Ejido Solar, Mexico

Scored by name(s): Carlos A. Navarrete Ulloa, University of Guadalajara (alberto.navarrete@academicos.udg.mx), Marco Berger García, University of Guadalajara (marco.berger@cutlajomulco.udg.mx), Daniel Robles Torres and Alvaro Guevara Castillo (alvaro.guevara@alumnos.udg.mx)
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Is the project a case of...:

☐ State-initiated co-creation

☒ Entrepreneur-driven co-creation

☐ Grassroots-based co-creation*

**For an elaboration of the typology, please consult the GOGREEN theoretical framework p. 25.*

Integrated case analysis

Before proceeding to the scoring of the GFs, please provide a *3*-5 *page case analysis* in which you describe the background, history, and national, regional, and local contexts of the case, the problems and goals addressed by the local collaboration, the participating actors and their relationships, the unfolding of the co-creation process, the most important governance factors (this may include factors other than those in focus in this project), and the generated outputs and outcomes. The conclusion may specify a few lessons learned from the case study.

1) Background, history, and national, regional, and local contexts of the case

Ejido Solar: This is an initiative backed by Mexico's Climate Initiative that seeks to implement community photovoltaic distributed generation schemes. The British Embassy in Mexico supports the project through the Partnerships for Accelerated Climate Transitions (UK PACT) program.

To understand the background of the 'Ejido Solar' initiative, it is crucial to consider the concept of the Ejido in Mexico. 'Ejidos' are communal lands, mainly in rural areas, intended for agriculture and livestock activities. Originated during the Mexican Revolution (1910-1917), the Agrarian Law of 1992 regulates these territories, recognizing the legal personality of the ejido and its agrarian rights.

In an ejido, the key bodies are the **Assembly of Ejidatarios**, the **Ejidal Commissariat** and the **Oversight Council**. The assembly makes binding decisions, the commissariat executes agreements, and the council supervises the commissariat.

Ejido lands are classified into **human settlements,** common use lands **and** parceled **lands,** each with specific titles. Only plots are fully owned by ejidatarios, while lands for human settlements and those for common use are restricted.

The common provisions allow for association contracts with the approval of the assembly and agreements of ejidatarios, with a maximum duration of 30 years and the possibility of extension. The usufruct of land for

productive projects may be granted as a guarantee, and the constitution of guarantee funds for credit obligations is contemplated.

The legal framework seeks to balance the individual and collective rights of ejidatarios, promoting a sustainable use of lands and resources. Current Mexican laws regulate this property regime, establishing its legality and recognizing ejidos as population centers with their own legal personality.

In an 'Ejido', land is distributed in parcels for the inhabitants (ejidatarios or comuneros), who maintain communal ownership of the land. The Assembly, the highest body of authority, includes inhabitants of the 'Ejido', although not all of them have a voice and vote, such as families and neighbors with cultural and economic ties.

In areas of common land without specific usufruct, there are ideal opportunities for community project. In this context, the installation of solar panels for photovoltaic production stands out as an attractive option. These panels can benefit both the daily activities of families and productive work in the fields, such as livestock or the collection and preservation of food. In addition, it offers the possibility of being integrated as suppliers into the energy network established by the Federal Electricity Commission (CFE).

The national legislative framework on sustainability and climate change has proved significant, providing a formal platform for action by civil society actors and non-governmental organizations. A prominent example is Mexico's Climate Initiative, which has taken advantage of this basis to develop projects such as "Ejido Solar."

The federal laws in Mexico that make up this regulatory framework are the Electricity Industry Law (LIE), the Energy Transition Law (LTE), and the General Climate Change Law (LGCC).

The Electricity Industry Law (LIE) regulates the planning and control of the National Electricity System, as well as the activities of the electricity industry. The industry is subject to additional regulations, such as the LIE Regulation and the Electricity Market Bases, issued by the Energy Regulatory Commission (CRE).

The main players include Market Participants, such as Generators, Marketers, and Qualified Users, who play key roles in the Wholesale Electricity Market. Basic Users pay a Basic Supplier, while Qualified Users can purchase energy directly, through intermediaries or the MEM. CENACE rules on payments in the MEM. Distributed generation, regulated by the LIE, refers to generation interconnected to a distribution circuit. The role of the Supplier and the contract necessary for the interconnection are highlighted.

Main subjects of the project regulated in the LIE:

a) **Ministry of Energy (SENER):** Defines the national energy policy.
b) **Energy Regulatory Commission (CRE):** Regulates the industry, grants permit, and issues tariffs and contract models.
c) **National Energy Control Center (CENACE):** Technical and economic operator of the Wholesale Electricity Market.
d) **Federal Electricity Commission (CFE):** A production company in charge of various activities, including transmission and distribution.
e) **MEM participants:** People who enter into contracts with CENACE in different modalities.
f) Generator, Exempt Generator, Marketer, Supplier, Qualified Service Provider, Basic Service Supplier, End User, Basic Supply User, Qualified User, Qualified User Market Participant: Specific roles in the electricity industry with defined functions and characteristics.

The Ejido Solar Project proposes a scheme where the ejido community owns and sells energy to a Qualified Service Provider, creating synergy with a Qualified User, possibly a subnational government.

In terms of regulation, power plants with a capacity greater than or equal to 0.5 MW require permission from the CRE. The Ejido Solar Project, being a Distributed Generation project, does not need this permit, but the Supplier and Qualified User must comply with regulatory requirements. ICM, in collaboration with the UK PACT program, assumed the roles of entrepreneurs and promoters to carry out the first phase of the initiative, which we call the Design Phase. During this stage, two pilots were carried out in Guanajuato and Jalisco, allowing ICM to publicly present the initiative as a project with the potential for implementation in several Mexican states, adapting to local contexts, such as ejidos and municipalities.

