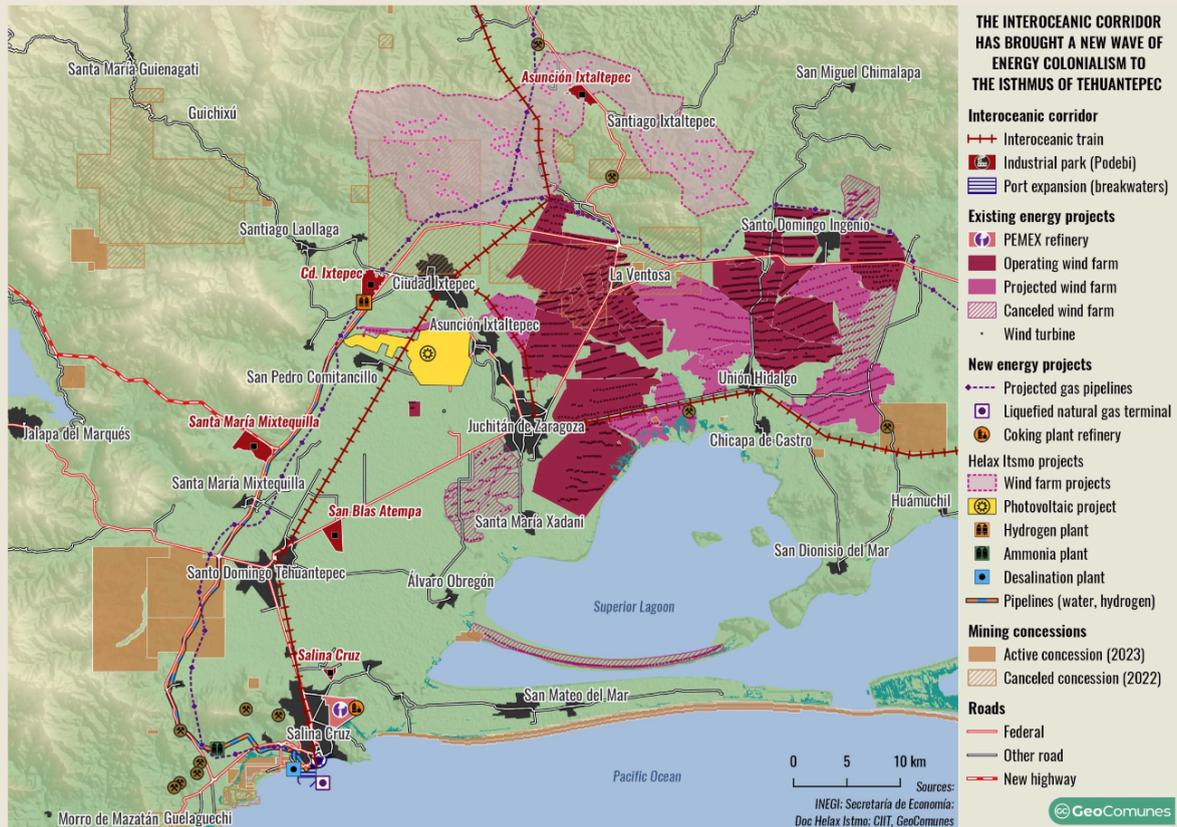


Helax Isthmo: the tip of the spear in a new wave of energy colonialism in the Isthmus of Tehuantepec, Mexico



This brief analysis document has been prepared using official sources. It aims to provide information on the megaprojects related to the hydrogen and ammonia production planned for the southern area of the Isthmus of Tehuantepec.

English translation published October, 2025

This document was initially published in December, 2024, in Spanish with the title “El proyecto de producción de hidrógeno y amoniaco de Helax Istmo: nueva ola de colonialismo energético al cobijo del Corredor Interoceánico del Istmo de Tehuantepec.” To read the original, visit geocomunes.org.

The translation was done by Silvia Quintero Torres from Polifona Co-op, with the support of the Collaborative Research Center for Resilience (CRCR).

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The true size of the industrial projects related to the Interoceanic Corridor of the Isthmus of Tehuantepec

The expansion of hydrogen and ammonia production projects in the south of the Isthmus of Tehuantepec is occurring in the context of the approval of ten so-called “Development Poles for Well-being” (PODEBIs, in its Spanish acronym), which are slated to be built in Veracruz and Oaxaca as part of the Interoceanic Corridor of the Isthmus of Tehuantepec. This construction will take place on approximately 3,000 hectares of land, most of which were *ejido* (communally owned) and Indigenous communal lands privatized through sale and/or expropriation.

In November 2023 and April 2024, the first results of public bidding to select the construction companies for eight of 10 industrial parks were made public. The results divided the concessions among three consortiums. One consortium, made up of the companies Mota Engil, Indi, Carso, and ICA, will build three industrial parks, while the newly created company Proistmo will build the other four. The concession for the construction of the industrial park in Ixtepec was awarded to Helax Istmo, a subsidiary of a Danish investment fund called Copenhagen Infrastructure Partners. The bid for the industrial park in Asunción Ixtaltepec has been declared void for the time being, while in the case of San Blas Atempa, the process is under negotiation and has yet to begin.¹

Name	Location	Area (ha)	Construction company
Coatzacoalcos I	Veracruz	258	<i>Consortio Mota Engil, Indi, Carso, ICA</i>
Coatzacoalcos II	Veracruz	132	<i>Consortio Mota Engil, Indi, Carso, ICA</i>
Texistepec	Veracruz	482	<i>Proistmo</i>
San Juan Evangelista	Veracruz	360	<i>Proistmo</i>
Matías Romero	Oaxaca	179	<i>Proistmo</i>
Cd. Ixtepec	Oaxaca	413	<i>Copenhagen Infrastructure Partners</i>
Santa María Mixtequilla	Oaxaca	502	<i>Proistmo</i>
San Blas Atempa	Oaxaca	331	<i>Arzyz, S.A. de C.V.</i>
Asunción Ixtaltepec	Oaxaca	246	<i>Arzyz, S.A. de C.V.</i>
Salina Cruz	Oaxaca	82	<i>Consortio Mota Engil, Indi, Carso, ICA</i>

¹ Interoceanic Corridor of the Tehuantepec Isthmus (October 2024). Corredor Interoceánico nuevo modelo de crecimiento económico. <https://www.suneo.mx/web/assets/videos/2024-10-08-asipona/presentacion.pdf>

With the publication of these results of the bidding process, we have more clarity about the companies that will oversee building the basic infrastructure of these industrial parks. We still lack information about the companies that might be interested in setting up within those parks, which means we still don't know which industrial areas will be involved and what socio-environmental implications the projects will have. To date, the only available information is about the industrial park in Ixtepec, Oaxaca, which will be built by Helax Istmo, a subsidiary of Copenhagen Infrastructure Partners (CIP), that intends to produce "green" hydrogen.

