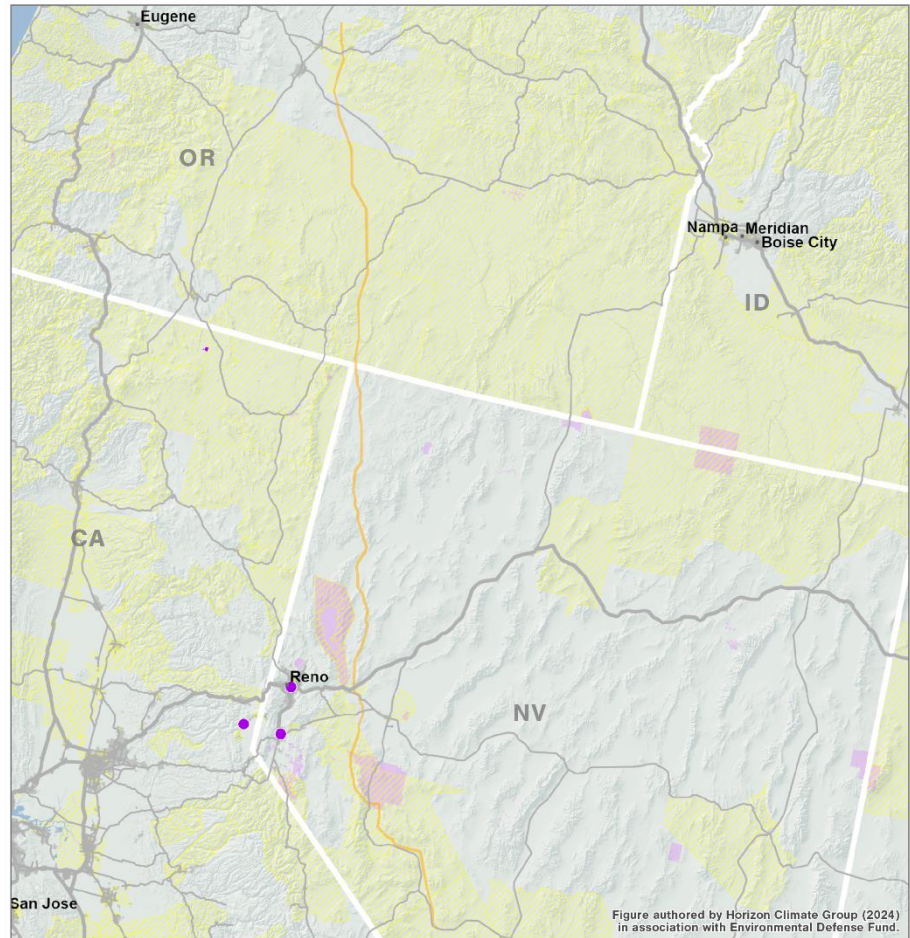


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(9)(b). Mountain-Northwest Phase 2 Preliminary NIETC with Roadways

Mountain - Northwest

Electric transmission

DOE preliminary National Interest Electric Transmission Corridor

Electric transmission infrastructure

< 345 kV transmission line

≥ 345 kV transmission line

Substation

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Department of Homeland Security, Homeland Infrastructure Foundation Level Data, Transmission Lines, December 2022, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

US Department of Homeland Security, Homeland Infrastructure Foundation Level Data, Electric Substations, July 2020, <https://hifd.geoplatform.opendata.arcgis.com/datasets/electric-substations/data>.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.natl.gov/indian-land-area-representation>.

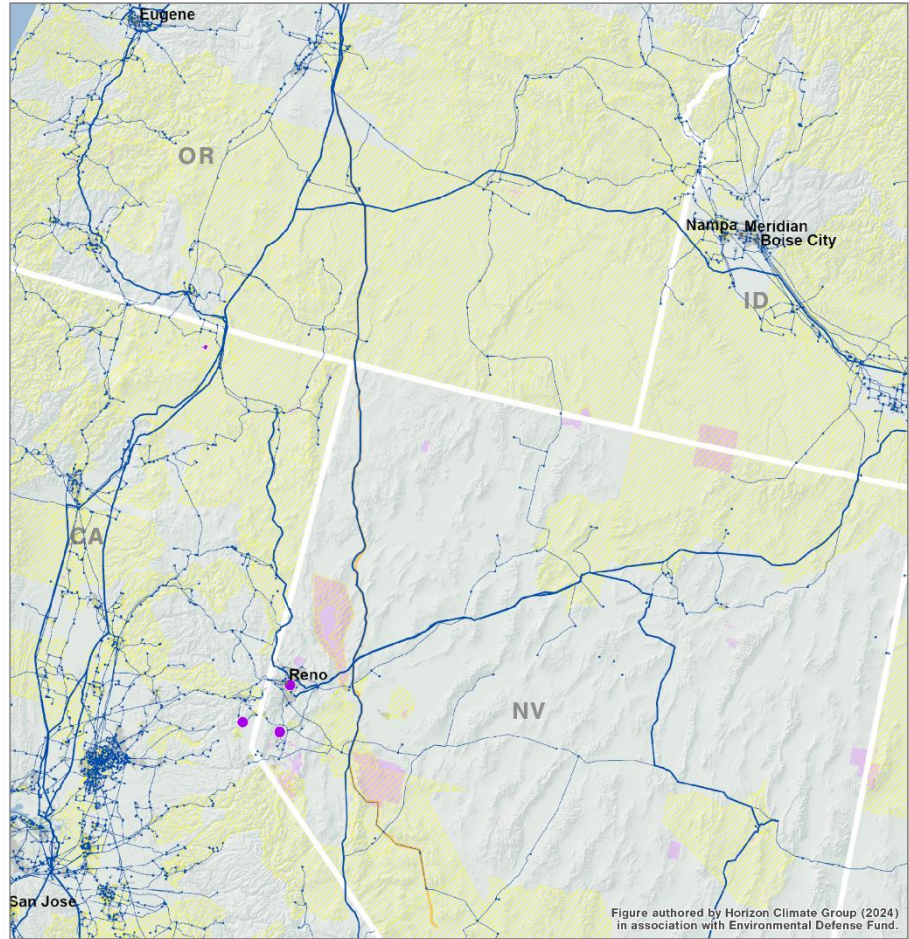
US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg-bin/gov/napofiles/index.php?year=2022&layergroup=American%20Indian%20Area%20Geography>.