The Design Phase involved research and analysis in legal, financial, engineering, gender equity and social inclusion areas. This culminated in the publication of a Replicability Handbook (Playbook), a guide for the implementation of the model in other interested states. This handbook presents technical, legal, and financial aspects, as well as methodologies to identify participants and co-benefits through a governance model, focusing on benefits for ejido populations in conditions of inequality, marginalization, and poverty.

It is important to note that the development of regulatory frameworks and energy and ejido policies has experienced significant variations between periods of change in the federal government, generating uncertainty. These changes affect the development of projects and the participation of various economic stakeholders. At the ejido and municipal level, ICM identifies that conditions of backwardness and poverty persist, as well as local customs that could be at odds with the governance and co-benefits models proposed by 'Ejido Solar'.

Sources:

Mexico AC Climate Initiative (ICM). (2022). *Ejido Solar. Replicability Handbook. Project: Ejido Solar Iniciativa Climático de México, A.C.* UC-Mexico Pact, ICM. https://www.iniciativaclimatica.org/wp-content/uploads/2023/04/PlaybookEjidoSolar_Final_ConAnexos.pdf

ICM, webpage – https://www.iniciativaclimatica.org/

ICM, about 'Ejido Solar' - https://www.iniciativaclimatica.org/ejidosolar/

UK PACT, about 'Ejido Solar' - https://www.ukpact.co.uk/incitiativa-climatica-de-mexico-mexico-project-landing-page

2) The aims of the project and the sustainability problems that it seeks to address

The Ejido Solar Initiative reports on its objective to promote the sustainable economic development of ejido communities, encouraging photovoltaic distributed generation and the use of renewable energies, emphasizing inclusion and gender equity.

It is identified in interviews and documentation consulted that in the design and management of the initiative take shape the following objectives of greater specificity:

a) Encourage community participation: Promote the ownership and participation of ejidos and agrarian communities in distributed generation solar photovoltaic projects, allowing them to be owners, operators, and economic beneficiaries of such projects.

b) Strengthen local governance: Develop economic development schemes that include effective governance, sustainable management of common resources and regulatory strengthening, allowing communities to play an active role in decision-making and project management.
c) Extend the initiative to marginalized communities: Adapt and expand the Ejido Solar model to new regions, in marginalized or endangered communities, as part of a distributed solar energy social program, to provide social benefits and address local issues.
d) Promote an inclusive, low-carbon model that considers the needs and contexts of communities.
e) Establish effective mechanisms for *ejidatarios* participation in the generation of economic income and equity in its distribution.
f) Implement a Community Council that allows equitable representation and makes decisions on the investment of surpluses generated by photovoltaic plants in productive community projects.

The Replicability Handbook, developed by the Mexico Climate Initiative (ICM) in collaboration with the UK PACT program, aligns with the goals set by the Energy Transition Law (LTE) and the General Climate Change Law (LGCC). These laws establish that Mexico must reach 35% renewable energy generation by 2024:

> *Distributed generation projects, such as those proposed by the Ejido Solar Initiative, could contribute to achieving the energy transition goals committed by Mexico (Iniciativa Climática de México AC (ICM), 2022, p. 12).*

The handbook states that the proposed model seeks to promote initiatives for economic development, investment, strengthening governance, shared resource management and regulatory improvement:

> *With it, ejidos and agrarian communities will be able to own distributed generation solar photovoltaic projects, participate in their operation and maintenance, and share revenues from the sale of energy through, or in collaboration with, a company dedicated to the commercialization, distribution or supply of electricity, and local authorities (ICM, 2022, p.11)*

The design of the initiative seeks to establish linkages between climate change and socio-economic development through an inclusive and low-carbon economy, involving various organizations from different sectors. The design objectives include the participation of *ejidatarios* in economic income and equity in its distribution, anticipating that the benefits of distributed community production will drive the development other productive community projects. In this context, the model suggests the implementation of a Community Council that, through mechanisms of equitable representation, determines how to invest the surpluses generated by photovoltaic plants in community productive projects.

3) The participants and their interaction and communication in and between meetings

Participants in Ejido Solar include:

ICM (Mexico Climate Initiative):

ICM is a non-profit Civil Association with official registration as of January 18, 2016, whose Corporate Purpose is the promotion of environmental, ecological and sustainable development causes. Among its main objectives are: to promote the prevention of pollution and the protection of the environment; to carry out public works or services through agreements with authorities and; to promote laws related to its corporate purpose.

ICM's mission is to catalyze international climate policy at the national and city levels, reducing greenhouse gas emissions and promoting low-carbon growth in Mexico (ICM, http://www.iniciativaclimatica.org/mision_vision_icm/).
ICM also serves as a platform to contract and bring together products from agencies specialized in various key areas for the legal and socio-territorial diagnosis and the design of financial and intervention strategies.

British Embassy in Mexico, UK Pact Programme – Partnering for Accelerated Climate Transitions:
This program, part of the ICF (International Climate Finance) portfolio in the United Kingdom, finances and collaborates with the BWI in the design and management of Ejido Solar with governments and public entities.
Ministry of Economy, Government of the State of Sonora:
Local government institution involved in the promotion of projects.
Municipal Energy and Climate Change Agency of Hermosillo (AMECC), Sonora:
Municipal organization committed to sustainable development in Hermosillo.
Commission of Ecology and Sustainable Development of the State of Sonora (CEDES), Sonora:
State institution in charge of promoting ecological practices and sustainable development in Sonora.
Sound Energy Cluster A.C.:
Energy sector organization in Sonora that participates in Ejido Solar.

In terms of communication and interaction, the model proposes a strategy for approaching ejido communities, prioritizing communication and dialogue with a gender and inclusion perspective. The importance of adhering to this strategy to ensure the success and sustainability of the project is highlighted, with a focus on social inclusion, gender, and co-benefits.