The projects related to proposed hydrogen production threatens a much larger area than the 413 hectares of the property expropriated from the communal lands of Ixtepec for the PODEBI. It provides a clear example of the lack of detail with which these projects are evaluated and socialized before the necessary permits are obtained, this is especially true in the case of the sale of land for industrial parks. At the time of the bid, only the surface area required for each industrial park was considered, omitting the fact that, ultimately, the industrial activities of the companies that decide to set up there will require much larger areas of land and natural resources.

To date, there is very little public official information available about projects related to this hydrogen plant. The only official documents relating to the project are those submitted by the company to the municipal and agricultural authorities in affected towns. These documents are not available for public consultation, and there have been no further efforts to inform affected communities. The information shared in this report derives from an analysis of an official document of the Interoceanic Corridor of the Isthmus of Tehuantepec (CIIT, by its Spanish acronym) as presented to municipal and agricultural authorities during a meeting in Salina Cruz on September 11 of 2024, at an event convened by the Secretary of the Marines, the CIIT, the Ministry of Energy (SENER, by its Spanish acronym), and the Ministry of the Environment and Natural Resources (SEMARNAT, by its Spanish acronym). This meeting was held before the preliminary agreements had been put together, something that should take place prior to the process of free, prior, and informed consultation on the Helax Istmo project. This document was obtained through a request for information under México's freedom of information law (file number 332459924000194).

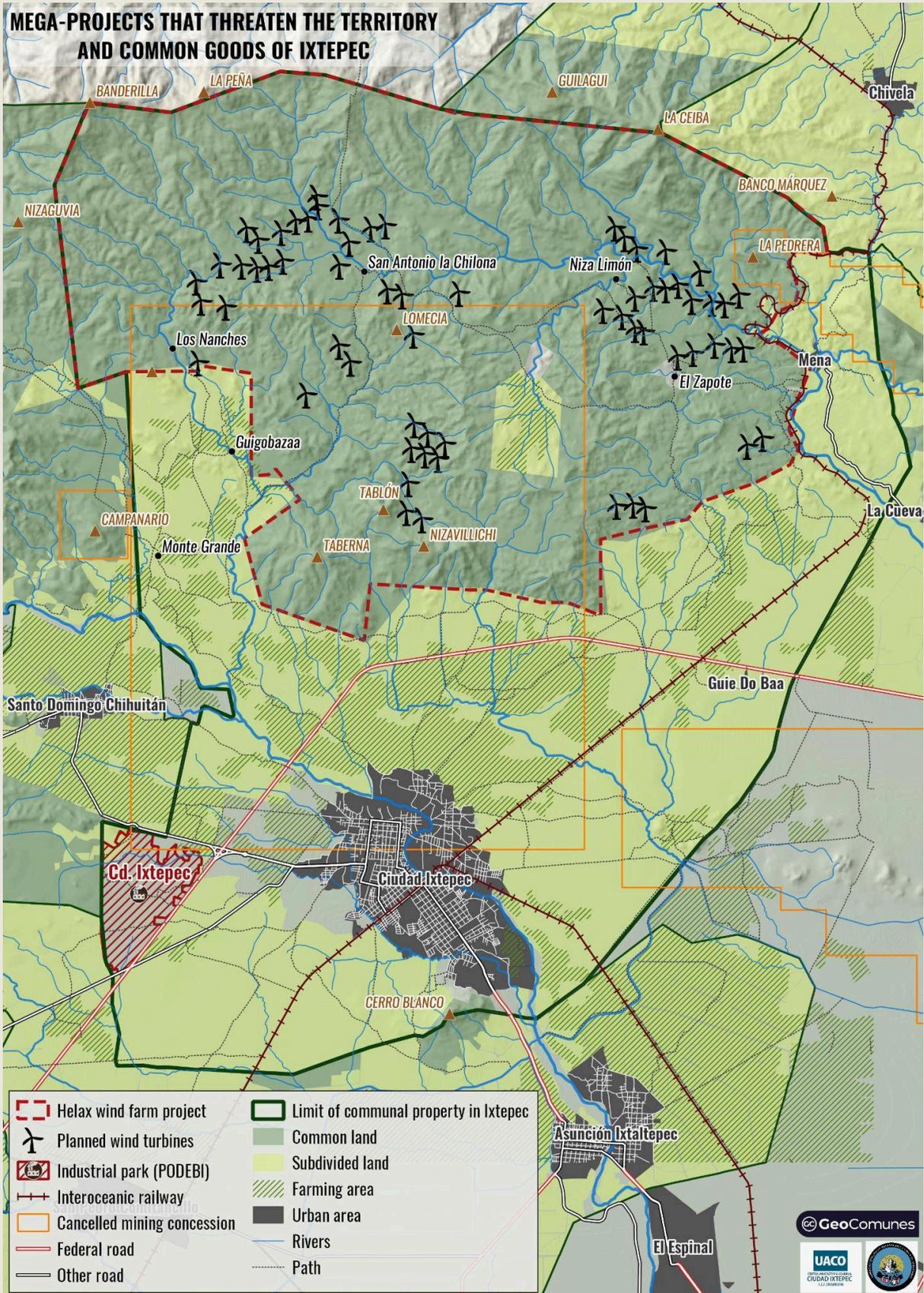
The analysis of this document provides some insights regarding the energy and transportation projects related to the production of hydrogen and ammonia, which are incorrectly labeled "green."

New electricity megaprojects in an overloaded region

To begin with, it is important to note that large-scale green hydrogen production requires large amounts of electricity and water to carry out electrolysis, which is the process through which oxygen and hydrogen are separated from water molecules. To obtain the necessary electricity, one would think an effort would be made to harness some of the electricity generated by the 29 wind farms already operating in the region. These wind farms have affected more than 31,000 hectares of communal land in Juchitán and surrounding areas, as well as the ejidos of La Mata, Santo Domingo and surrounding areas, La Ventosa, and La Venta. But this is not the case. Instead, Helax Istmo intends to develop new electricity generation projects in a region that is already saturated with similar projects.