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Map B(9)(c). Mountain-Northwest Phase 2 Preliminary NIETC with Electric Transmission

Mountain - Northwest

Natural gas pipeline

DOE preliminary National Interest Electric Transmission Corridor

Natural gas infrastructure

Pipeline

Population and land ownership

Federally designated disadvantaged community

Federally recognized tribal land

Urban area

National Registry of Historic Places site with Native American significance*

National Registry of Historic Places area with Native American significance*

Figure includes data from the following sources:

US Department of Energy, "National Interest Electric Transmission Corridor designation process," <https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process>.

US Energy Information Administration, *Natural Gas Interstate and Intra-state Pipelines*, April 2020, https://www.eia.gov/maps/layer_info.rpt.

Bureau of Indian Affairs, American Indian and Alaska Native Land Area Representation, September 2023, <https://data.nativedigital.info/ne/dataset/bureau-of-indian-affairs-land-area-representations>.

US Census Bureau, American Indian/Alaska Native/Native Hawaiian Areas, 2022, <https://www.census.gov/cg/bn/gco/shapfiles/index.php?year=2022&layergroup=American-Indian-Area-Geography>.

US Department of the Interior, National Park Service, *National Register of Historic Places*, May 2014, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>.

US Census Bureau, Geography Division, 2022 TIGER/Line Shapefiles: Urban Areas (2020), January 6, 2023, <https://www.census.gov/cg/bn/gco/shapfiles/index.php?year=2022&layergroup=Urban-Areas>.

Council on Environmental Quality, Climate and Economic Justice Screening Tool Version 1.0, November 2022, <https://screeningtool.geoplatform.gov/en/downloads/43/33.47/37.5>.