The initiative incorporates a governance model that connects civil society organizations, government levels, the private and financial sector to develop and manage 'Ejido Solar'. It is emphasized that this model is fundamental for the proper development and maintenance of positive relationships among stakeholders. In its design, the importance of clarifying rights, obligations, income, expenses, and co-benefits distribution is recognized.

It warns about the complexity of the implementation process, which involves multiple stakeholders, legal figures, regulatory frameworks, and local customs. For the success of 'Ejido Solar', the need to establish decentralized communication channels and participation mechanisms is emphasized, especially with governmental, financial, and private actors towards the ejido community.

Despite the challenges, the design phase and pilots carried out in the federated states of Guanajuato and Jalisco served as a prototype for the co-creation of governance instruments through projects that seek to revitalize unproductive soils through green initiatives, driven by both top-down and bottom-up approaches. However, a significant challenge has been identified related to the discrepancy between the internal governance mechanisms of the ejidos and those proposed by the ICM in the Replicability Handbook.

The co-creation process:
Daniel Chacón was an activist and consultant with high recognition and leadership. He conceived the idea of utilizing unproductive land within ejidos, aiming to target two objectives simultaneously: solar energy production for self-consumption and surplus sales, and the development of economic opportunities in

communities with high levels of marginalization and poverty. Through the ICM partnership, he presented the proposal to a director in charge of the UK-PACT cooperation program of the British Embassy in Mexico. The idea materialized as "Ejido Solar: a renewable energy project to promote social prosperity in rural communities and mitigate climate change." With funds from UK-PACT, ICM developed the Replicability Manual, through specialized consultancy work and socioeconomic diagnostics in the states of Jalisco and Guanajuato where its implementation was intended. Therefore, in the design stage, they engaged in a process of bilateral and multilateral meetings in various spaces and scales. It is important to note that since 2015, Jalisco and Guanajuato, among other states, have been two of the most active subnational governments in Mexico in regard to the climate action agenda.

At the local level, environmental and economic development agencies of the State Government and ICM members participate. They hold weekly virtual sessions to coordinate the fieldwork strategy, negotiations with stakeholders, and identification of potential allies and community leaders. In summary, they discuss complex issues related to implementation and operation from the Guanajuato government perspective; in Jalisco, there is no data available to speak of a process like the one developed in Guanajuato. They also agree on the activities to be carried out with municipal authorities and representatives of the identified ejidos for the development of diagnosis and pilot studies. Based on the experience of Guanajuato, an approach was made between authorities of the State Government of Sonora and ICM promoters. In this case, Sonora had designed a strategy like ICM's project, so it became a strategic ally for the implementation of its pilot project in the ejido called Huachinera. Therefore, in collaboration, they conceptualized and promoted the idea of Ejido Solar.

For this purpose, meetings were held between both entities regularly, mostly virtual, with some involving visits from ICM members. In these meetings, experiences and knowledge of the parties were shared, aimed at conducting the pilot test. ICM's central contribution is advisory based on the knowledge developed in the Playbook's elaboration; it also involves a social actor specialized in environmental issues, and municipalities to engage in dialogues with communities and ejido members. While the Sonora government organized an interinstitutional table with federal authorities, the following parties were mentioned in interviews:

a) Delegate of SEMARNAT (federal environmental agency).
b) Delegate of INAH (federal institution of anthropology and history).
c) Personnel from different areas of CFE (federal agency responsible for the electric industry).
d) Director of Municipal Development of the state.
e) Agrarian Prosecutor of the state government.
f) RAN (National Agrarian Registry).

These are coordination meetings on authorization and regulation issues, as well as the search for collaboration opportunities for project implementation.

The most relevant institutional actors in the Sonora case are:

a) ICM (Mexican Climate Initiative).
b) British Embassy in Mexico, UK Pact Program - Collaborating for Accelerated Climate Transitions.
c) Ministry of Economy, Government of the State of Sonora.
d) Municipal Agency for Energy and Climate Change of Hermosillo (AMECC), Sonora.

e) Commission of Ecology and Sustainable Development of the State of Sonora (CEDES), Sonora.
f) Sound Energy Cluster Civil Association.
g) Municipal governments.
h) Heads of ejido assemblies.

Interviews identified the following issues addressed in multiple spaces (multiple tables, at multiple scales):

a) Development of an inclusive governance model that connects various civil society organizations, government levels, private sector, and financial sector.
b) Establishment of decentralized communication towards the ejidal community.
c) Development of alternative mechanisms to involve other residents, such as neighbors and those without rights, in decision-making processes.
d) Promotion of a fair and responsible energy transition, fostering inclusive models in renewable energy projects.
e) Maximization of benefits through social land ownership and continuous participation of the population in all project phases.
f) Emphasis on the inclusion of historically excluded sectors, such as women, youth, and those without land titles.
g) Generation of solidarity and reciprocity relationships in ejidos, fostering autonomy, empowerment, and sustainable local development.
h) Development of a communication strategy to share knowledge and build trust at all stages of the project.
i) Obtaining government authorizations and regulations.
j) Exchange of ideas for decision-making.
k) Coordination among different government entities and organizations.

According to interviews, these issues led to the following reflections:

a) Rentability —social and private— of the Energy Project:

1. Evaluation of the energy project's profitability, especially concerning the levelized cost of energy and the break-even point to make it profitable.
2. Questioning the viability of energy sales as a business model, due to the lack of profitability in the wholesale electricity market.

b) Financing and Project Execution:

1. Role of the cluster as an intermediary between the different actors involved in project financing and execution.
2. Financing of the project, including the role of state resources and UK Pact financing for technical studies.
3. Management with municipal authorities and ejidal communities, for the provision of land where the project would be implemented.

It is important to stress that the Ejido Solar Playbook may be seen as a co-creation product itself since it was mainly based on repeated and systematic set of interactions through a lengthy period among stakeholders from different backgrounds with continuous feedback -at least indirectly- with local communities.