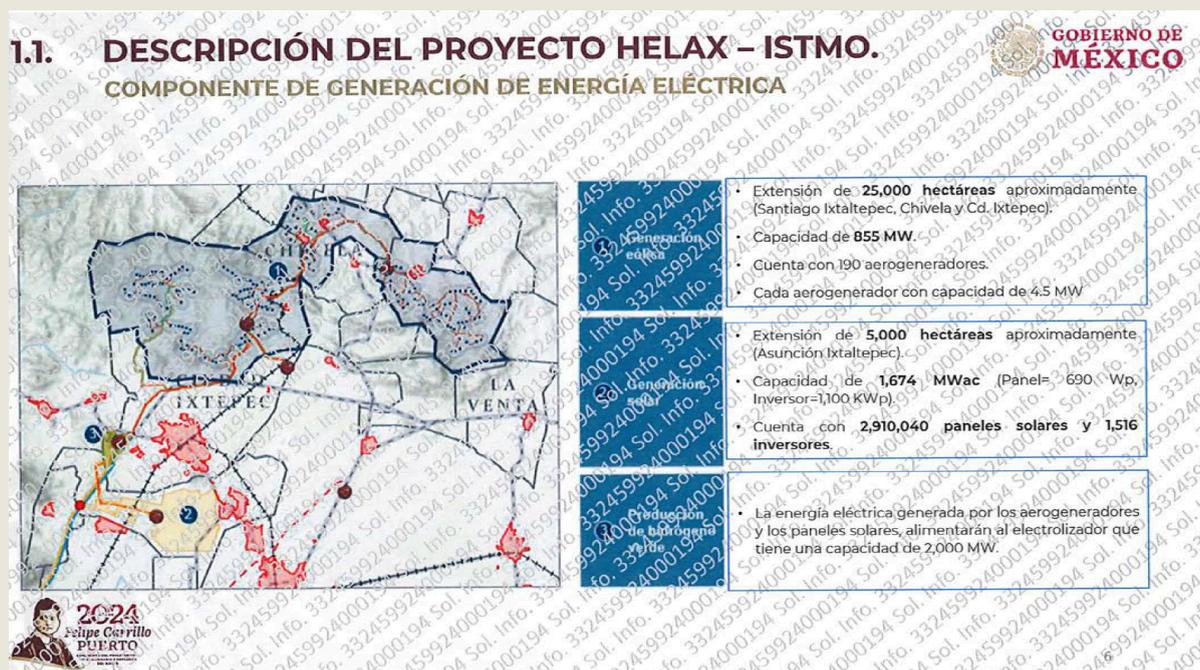
Helax Istmo plans to install 190 new wind turbines for a total capacity of 855 MW in an area covering 25,000 hectares in Ixtepec, Chivela, and Santiago Ixtaltepec. This project would be in addition to the 1,586 wind turbines already in operation in the area. The Ixtepec Assembly of Communal Goods previously granted occupation of 5,500 hectares of its communal lands to carry out feasibility studies for the installation of a wind farm. This area, which covers the hills of Tablón, Taberna, and Niza Bichichi (Bidxichi)/Manantial de Oro, where the “Ixtepec Project” mining concession existed for years before being canceled in 2017 after two years of mobilizations, forums, and mass protests over the risks of environmental contamination and the impact on community life.

Helax Istmo’s proposed wind farm poses a new threat to the hills and communal lands of the Ixtepec region. The installation of wind turbines involves digging into the subsoil to lay a concrete base (a mixture of cement, sand, gravel, and water). For each 3 MW turbine this base weighs around 1,200 tons. This would alter the flow of groundwater and surface runoff in the hillside area that supplies wells in ranches and the seven main wells that provide drinking water to the city of Ixtepec. For more details on the impacts of this project, please consult [the document prepared by the Community Observatory for the Care of Communal Goods in the Isthmus Region \(in Spanish\)](#).



Source: prepared based on a document from Helax Istmo, which relies on information from the National Agrarian Registry (RAN), INEGI, and GeoComunes.

In addition to building wind farms, the company plans to install the first solar megaproject in the region. In early 2024, Helax representatives told members of the San Pedro Comitancillo ejido that they wanted to install the largest solar project in the country, covering 3,075 hectares, all of them on the most productive lands of the ejido and covering a total of 40% of the total area of their agricultural lands. But at the same time, Helax Istmo began to promote the same solar project in other locations. In the document obtained through the freedom of information law, the company mentions it will ultimately seek to promote the project on the communal lands of Asunción Ixtaltepec (communal lands that are very close to the community of San Pedro Comitancillo). Nonetheless, in this version of the project, a larger area is considered: the solar project would cover 5,000 hectares (equivalent to around three times the size of the city of Juchitán), to install almost three million (2,910,040) solar panels with a total installed capacity of 1,674 MW. If it proceeds this would be the largest photovoltaic park on the entire continent. Currently the largest such projects are Villanueva in Coahuila, which measures 2,400 ha, and Puerto Peñasco in Sonora, which is being built by the Federal Electricity Commission on 2,000 ha.



Source: Government of Mexico (September 2024). Helax Istmo Project. Production of hydrogen and green ammonium for large scale industrial use

1.1. DESCRIPTION OF THE HELAX ISTMO PROJECT ELECTRIC ENERGY GENERATION COMPONENT

1. Wind power

- Approximately 25,000 hectares (Santiago Ixtaltepec, Chivela, and Ixtepec)
- Capacity of 855 MW.
- 190 wind turbines.
- Each wind turbine has a capacity of 4.5 MW.

2. Solar power

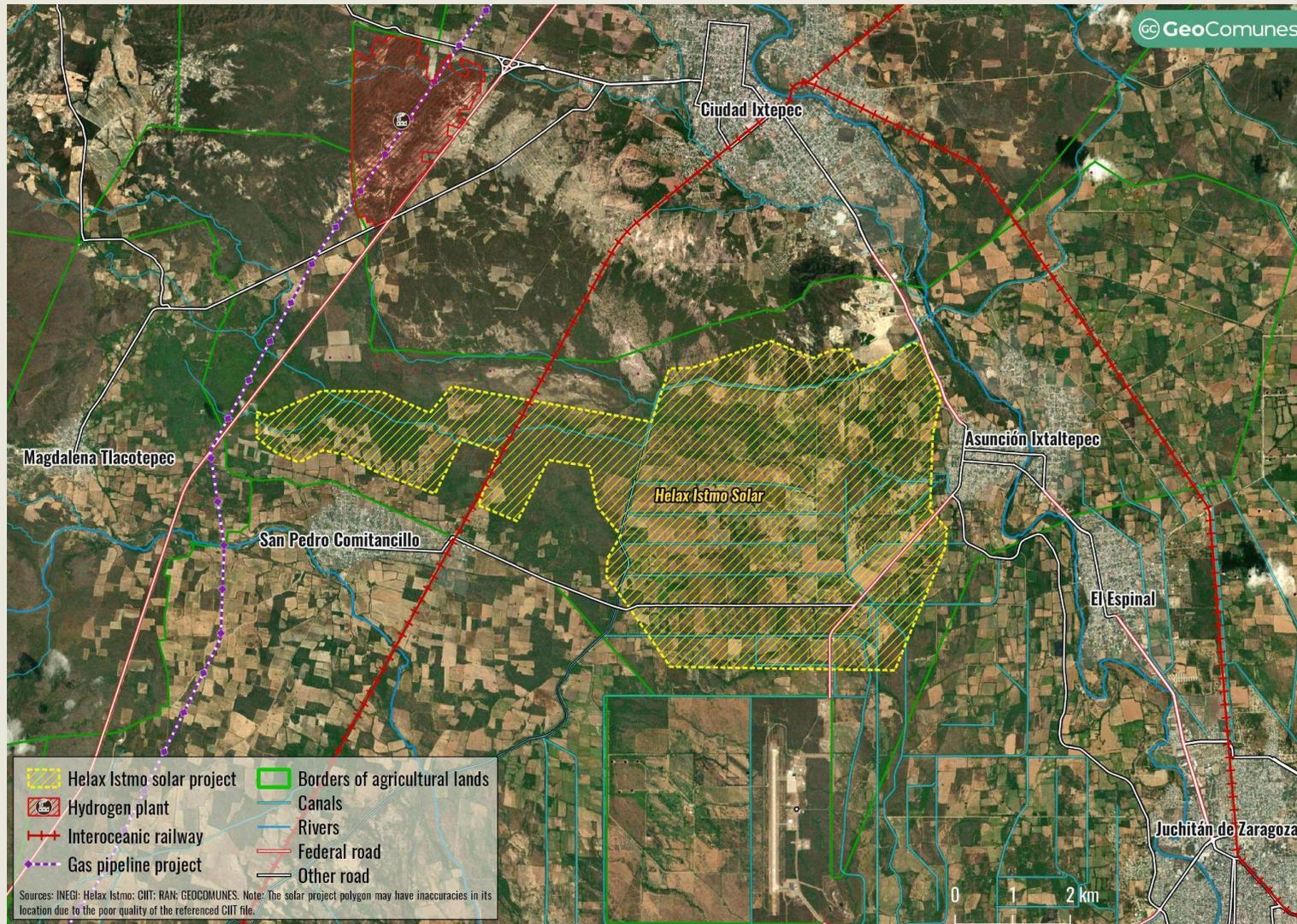
- Approximately 5,000 hectares (Asunción Ixtaltepec)
- Capacity of 1,674 MWac (Panel=690 Wp, Inverter=1,100 KWp)
- It has 2,910,040 solar panels and 1,516 inverters