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

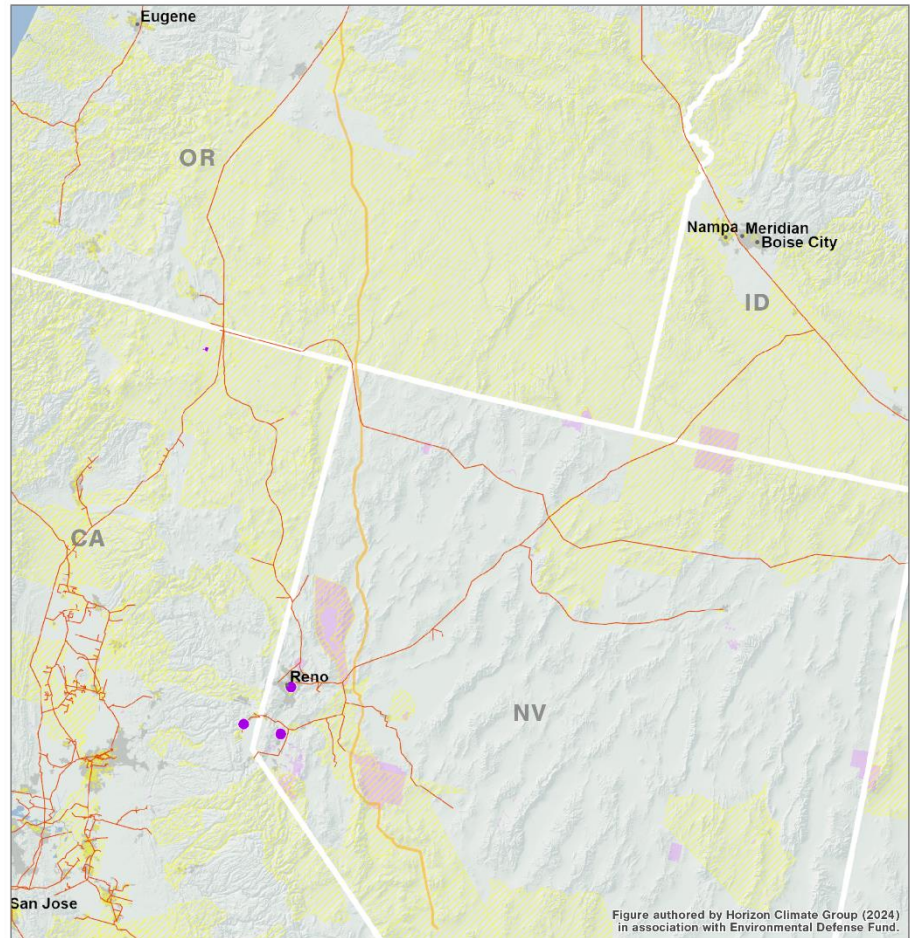


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(9)(d). Mountain-Northwest Phase 2 Preliminary NIETC with Natural Gas Pipelines

Mountain - Northwest

Potential NIETC expansion

- DOE preliminary National Interest Electric Transmission Corridor
- Suggested expansion of DOE preliminary National Interest Electric Transmission Corridor

Rail lines

- Active
- - - Abandoned

Highways

- Interstate
- Other highway

Electric transmission infrastructure

- < 345 kV transmission line
- ≥ 345 kV transmission line
- Substation

Natural gas infrastructure

- Pipeline

Population and land ownership

- Federally designated disadvantaged community
- Federally recognized tribal land
- Urban area
- National Registry of Historic Places site with Native American significance*
- National Registry of Historic Places area with Native American significance*

*This map shows only a small fraction of significant sites that exist, and is limited by the publicly available data in the National Register of Historic Places. The data may also contain locational inaccuracies inherent to the National Register dataset.

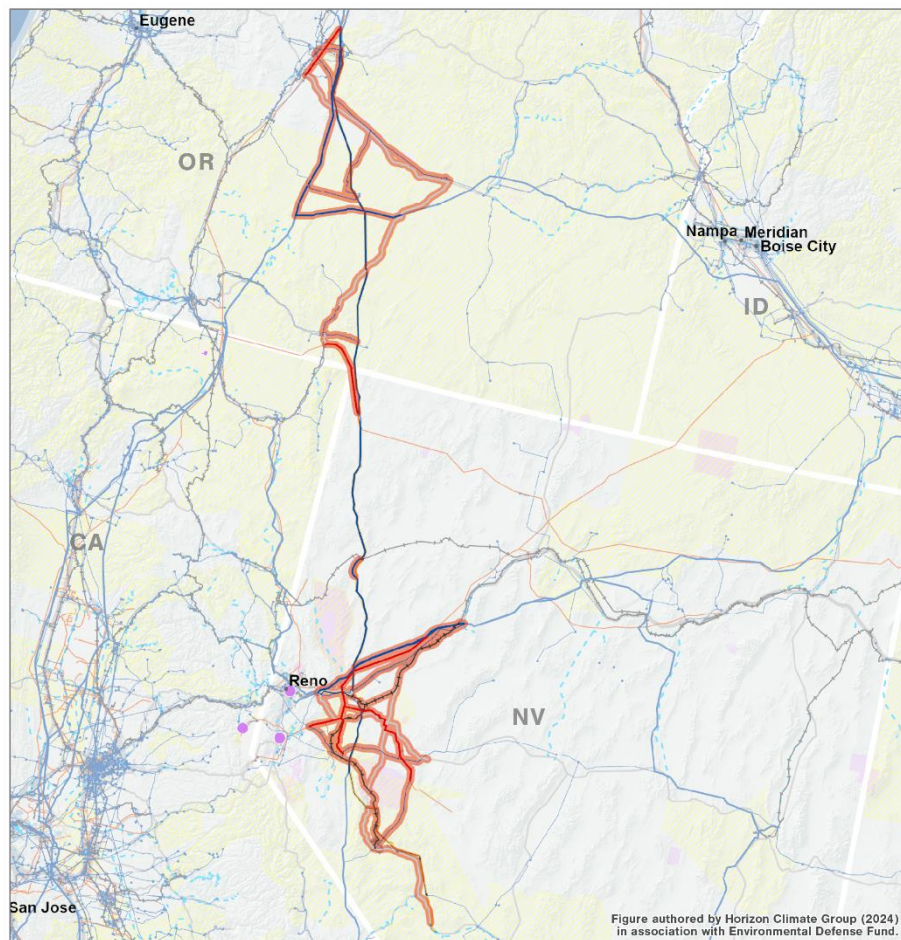


Figure authored by Horizon Climate Group (2024) in association with Environmental Defense Fund.

Map B(9)(e). ROW Advocates Mountain-Northwest Expanded NIETC. See also Fig. 9.