4) How often do they meet, and do they communicate between meetings?

Ejido Solar presents a unique scenario that involves various entities in multilevel governance dynamics. The interaction takes place between an embassy, a civil association, and subnational governments, which, in turn, must manage relations with the federal government, municipal authorities and local communities. Given the interactive complexity and the variety of levels, the forms of communication and meeting are diverse. At the level of project owners, relationships are marked by legal formalities, culminating in binding legal agreements. In addition, landowners' interactions with subnational authorities require institutional channels and dialogues in public offices, extending later to municipal spaces and agrarian community assemblies at the local level.

The ejido model is a legal concept of land ownership rights, whose origin goes back to a struggle of peasants to have land to work, since they had historically dispossessed. The ejido is established by a presidential decree, which determines the amount of land that will correspond to some peasants to be subdivided into small extensions among them and made productive. However, this type of land is not considered private property but "social" property, that is to say, those who benefited from the subdivision of the territory are not owners, but only possessors, since the property is collective, that is, of all the members of the Ejido, for which they are formed in an ejido assembly, and it is through this organization that grants them the subdivisions and rights over the land and all the possessors have the power voting in decisions. However, this group does not represent the entire population of the community. This generates the need to develop alternative mechanisms to involve other residents, such as *avecinados* and those without rights, in the decision-making processes. The assembly of ejidatarios meets at least every six months or more frequently according to its regulations. The convocation can be initiated by the ejidal commissariat or the oversight board, and in case of omission, 20% of the ejidatarios can request it from the Agrarian Ombudsman's Office. The conditions for meetings, deadlines and quorums are set out in the Agrarian Law.

During the design phase of the project, interviewees indicated that meetings were frequent, the informant from Guanajuato, for example, expresses that they met every Friday in virtual mode with members of ICM, and this was done over the course of a year. This high frequency is due to the complexity of the project, which involves diverse people from multiple instances, working in different groups and in varied spaces according to the objectives of each meeting.

In the implementation stage in the state of Sonora, specifically in the pilot case of Huachineras, the governance model underwent significant changes to adapt to the political-administrative times of the state government and its institutional projects. The authorities have operated strategically, approaching the communities to involve them in the process of formalizing the cooperation agreement, materialized in an ejido assembly. At this initial stage of implementation, where the participation of direct beneficiaries is not yet significant, it is not possible to specify the frequency of meetings.

5) The role and forms of knowledge sharing, coordination and joint problem-solving

The Ejido Solar project focuses on promoting a just energy transition, fostering inclusive and responsible models in renewable energy projects. The strategy for knowledge sharing, coordination and joint problem solving is based on the active involvement of local communities from the outset. The project strategy understands genuine participation as a fundamental human right. Emphasis is placed on the inclusion of historically excluded sectors, such as women, youth, and those without land titles. In addition, it establishes the importance of recognizing the right of communities to decide whether they wish to participate in a project.

The project advocates for the maximization of benefits through social land ownership and the continued participation of the population in all phases of the project. It highlights the importance of co-benefits and shared social benefits, with an emphasis on positive health outcomes, economic opportunities, equality, and justice. The strategy seeks to generate relations of solidarity and reciprocity in the ejidos, fostering autonomy, empowerment, and sustainable local development.

The proposed roadmap includes an initial planning phase that includes a socio-territorial diagnosis and a mapping of key actors. Emphasis is placed on the importance of knowing the territory and its dynamics, as well as identifying local stakeholders. Community participation in these stages is understood to be essential. In addition, the identification of a social witness is suggested to monitor and strengthen the social character of the project.

The above considerations, detailed as "Recommendations for a Responsible and Inclusive Social Approach" (ICM, 2022, Annex F), were applied in collaboration with the governments of Guanajuato and Jalisco during the ejido selection phase for implementation, although they have not yet advanced to the implementation stage. In the case of Huachineras in Sonora, these procedures were not carried out because the alliance between Ejido Solar and the government projects in Sonora did not include these components, following the requirements of the state government's decision-making process.

The above implies that they precede dynamics of knowledge acquisition about the Sustainable Development Goals (SDGs) and the energy transition among social actors. This knowledge is shared through forums, seminars, and workshops. During these exchanges, the participating public officials understood the importance of the environment and its relationship to the SDGs. The social actors, led by the ICM, developed a project that addresses the lack of electricity generation capacity through traditional sources, proposing the implementation of photovoltaic farms in areas with sufficient solar coverage. This project was presented to officials at outreach meetings, initiating coordination to address the lack of power distribution in underserved areas. In addition, knowledge sharing between specialists and officials facilitated collaboration between public, social and private actors. However, the challenge persists due to the intergovernmental dynamics that led to fragmentation into design phases (as in Jalisco and Guanajuato) and pilot phases (as in the case of Sonora), the first case that has not found the conditions to start implementation, the second, in Huachineras, that was executed without having incorporated in its design the strategies of the socially responsible and inclusive approach.

The communication strategy (ICM, 2022, Annex F) is revealed as a pillar for sharing knowledge and building trust at all stages of the project. This strategy is developed on the premise that transparency and openness

are essential to building trust with local populations. It highlights the importance of answering key questions: What to communicate, when to communicate, where to communicate, and how to communicate.

Communications Strategy

What to communicate?

a) Identification of the person or institution responsible for the project and their reasons.
b) Presentation and characterization of the project proposal and the actors involved.
c) Initial technical details of the project, including its operation and potential impacts.
d) Detailed financial information.
e) Potential social and environmental impacts throughout the project cycle, with prevention and management measures.
f) Proposal of processes, communication mechanisms and decision-making for the rest of the project.
g) Announcement of a process for determining legal settlements.

When to communicate?

a) Initiate communication as early as possible during the project development.
b) Be sensitive to the times of different sectors, especially those historically excluded.
c) Avoid linking outreach to political campaigns or parties.