3. Green hydrogen power

- The electric energy generated by the turbines and solar panels will feed into an electrical plant that has a capacity of 2,000MW]

The low resolution of the map presented in the CIIT document and the absence of geographical coordinates means the project cannot be mapped with precision. However, the following map gives an idea of the serious impacts the installation of this project would entail.

Map of the photovoltaic project and hydrogen plant



Source: prepared internally based on the official CIIT document.

As we know, installing solar panels requires the removal of all vegetation, which entails changing the land, deforestation, and the disappearance of previous land uses. According to the latest version of the project, the solar project is to be built on lands that are mostly agricultural or used for cattle ranching, and the clearing of these areas would also affect areas of low deciduous thorn forest, according to land use and vegetation data documented by National Institute for Statistics and Geography (2018, series VII). The site in question is located less than 500 meters from the urban areas of Asunción Ixtaltepec and San Pedro Comitancillo, a proximity that would also affect these communities due to noise and dust generated during construction, as well as temperature increases during operation, given that studies have shown an increase of 3 to 4 degrees celsius in the vicinity of solar projects after their installation.²

The CIIT's own document acknowledges these impacts during construction (dust, traffic, noise, waste, land use change, and landscape alteration) and operation (noise, waste, and impacts on bird migration routes). However, it omits other environmental damage the implementation of this megaproject would entail in the short, medium, and long term. It should be noted that although this document refers to the impact on the migratory routes of birds, it does not consider the fact that biological diversity in the municipalities involved in this project (Ixtepe, Asunción Ixtaltepec, and San Pedro Comitancillo) exceeds 1,150 species according to the [iNaturalista platform](#) (2024). Of these, at least 51 species across various categories of the Official Mexican 059 Standard, meaning they require special attention for their conservation.

1.1.3. IMPACTO Y RIESGO AMBIENTAL Y MEDIDAS DE MITIGACIÓN.
COMPONENTES INDUSTRIALES Y DE GENERACIÓN ELÉCTRICA.

GOBIERNO DE MÉXICO

Impactos	Medidas de mitigación
<p>Medio ambiente</p> <p>• Fase de construcción:</p> <ul style="list-style-type: none"> - Polvo - Tráfico - Ruido - Residuos - Cambio de uso de suelo - Cambios en paisaje <p>• Fase de operación:</p> <ul style="list-style-type: none"> - Ruido, residuos y sombras - Afectación rutas avifauna - Descarga de la salmuera. 	<p>• Fase de construcción:</p> <ul style="list-style-type: none"> - Implementar sistemas de riego y humectación para reducir la dispersión de polvo - Programa de control vehicular y señalética - Plan de manejo de residuos y emisiones alineado a estándares internacionales. - Descarga de salmuera con ductores para optimizar la dispersión, sin daño al ecosistema. - Protección auditiva (si aplica) a habitantes cercanos a la zona de trabajo - Programa de reforestación y aplicación del Programa de Vigilancia Ambiental. - Generar barreras vegetativas adecuadas alrededor de áreas sensibles para bloquear o minimizar el impacto visual, así como contener el polvo <p>• Fase de operación:</p> <ul style="list-style-type: none"> - Programa de atención de avifauna - Monitoreo constante de niveles de salinidad en el ecosistema marino. - Estudio de sombras en viviendas, producidas por los aerogeneradores para determinar medidas de mitigación: Reubicación, instalación de bloques de sombras).

2024
 Felipe Cervillo
 PUERTO

Source: Government of Mexico (September 2024). Helax Istmo Project. Production of hydrogen and green ammonium for large scale industrial use. .

² Barron-Gafford, G., Minor, R., Allen, N. et al. The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures. Sci Rep 6, 35070 (2016). <https://doi.org/10.1038/srep35070>

1.1.3 ENVIRONMENTAL IMPACTS AND RISK AND MITIGATION MEASURES INDUSTRIAL AND ELECTRIC POWER GENERATION COMPONENTS

Impacts

Environment

• Construction phase:

- Dust
- Traffic
- Noise
- Waste
- Changes in land use
- Landscape changes

• Operational phase:

- Noise, waste, and shade
- Impact on bird routes
- Brine discharge

Mitigation measures

• Construction phase:

- Implement irrigation and humidification systems to reduce dust dispersion
- Vehicle control and signage program
- Waste and emissions management plan aligned with international standards
- Discharge of brine to optimize dispersion without harming the ecosystem
- Hearing protection (if applicable) for residents near the work area
- Reforestation program and implementation of the Environmental Monitoring Program
- Creation of adequate vegetative barriers around sensitive areas to block or minimize visual impact and contain dust

• Operational phase:

- Bird care program
- Constant monitoring of salinity levels in the marine ecosystem
- Study of shade on homes caused by wind turbines to determine mitigation measures: relocation, installation of shade blocks]