How to communicate?

a) Use accessible language without sacrificing the quality of information.
b) Translate technical elements into language understandable to all people, regardless of their background.
c) Facilitate access to legal advice by the State Government or civil society.

Where to communicate?

a) Tailor the message to the target audience and be sensitive to differences between sectors of the population.
b) Suggested sites include ejidal house, headquarters of local authorities, market, loudspeaker, local radio, associations and guilds, public places, among others.

Source: Authors' own elaboration based on Table 6 of the Replicability Handbook (ICM, 2022)

6) The relation between consensus and conflict and the handling of the latter

There is a consensus and a relative conflict in the project. Although there is agreement among the actors carrying out the implementation, there is the possibility of conflict at the ejido level, but so far it has not manifested itself thanks to the positive relations between the municipal capital and the ejido assemblies.

The case study reveals that the choice of project sites considered existing conflicts in ejido land communities, which have historically faced issues related to domain transfer and demarcation. The transfer of ownership is decided in the communal assembly, since the possession of the land does not fall to an individual owner, but to the ejido community. Property rights limit issues, such as invasions or boundary overlaps between landholders, are common.

The strategy to address ejido conflicts involves establishing relationships with ejidos that have few problems and that have previously collaborated in the implementation of public policies related to agriculture or livestock. This approach has been effective in preventing and managing potential tensions in the process.

The planning phase gathered information to evaluate the viability of cases, using a weighted checklist. The strategy sought to establish preconditions that a community must meet to be considered viable, using a matrix with categories and variables. Among the 32 questions, the instrument included the following: Do its members cooperate actively to build community public goods? Is there trust among its members? Have they been able to resolve internal conflicts that affect community life? Are their needs clearly established and prioritized? Are they accountable to their community? Do women have representation in the governing

body? Does it maintain a cooperative relationship with the government? Is the community autonomous when making decisions?

In the approaches to the communities of Guanajuato and Jalisco, the "Action Without Harm" methodology was taken as a guideline, which considers six principles to minimize negative impacts and maximize positive ones. It highlights the importance of inclusion, plurality, and respect for the right of communities to decide. During the dialogue, the population is informed about their level of commitment, allowing them to participate in the definition of terms of agreement and express their interest. This comprehensive strategy addresses feasibility, social considerations, and clear rules for dialogue, prioritizing participation and respecting the rights of the communities involved in the project, and includes the selection of spaces that foster inclusion and sensitivity to gender differences.

7) The role and form of leadership: lead actor, steering group and/or collective leadership

In the set of opinions from the interviews and the deliberation of the research group, on leadership in Ejido Solar, several perspectives and roles played by leaders in different contexts can be identified. First, the importance of recognizing the Assembly and its president, who are essential to advance the project, stands out. Here, leadership seems to fall to a steering group represented by the Assembly.

In Guanajuato and Jalisco, the previous relationship with the government facilitates dialogue, removing the barrier to moving forward. In these cases, no impetus is required from the Assembly leader, suggesting collective and collaborative leadership between the community and the Government.

In Guanajuato, the relevance of the leadership of PersonG1 is mentioned, which has been fundamental in the process. Although their leadership is recognized, there is no attempt to enhance it further. In Jalisco, existing local leaderships are strengthened, but it is emphasized that no new leaderships are created specifically for the project, but rather the existing ones in the community are used.

The socio-territorial diagnosis carried out by a specialized company identifies relevant people who will be allies of the project. Here, there is evidence of a recognition of natural leadership in the community.

Uk-Pact's perspective underscores the importance of people with leadership and passion to defend causes, highlighting the influence of these individuals in transforming programs towards empowering communities. In this case, leadership is individual and arises from the dedication and commitment of specific people. On the other hand, it highlights the vision of the leader and the dissemination of the project at the national level. Here, individual leadership is perceived that drives the vision of the project represented in the Replicability Handbook, where leaders promoting the initiative come to life to identify allies in local governments, who adopt the model and implement it.

In Sonora there is no clear leader, but multiple leaders interacting. There is talk of community leadership and the absence of an organic creation of leadership.

In summary, the different testimonies reflect a diversity of leadership approaches, from collective and community leadership to individual leadership. The figure of the leader can vary according to the context and the specific dynamics of each project, including collaboration with the government, the existence of pre-existing leadership in the community, and the influence of passionate and committed people.

Indeed, it is not possible to clearly establish a main actor, given the phases in which the co-creation of the project took place. The driver and promoter of ICM was important at the beginning of each phase of the Ejido Solar project, design and piloting, but as the implementation took place, his leadership was transferred to public officials. The following statement from one of the people who had leadership at a later stage of Ejido Solar's design is significant:

> *At some point, in this community there was an artistic development center built by an administration, with resources that allowed it to operate for a while, being directed by one person. After the end of the program, this person no longer received remuneration, but continued to be active with his own resources, making calls and contributing to community well-being. He became one of our main allies for calls. However, as ICM and consultants, we avoided taking a leading role, acknowledging that the project belonged to the state government. In the calls for proposals, we stayed in the background, asking the state government to formally convene through the municipality or the ejido authorities. Although we supported formal communication, we relied on facilitating authorities to encourage participation. The key lies in setting foot in the territories, recognizing the ecosystems of actors and ensuring that leadership is natural and recognized, preventing it from being exclusive to one group, so as not to leave others out. The key is to go, recognize and map actors in the territory. [paraphrasing]*

It is observed that the role of the leadership is limited to certain contexts and functions: ICM becomes a consultant in stages of dialogue with the communities, or when the government carries out the implementation.

8) The temporal unfolding of the co-creation process: major shifts and ups and downs

Since December 20, 2013, with the publication in the Official Gazette of the Federation of the Energy Reform Decree, a transformation in the legal regime of the energy sector was implemented in Mexico. Initially, the electricity market was opened to private participation, breaking with the monopolistic model of the Federal Electricity Commission (CFE). In 2015, the Energy Transition Law (LTE) was published, abrogating previous laws

The resulting legal framework, known as the "New Legal Regime of the Electricity Market," included the Electricity Industry Law (LIE), the LIE Regulations, the Electricity Market Bases, and the Market Operating Provisions. However, in the current federal administration, there were attempts to return to the previous model, with actions by both the Energy Regulatory Commission (CRE) embodied in the National Energy Center Agreement (CENACE) and restrictive policies.

In this period, from 2016-2017, a group of researchers and social activists in ecological matters saw a window of opportunity to plan energy transition projects. Between 2018-2019, when the plan to take advantage of solar energy was in place, they began to lobby among officials of subnational entities in charge of environmental and energy policies, which convinced three subnational entities and from there generated the design of a project formalized as Ejido Solar.

During 2020 the designs progressed irregularly, because while in Sonora there was governmental support from the entity, in addition to the local government of the municipality of Hermosillo and a network of entrepreneurs who managed to shape an energy cluster, which helped implement clean energy projects, in

other entities they remained at the design level, because although there was support from officials, it was not possible to formalize the necessary governance networks to move to the pilot phase.

In January 2021, Andrés Manuel López Obrador (AMLO) presented the LIE Reform, modifying dispatch rules and giving priority to CFE electricity. In March 2021, the Senate approved the reform, reversing rights granted by the 2013 Energy Reform. Numerous investors filed injunctions against the LIE Reform, suspending its application.

In 2021, the Subnational entity of Sonora had elections and there was alternation in local power, with a person close to the current president and from the same party being elected, with which relations of coordination and trust were established with the federal institutions, both the CFE and the CRE mainly, in such a way that it is currently one of the entities that has federal support to carry out transition plans energetics.

In April 2022, the Supreme Court of Justice of the Nation (SCJN) declared constitutional several articles of the LIE Reform, allowing CENACE to prioritize CFE plants in energy dispatch. However, uncertainty persists, as the electricity industry faces challenges due to the lack of rule of law and the inaction of the Energy Regulatory Commission (CRE) to grant and modify permits.

Despite the Constitutional Reform initiative in April 2022, the required majority was not achieved, thus an environment of uncertainty continues in the electricity industry and the fragmentation of visions and interests related to expanding the opening to the market or centralizing and strengthening the state's control over the energy industry.

The aforementioned has had a determining influence on Ejido Solar's options and possibilities; even the legal uncertainty forced a local government to postpone its intentions to implement the project. In an interview with a public official, he expressed:

> *But you know what? Nor were the 164 kilowatts peak viable because the figure of qualified supplies no longer exists. Well, it does exist, but in a very strange way. We decided to consider it as existing, even though it is not, [...]. We thought, you know what? This is very strange. So, we approached the CFE and asked ourselves: who is going to buy the energy from the Ejido? Well, no, the CFE buys it from you at a minimal cost, I think it was $0.82 per kilowatt. We did the math and the Ejido was getting about $18,000 a month. But guess what? There were financial costs, excuse me, administration costs because they would have to receive that money. But you know what else? You had to pay taxes, you had to pay here, you had to pay there. In short, it was approximately $8,000 that the Ejido ended up receiving per month. So, you think, 8,000 pesos for everything involved in carrying out a project of this nature? We don't see it as viable. What do you think? Would it be better for us to wait [...], for this to change a little [...]. (Interview with Local Official)*

In contrast, the case of Huachineras represented an opportunity to realize some of the goals of the Ejido Solar Initiative. In 2023, the implementation of the project began in the state of Sonora, facilitated by the articulation of diverse actors in a multi-scale governance model. This linkage was facilitated by the fact that the leaders of international agencies, public and private, already knew each other thanks to previous participations in other activities. The meeting of these parties was opportune, since in Sonora there was approval of financial resources to implement a sustainable development policy in communities with high

socioeconomic backwardness. In addition, the optimism of the public officials was due to the presence of the same political party in the federal and local governments.

In relation to this, one of the interviewees said:

> *In the other cases, we need to find work in which we are pushing a proposal with the Energy Regulatory Commission (CRE) to grant greater access capacity. For us, the crucial thing is not for the government to operate these plants, as is going to happen initially, since there is no other way to start the operation. We agree that the government should take care of a plant for a while to see if some organization of its own emerges, and so on. However, what we want is for the ejidos, as owners of the land, to be able to initiate and obtain financing on their own, becoming a project where the state government has a supporting or facilitating role, but is not the main actor. To achieve this, a clearer legal framework in terms of distributed generation is required. While the current legal framework is more focused on large companies and federal plants, we believe it is critical that distributed generation be driven primarily by the land-owning organizations themselves, to have a meaningful impact.*
> *[...]*
> *Whether we choose to establish a provisional organization or we trust the Energy Regulatory Commission to issue more concrete operating rules, which has been successful, because when we approached the Energy Regulatory Commission, we found a full willingness to carry it out. Likewise, when talking with the Federal Commission (CFE), there was also a very interesting agreement with them, and conditions were visualized to substantially improve the legal framework we have at the moment. In this sense, we are faced with the dilemma of creating two organizations of this type provisionally or waiting for the CRE to issue clear rules. This process is still evolving. (Interview with Local Official)*

9) The most important governance factors (may include factors other than those in focus in this project)
The most important governance factors identified are:

Structural GFs
2. Supportive legislation, programs, and formal goals.
3. Relative openness of public governance paradigms.

Strategic GFs
4. Formal institutional channels for citizen participation and community mobilization.
9. Provision of access to blended financing.

Tactical and operational GFs
12. Clarification of interdependence vis-à-vis common problem and joint vision.
16. Exercise of facilitative leadership.