Even when looking exclusively at the solar component of the green hydrogen production project, we must also analyze the impact that a project of this magnitude could have on water sources, since the project will likely have an impact on several irrigation channels in the project area. It is also necessary to analyze the impact soil removal and loss of forest cover could have, as well as the impact of reducing groundwater recharge, which will affect wells in nearby communities. In a context in which droughts have become increasingly severe and problematic in daily life and for the maintenance of traditional activities, this is a serious issue. For this reason, regional studies on water systems and soil conditions and impacts are necessary, since general surveys have highlighted discrepancies with the information reported. These surveys found most of the soil in the community of San Pedro Comitancillo is sandy in texture, which, in previous studies, has been shown to have a greater capacity for water filtration and the recharging of shallow aquifers.³

The occupation of large sections of agricultural land for projects of this type implies significant impacts on the autonomy of rural communities and peoples over the medium to long term. This is a result of the restriction of access to land that this type of project implies, as well as removal of collective land through 20 or 30-year lease agreements. This directly affects food sovereignty in the region, due to the loss of land used for agriculture and livestock rearing. In addition, it has an impact on the identity of Binnizá and peasant communities, and poses the risk of social breakdown and increased violence, as well as the loss of traditional and communal productive activities. As we will outline below, the impacts of this megaproject are not limited to those triggered by wind and solar projects but also include a range of other projects that could further impact the towns in the region.

³ Lozano-Trejo, S., Olazo-Aquino, J., Pérez-León, M. I., Castañeda-Hidalgo, E., Díaz-Zorrilla, G. O., & Santiago-Martínez, G. M. (2020). Infiltración y escurrimiento de agua en suelos de una cuenca en el sur de México. *Terra Latinoamericana*, 38(1), 57-66. https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0187-57792020000100057

Water megaprojects and their impact on water sources

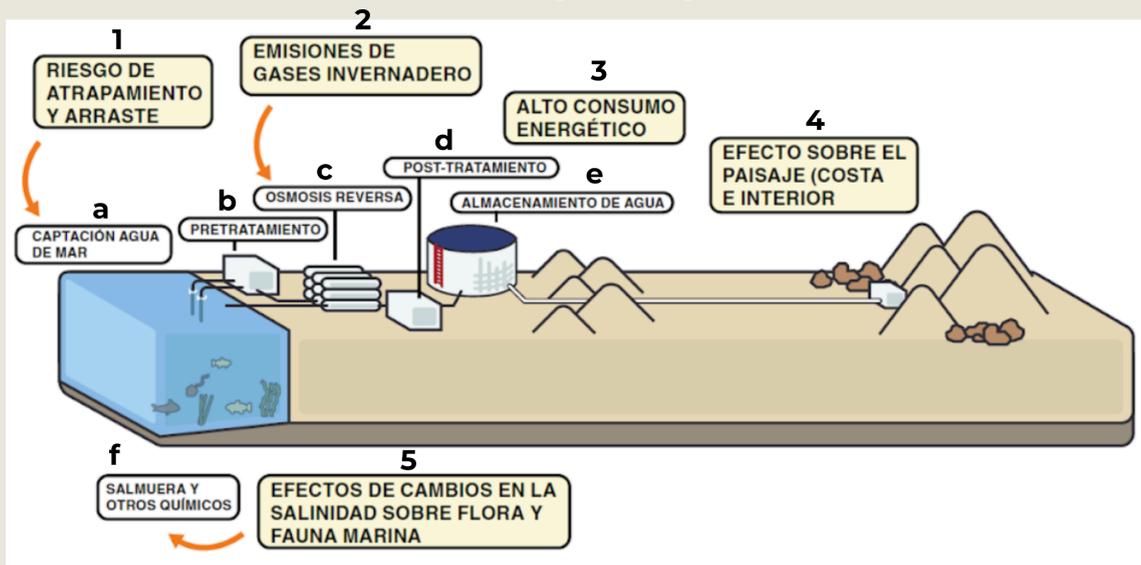
As mentioned earlier, in addition to electricity, the electrolysis process for large-scale hydrogen production also requires large amounts of water. For this reason, almost all hydrogen projects promoted in Latin America include desalination plants, which, in principle, would only use water from the sea. Companies present desalination plants as a “solution” to avoid dependence on local sources of freshwater and thus not affect water sources meant for domestic and/or agricultural use. Helax plans to build a desalination plant near the port of Salina Cruz with a desalination capacity of 2,400 tons of seawater per day, as well as building a 50km pipeline to carry desalinated water to the hydrogen plant in Ixtepec.

The process of water desalination generates a series of impacts. The extraction of water from the sea can cause the displacement and death of marine life. Reverse osmosis desalination is energy-intensive, requiring on average between 5 and 9kWh of electricity per cubic meter of water processed.⁴ The document presenting the project does not specify whether electricity will come directly from the company's wind and photovoltaic projects mentioned above (which represent a challenge for the continuous operation of the desalination plant due to the intermittent nature of these energy sources) or from the national grid. The most important environmental impact is linked to the final part of the process, when wastewater, which is called brine, is returned to the sea carrying a higher concentration of salt as well as chemicals used during desalination, including detergents, coagulants (ferric chloride), anti-scaling agents (polyacrylates), anti-corrosives (sodium bisulfite), and biocides (sodium hypochlorite).⁵ The reintroduction of brine, which has a high concentration of salt and chemicals, into the ocean can be toxic to marine species, affecting ecosystems and indirectly affecting traditional fishing. Although these impacts may vary from one plant to another and be partly contained depending on the technology used, there is currently almost no specific and detailed information on how the projected plant at Salina Cruz will manage brine. This desalination plant project, coupled with the possible construction of an adjacent natural gas liquefaction plant, could exacerbate impacts on the marine ecosystem and fishing activity in the region, which is already at risk from multiple spills from the PEMEX refinery and more recently from the construction of a breakwater related to the port expansion.

⁴ According to data from Do Thi et al.(2021). Comparison of Desalination Technologies Using Renewable Energy Sources with Life Cycle, PESTLE, and Multi-Criteria Decision Analyses. Water 2021, 13, 3023. <https://doi.org/10.3390/w13213023>

⁵ César Guerrero y Antonieta Valenzuela. Terra Peninsular. Plantas desalinizadoras y sus impactos potenciales en el medio ambiente. <https://terrapeninsular.org/plantas-desalinizadoras-y-su-impacto-potencial-en-el-ambiente/> FIMA. Anexo II: revisión bibliográfica de los principales impactos de la desalación. https://www.fima.cl/wp-content/uploads/2023/05/anexo-2_-_impactos_socio_ambientales.pdf.