10) The generated outputs and outcomes
During the research process, we have gradually discovered peculiarities of the Ejido Solar initiative that complicate its evaluation as a traditional project. The purpose of the initiative is highly complex; while it facilitates reporting on outputs and outcomes from a single case, it is presented as a playbook (it offers the

strategy and action plan), with characteristics of an intervention model, since it develops theoretical-conceptual frameworks on topics such as participation, inclusion, and a theory of social change.

In abstract terms and for analytical purposes, we identify key stages of the process:

e1. Assemble between an international fund and an idea.
e2. Playbook design.
e3. Diplomacy for the creation of alliances with state governments.
e4. Collaborative planning in the operation of the playbook in the cases of Guanajuato and Jalisco.
e5. Multilevel governance for the implementation of the model.
e6. Partnership with the government of Sonora and pilot case in Huachineras.

Each stage can be assigned a product that allows you to advance to the next. Thus, stage 1 generates the possibility of developing the idea after ICM presents it to the UK Embassy, and within the embassy budget processes aligned with international priorities are carried out that open the opportunity to invite ICM to carry out stage 2.

With the materialization of stage 2, stage 3 occurs simultaneously due to the need to prototype various phases contemplated in the playbook. The success is achieved with the involvement of two federal states, which promote dynamics with municipalities and communities in collaboration with ICM, while promoting the idea with entities of the federal public administration. In stage 4, a fund is approved to initiate the first case, although it is not done due to failures in collaboration with the federal government, and multi-level governance faces insurmountable obstacles.

However, the advantage of the playbook is that you can find favorable conditions in other regions. Thus, stage 6 is entered, where the model is partially applied in a multi-stakeholder collaboration, including local and municipal publics, agrarian communities, ICM's consultancy and the diplomatic support of the Embassy of the United Kingdom.

At the beginning of 2024, the Huachineras case is a concrete product in operation; However, the financial governance and social inclusion model is not yet effective. In any case, the promoting authorities see it as a prototype that could provide the necessary time to negotiate legislative modifications with the federal government and learn how to promote cases in other ejidos or even in modalities other than the expansion of non-productive lands on ejido land.

Outputs:

a) **Assembling an international fund and an idea (e1):** creation of a concrete proposal supported by an international fund, resulting from the presentation of the ICM idea at the UK Embassy.
b) **Design of the playbook (e2):** creation and structuring of the playbook, which acts as a detailed guide for the implementation of the Ejido Solar initiative.
c) **Diplomacy for the creation of alliances with state governments (e3): establishment of alliances** and agreements with state governments to support the implementation of the playbook in specific cases.
d) **Collaborative planning in the operation of the playbook in the cases of Guanajuato and Jalisco (e4):** detailed and collaborative planning for the operation of the playbook in specific cases in Guanajuato and Jalisco.

e) **Multi-level governance for model implementation (e5):** Practice of a multi-level governance framework for model implementation at different levels of government.
f) **Partnership with the government of Sonora and pilot case in Huachineras (e6):** formation of a partnership with the government of Sonora and the execution of the pilot case in Huachineras, representing the practical application of the model.

Outcomes:

a) **Impact on Idea Generation and Funding (e1): Broader** impact on idea generation and funding for similar projects, driving innovation and financial backing internationally.
b) **Development of a sustainable intervention model (e2):** development of a sustainable intervention model that can be applied in different contexts, beyond individual cases.
c) **Strengthening Government Alliances (e3):** The initiative can contribute to the strengthening of alliances between international organizations and state governments to address sustainable development issues.
d) **Improvement in municipal and community dynamics (e4):** improvement in municipal and community dynamics, generating a positive impact on local development and citizen participation.
e) **Change in government policies (e5):** change in government policies towards more inclusive and sustainable approaches in the implementation of energy projects.

Successful application of the model in Huachineras (e6): application of the model in Huachineras, demonstrating its viability and generating valuable learnings for future implementations.

11) Lessons learned about the conditions for co-creating green solutions

The lessons that stand out in the case of Ejido Solar are linked to: a) the financing approach, b) the externalities derived from the change in the development model of the federal government, c) the visions or imaginaries that clash between a market entrepreneurship approach and ventures that prioritize values of community well-being, opening of opportunities and inclusion of traditionally relegated actors, and d) the complexity of articulating leadership and responsibilities when initiatives are developed in the form of multi-stakeholder networks.

a) The governance model is based on the options that the legal framework offers to the initiative, rooted in the ejido form of land ownership. This has generated dependency on actors that operate in macroeconomic spheres and are distant from the local and community spheres. On the other hand, it implies facing obstacles when promoting change from the local level when there are no structural possibilities at the national level.

b) The initiative comes at a time when a model open to various investment schemes in the energy sector predominates, without anticipating that a government focused on state monopoly was on the horizon.

c) The initiative faces an underestimation of the communication skills of an idea with a social focus in economic sectors focused on the logic of the market. On the other hand, the community participants respond positively to an initiative that, in principle, does not involve spending financial resources on their part and promises to obtain funds that do not commit the ejidatarios, but could even come from benefactor or non-repayable resources.

d) The initiative implies a significant amount of interdependencies between different bodies in terms of capacities, powers, responsibilities and autonomy. These are not cases where there are mutual dependencies and the motivation for each party to contribute what the other needs; On the other hand, these are cases in which (a) depends on (b) performing (x), while (b) does not have autonomy to carry it out and, in turn, depends on (c) being effective in promoting structural changes before (d), thus describing one of the many variants of interdependencies**.**

12) Points of interest in subsequent studies

a) The 'Ejido Solar' initiative is in the process of maturing; there is not yet enough maturity to accurately assess the effects on implementation.
b) The case promises to shed light on new governance factors in highly complex contexts and challenges for co-creation in networks of actors with highly diverse capacities and fields of action.
c) Ejido Solar invites us to reflect on cases that are not properly projects but assemblages of ideas, resources and actors promoting the realization of an idea in different contexts. This means meta-governance or the governance of co-creation (meta-co-creation).
d) This outlines the need to develop theoretically the conditions for co-creation in contexts of great social, cultural, political, economic, and territorial heterogeneity.