Outline of the main effects of desalination plants on the environment, for each step of the process



Source: L. Saavedra Löwenberger et. al. (2023). Análisis de los efectos ecosistémicos del uso de agua de mar y la desalinización para el abastecimiento hídrico de la minería: el caso de Chile. Documentos (LC/TS.2023/97). Economic Commission for Latin America and the Caribbean (CEPAL). <https://www.cepal.org/es/publicaciones/68019-analisis-efectos-ecosistemicos-uso-aqua-mar-la-desalinizacion-abastecimiento>

In yellow:

1. RISK OF ENTRAPMENT AND DRAGGING
2. GREENHOUSE GAS EMISSIONS
3. HIGH ENERGY CONSUMPTION
4. EFFECT ON THE LANDSCAPE (COAST AND INLAND)
5. EFFECTS OF CHANGES IN SALINITY ON MARINE FLORA AND FAUNA

In White:

- a. SEAWATER COLLECTION
- b. PRE-TREATMENT
- c. REVERSE OSMOSIS
- d. POST-TREATMENT
- e. WATER STORAGE
- f. BRINE AND OTHER CHEMICALS

At the presidential press conference on July 18, 2024 when the project was presented, it was mentioned that, in addition to the desalination plant, Helax will use groundwater to supply the hydrogen plant.⁶

Although authorities were quick to provide “assurances” that “this will not affect communities,” no further details were provided about the possible location of wells or the amount of water they plan to extract from the Tehuantepec aquifer, leaving the threat to the water sources near the plant's location unaddressed. To date, no further information has been provided on the amount of water to be used for hydrogen production, making claims that there will be no impact on local water sources implausible.

⁶ Presidential conference on July 18, 2024. <https://www.youtube.com/watch?v=eEx-Rr3NP1Q>

Hydrogen and ammonia production plants

The document obtained from CIIT does not specify the amount of hydrogen Helax plans on producing at the Ixtepec plant. Like most other hydrogen projects in Latin America, hydrogen will not be the final product to be sold, but rather an input that will enable the company to produce another commodity that is easier to transport and consume: ammonia.

Ammonia is produced through the *Haber Bosch* process, which involves mixing the hydrogen that is produced with nitrogen that is present in the air. To this end, Helax's project in the Isthmus of Tehuantepec proposes to install an ammonia plant on communal lands northwest of the port of Salina Cruz, between the communities of Palo Grande and Rincón Moreno.

This will require the construction and operation of a water pipeline from Salina Cruz to Ixtepec, which will carry the desalinated water to the hydrogen plant. Once there, and after electrolysis has been carried out, another pipeline will transport the hydrogen to the ammonia production plant in Salina Cruz, where it will then be fed into a third pipeline that will transport it to the Salina Cruz port for export to other regions of the world. These water, hydrogen, and ammonia pipelines will be built alongside the towns of Palo Grande, Rincón Moreno, Santa María Mixtequilla, San Pedro Comitancillo, and Magdalena Tlacotepec.

The CIIT document does not mention the capacity of the hydrogen plant or its estimated hydrogen production, but it does mention that the aim is to produce one million tons of green ammonia per year, or 3,300 tons daily, using the hydrogen produced by Helax and nitrogen in the air.

By comparing data from other green hydrogen projects proposed in Latin America, we estimate the amount of hydrogen needed to produce this amount of green ammonia annually would be between 180,000 and 200,000 tons. Based on this, according to the "[Hydrogen production calculator](#)" tool developed by Clean Air Task Force, we calculate the production of 180,000 tons of green hydrogen per year requires an installed electrical capacity of 2,720 MW (similar to the capacity planned by Helax, a total of 2,529 MW with 855 MW from wind sources and 1,674 MW from solar). According to the same calculator, producing this volume of hydrogen would require around 221 m³/hour of water, which is around one million cubic meters per year (1.91 hm³ per year).

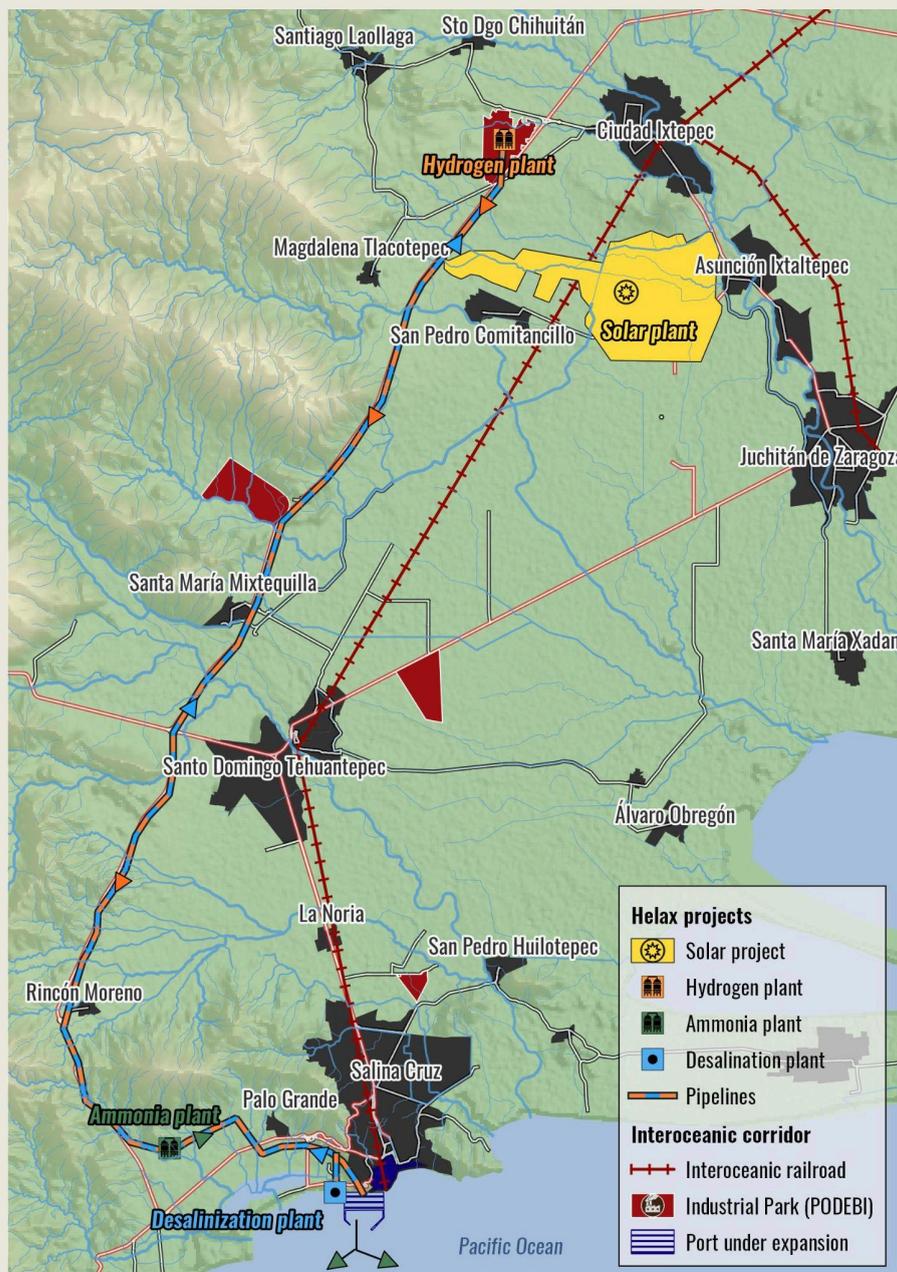
Producing and transporting industrial quantities of hydrogen and ammonia poses a risk to the environment and communities near production plants and pipelines. Compared to gasoline or methane, hydrogen has a higher potential risk of causing a fire or explosion due to its broad flammability range (4 to 75 per cent)⁷. In addition, hydrogen is colorless, odorless, and tasteless under normal

⁷ Crowl & Jo (2007). The hazards and risks of hydrogen.
<https://www.sciencedirect.com/science/article/pii/S0950423007000046>

conditions, its combustion flames are almost imperceptible to the human eye and it emits little heat, which makes it extremely difficult to detect hydrogen leaks and fires without proper equipment.

Ammonia is a highly poisonous, corrosive, and toxic gas.⁸ In addition to being flammable and susceptible to forming an explosive mixture with air or gas in the event of leaks, it can generate toxic clouds. The Isthmus is a high-risk seismic zone, which means it is important to assess the risk that the concentration of hydrogen and ammonia pipelines and storage tanks pose to the local residents.

Map of water, hydrogen, and ammonia flows in the project



Source: prepared internally based on the official CIIT document.

⁸ Profepa (2020). Atención a Emergencias Químicas con presencia de Amoníaco. <https://www.gob.mx/profepa/articulos/96898>

The approval of a project without official documents

As noted above, the Helax project, which is proposed in the south of the Isthmus of Tehuantepec, is an example of how the socio-environmental implications and damage caused by industrial projects promoted in the region go beyond the so-called “Development Poles” (PODEBIS). This project is an example of the lack of information, and the way in which the state promotes privately owned projects before they have obtained the required environmental and social permits. As mentioned above, beyond what its proponents are telling affected communities, or what the government says in its presentations, there is no official public documentation for the Helax Project that make the details of the project publicly available, and which would enable residents to analyze and evaluate the possible impacts of the project, let alone the cumulative impacts at the regional level.

Helax Istmo has submitted a Social Impact Assessment (EVIS, by its Spanish acronym) to the Ministry of Energy (SENER), which is still under review. This means SENER can classify the information as confidential for a period of two years (see request for information, file number 330026124000211). The schedule presented in the CIIT document mentions that the presentation and evaluation of the regional Environmental Impact Statement will be carried out in the second half of 2025 and the first half of 2026.

Despite the lack of permits, the project schedule suggests proponents intend to begin consultation processes in affected communities during the first half of 2025. Based on what documentation will residents be “informed”? Or should people simply “believe” what Helax representatives tell them, despite the fact that the company has changed its statements several times? With so much federal government support, does the institution responsible for validating the project's environmental and social studies have the autonomy to deny its approval?



Source: Government of Mexico (September 2024). Helax Istmo Project. Production of green hydrogen and ammonia for large-scale industrial use.

1.1.1 CONSTRUCTION AND OPERATIONAL TIMELINE

TIMELINE INDICATIVE - PROVISIONAL

The project includes a construction phase of approximately three years, during which all permits must be obtained from all levels of government, notably approval of the EVIS and the MIA.

Operations are expected to begin in 2030, with a total project duration of 30 years.

The push to begin consultation processes without official public studies (including the EVIS and the MIA) and documentation reveals the information bias in these processes. It also demonstrates how these processes are carried out not with the intention to inform and discuss these megaprojects with society, but rather as bureaucratic formalities designed to provide increased security to investors rather than meaningful security for communities.

The timeline also mentions a “land formalization” process, to be carried out in the second half of 2025, and a contract registration process, to be carried out in the first half of 2026.

It is striking that the same document includes a list of permits required for electricity generation and industrial projects, but only mentions permits issued by federal, state, and municipal governments. All permits to be granted by the owners of the land—in this case, the collective landowners associations (*ejidos*) and agrarian communities and Indigenous communities—are omitted.

1.1.4. PERMISOS DEL PROYECTO Y SU SECUENCIA. COMPONENTE DE GENERACIÓN ELÉCTRICA.	
Permisos Federales	<ul style="list-style-type: none"> • Acta de acuerdos consulta indígena • Autorización de Evaluación de Impacto Social • Autorización de Impacto Ambiental con estudio de riesgo ambiental, modalidad regional • Cambio de uso de suelo en terrenos forestales • Registro como Generador de Residuos Peligrosos • Registro de planes de manejo para residuos peligrosos y de manejo especial • Permiso de obra en zona de protección de los canales del distrito de riego • Convenio de construcción en zona federal de distritos de riego • Permiso de generación de energía en la modalidad de abasto aislado. • Autorización de balizamiento y pintura • Autorización de elementos reflejantes • Visto bueno de obra en materia de vestigios arqueológicos e históricos
Permisos Estatales	<ul style="list-style-type: none"> • Autorización de Impacto Ambiental Estatal (caminos internos)
Permisos Municipales	<ul style="list-style-type: none"> • Licencia de uso de suelo • Licencia de construcción • Programa Interno de Protección Civil • Licencia de operación

Source: Government of Mexico (September 2024). Helax Istmo Project. Production of hydrogen and green ammonium for large scale industrial use.

1.1.4 PROJECT PERMITS AND THEIR SEQUENCE

ELECTRIC POWER GENERATION COMPONENT

The project includes a construction phase of approximately three years, during which all permits must be obtained from all levels of government, notably approval of the EVIS and the MIA.

Operations are expected to begin in 2030, with a total project duration of 30 years.

<p>Federal permits</p>	<ul style="list-style-type: none"> ● Minutes of agreements from the indigenous consultation ● Authorization of Social Impact Assessment ● Authorization of Environmental Impact Assessment with environmental risk study, regional modality ● Change of land use in forest areas ● Registration as a Hazardous Waste Generator ● Registration of management plans for hazardous and special waste ● Construction permit in the protection zone of the irrigation district canals ● Construction agreement in the federal zone of irrigation districts ● Permit for energy generation in the form of isolated supply ● Authorization for signage and painting ● Authorization for reflective elements
<p>State permits</p>	<ul style="list-style-type: none"> ● State environmental impact authorization (internal roads)
<p>Municipal permits</p>	<ul style="list-style-type: none"> ● Land use permit ● Building permit ● Internal Civil Protection Programs ● Operating permit

What this document leaves out are the permits that must also be granted by landowners in any project, which in this case would come through the ejido and communal assemblies, should they agree to lease or sell their land.

The omission of one of the most important collective rights of agrarian communities in Mexico undermines the good intentions mentioned in the document, which reads: *“We will do our best to ensure that this is carried out in compliance with all applicable regulations for the granting of the necessary permits, respecting national and international technical standards on safety and the environment, as well as the rights of indigenous communities at all times.”*

Final notes

The case of Helax Istmo's proposed hydrogen production plant in the Podebi industrial park in Ixtepec demonstrates how industrial park sites are only the tip of the spear in a much broader and deeper project of territorial transformation.

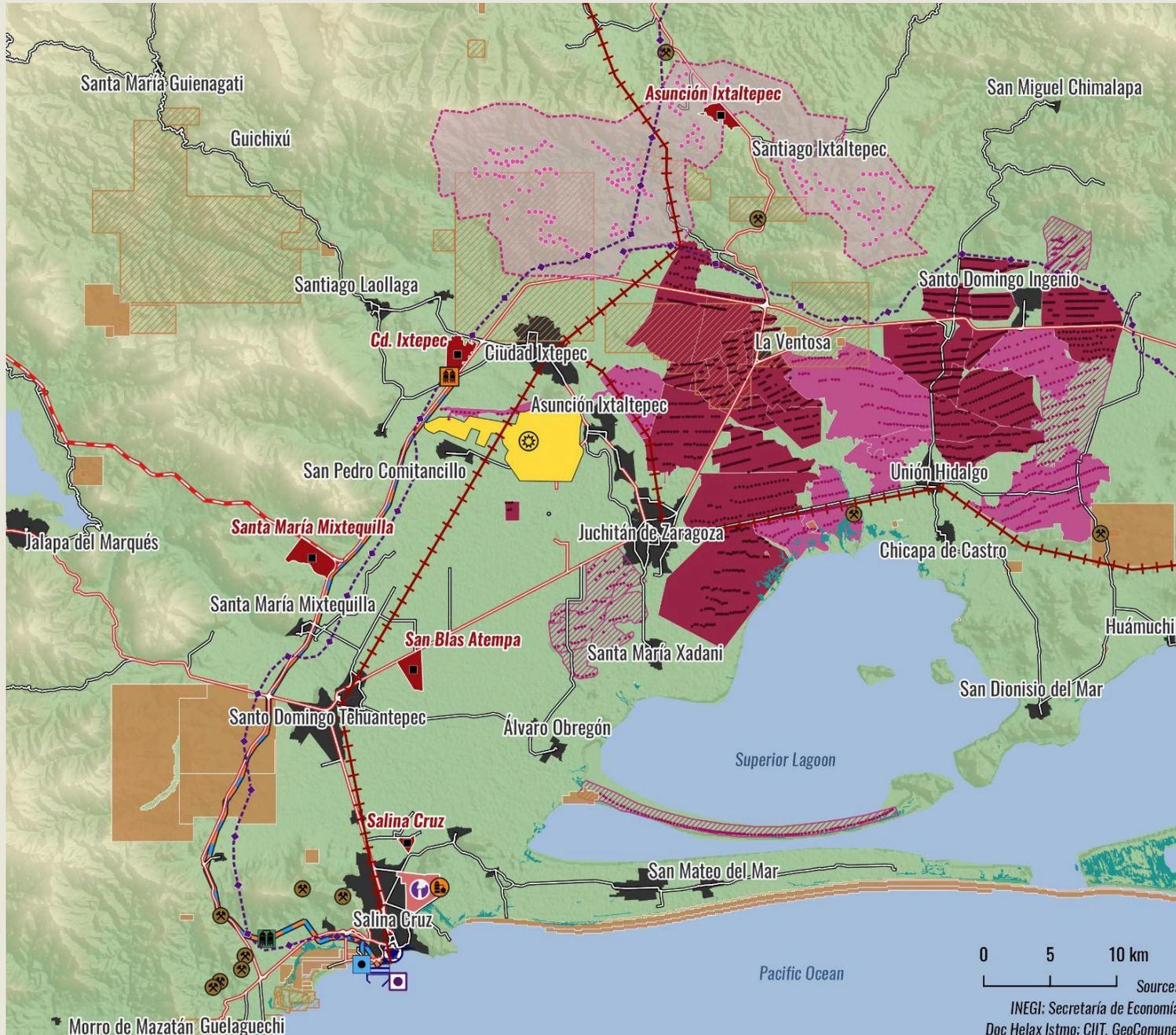
Each industrial park involves a series of megaprojects at the regional level to supply the energy and materials needed for industrial production. These associated megaprojects will affect a larger part of the territory than the industrial parks alone. They will also impact common goods (like water, resources, or land), which will be used to supply corporate consumption needs, as well as through the misinformation, deception, and social divisions associated with the promotion of this type of project. The fact that these megaprojects will be implemented by companies within the Interoceanic Corridor's industrial parks—which are a priority of the current government—makes the mechanisms of imposition and repression by government authorities and the armed forces (which are overseeing the project) all the more powerful.

It should be noted that energy projects related to the Interoceanic Corridor are not limited to hydrogen and ammonia production. Various other projects have also been announced in the context of the corridor, including the Puerta al Sureste and Jáltipan-Salina Cruz gas pipelines, and liquefied natural gas (LNG) terminals in Coatzacoalcos and Salina Cruz, which aim to export methane gas to other regions of the world. There are also plans to build a coking plant inside the refinery in Salina Cruz. For more information, see the study [“Reestructuración energética en México: Subordinación territorial en el Noroeste y Sureste de México”](#) (in Spanish).

Together, these projects show how the Interoceanic Corridor is creating a new wave of energy colonialism in the region. The investment in wind corridors over recent decades have been followed by new projects for yet more wind farms, a solar project, and pipelines to carry liquefied natural gas, hydrogen, and ammonia.

All of these projects follow a similar logic: the government creates conditions to favor private capital investment in megaprojects that exploit and plunder common goods to produce (energy and industrial) commodities that will then be exported to other regions.

THE INTEROCEANIC CORRIDOR HAS BROUGHT A NEW WAVE OF ENERGY COLONIALISM TO THE ISTHMUS OF TEHUANTEPEC



Interoceanic corridor

- Interoceanic train
- Industrial park (Podebi)
- Port expansion (breakwaters)

Existing energy projects

- PEMEX refinery
- Operating wind farm
- Projected wind farm
- Canceled wind farm
- Wind turbine

New energy projects

- Projected gas pipelines
- Liquefied natural gas terminal
- Coking plant refinery

Helax Istmo projects

- Wind farm projects
- Photovoltaic project
- Hydrogen plant
- Ammonia plant
- Desalination plant
- Pipelines (water, hydrogen)

Mining concessions

- Active concession (2023)
- Canceled concession (2022)

Roads

- Federal
- Other road
- New highway