Scoring and analysis of governance factors

1. Perceived importance of biosphere conditions

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☒ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

Opinions converge on the need to adapt the project narrative to local realities, solving immediate problems and linking the concrete benefits of renewable energy to the needs of communities. The diversification of climate actions and the consideration of local culture emerge as key elements for the success of the project.

The importance of linking concrete project benefits to local needs, such as additional revenue for community projects, is emphasized. In addition, it seeks to insert the climate narrative, relating local problems to climate change and presenting the energy transition as a solution.

L1 highlights that the communities' concerns do not revolve around global environmental issues, but rather more pressing issues. It proposes to build narratives that encourage participation from their local problems, focusing on economic and development benefits.

F1 highlights the implementation of renewable energy programs, integrating them with actions against climate change. The importance of public lighting and the promotion of Sonora's energy potential is highlighted.

D1 recognizes the viability of solar energy but advocates not limiting itself to it. He sees the Ejido Solar Project as replicable in all 72 municipalities of Sonora, proposing to diversify climate actions.

M1 addresses participation from the practical perspective of communities, highlighting the importance of resolving local conflicts. In addition, it points out the need to explore the culture of collectivity and solidarity in environmental decision-making.

In accordance with the Scoring Instructions, "**Significance (0.66**): References to the importance of biosphere conditions play a consistent role in the project." In a synthesis exercise of the playbook elaboration process and the implementation in Sonora, it is concluded that, an explicit mix is achieved in the design, and implicit in the implementation, which is configured giving consistency to the role of biosphere conditions in the project. This is reflected as "Significance" on a broader scale.

It is important to clarify that initially, the research team misunderstood the portion of the scoring instructions describing the insignificance of the presence when the role of the subject has been "overshadowed" by other factors. Upon initial assessment, this led us to not assign the appropriate weight to the implicit role in the implementation phase.

2. Legislation, programs, and formal goals

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☒ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

The distributed generation project, such as Ejido Solar, was chosen due to operational and regulatory advantages. The operational complexity of large-scale projects and regulatory challenges led to the choice of distributed generation. The regulation of prices by the CRE and contracts with CFE in basic supply was highlighted. In addition, legal structures were explored, opting for the rural productive society for greater certainty.

In Sonora, the lack of legal clarity in distributed generation limits its development. Regulatory analysis was affected by frequent changes. The creation of the Law for the Promotion of Renewable Energies in 2009 did not translate into financing. Vulnerability to climate change in Sonora highlights the need for energy transition, but the lack of legislative definitions complicates community projects.

In Jalisco, the business model for Ejido Solar focuses on supplying energy to industrial parks. The Ministry of Economic Development seeks formalities and legal certainties to attract investors. Regulatory alignment

and defining community projects are persistent challenges. The State Energy Agency plays a key role, but regulatory uncertainty hinders investments.

In general, projects face legislative, financial, and regulatory hurdles. The lack of clear definitions in Mexican law and the need for regulatory alignment are significant barriers. Community engagement and innovation are crucial, but the constant uncertainty in the legal and regulatory landscape hinders the viability and replicability of projects.

It should be noted that at the level of development plans and government programs at the subnational level, there is alignment and coherence of the project, however, obstacles occur in the adaptation of the legal framework to the characteristics of the Ejido Solar initiative.

The resolution by the Supreme Court of Justice of the Nation (SCJN) on January 31, 2024, signifies a positive development. The Second Chamber concluded that the 2021 reform to the Electricity Industry Law violates the principles of competition, free competition, and sustainable development. It is argued that prioritizing state-owned generators, exempting them from auctions for electricity contracts, and expanding access to clean energy certificates create imbalances, contravening efficiency, and equality. The system of priority in the dispatch of energy also adversely affects clean energy, undermining sustainable development.

The decision emphasizes that strengthening state-owned enterprises does not justify undermining constitutional principles of free competition. The protection granted to the complaining companies extends to all agents in the wholesale electricity market to maintain uniform rules.

This process has been part of a roughly four-year conflict, from the suspension of permits for private entities in 2020 to the recent decision by the Supreme Court. The ruling implies a legislative resolution of the issue, but challenges are expected to persist in instances such as the Energy Regulatory Commission (CRE) through indirect amparos.

The complexity of large-scale projects and the operational challenges associated with them, emphasize the advantages of distributed generation projects. These projects require less complex operations and regulatory compliance, making them more feasible within existing frameworks.

It is worth summarizing the response of one of the interviewees, which exemplifies the alignment between international agreements and international cooperation programs, the emerging energy reform in Mexico (later reversed by President Andrés Manuel López Obrador), and the initiative of a citizen consortium:

> *Back then, the interviewee worked as an Energy Program Officer for a British cooperation fund. He had the chance to learn about various proposals. Eventually, the Prosperity Fund was launched, which included an AGI programming fund for strategic projects. A proposal from ICM for a Ejido Solar project was received around early 2020. This project intrigued him because it merged energy transition with community participation in the electricity market, aligning with the ongoing energy reform. Despite the mystery surrounding ejidos, he saw their potential within the context of the Paris Agreement and the renewable energy focus of British cooperation, although their expertise lay primarily in Offshore Wind.*

The project is considered “to some degree adjusted to better fit existing sustainability legislation, programs, and/or formal goals” due to several factors. The choice of distributed generation projects like Ejido Solar reflects an adaptation to operational and regulatory advantages, with careful consideration of

legal structures such as rural productive societies to ensure certainty. Despite challenges in Sonora and Jalisco regarding legal clarity and regulatory alignment, efforts are being made to align regulatory frameworks with the goals of distributed generation projects, as seen in discussions with regulatory authorities such as the CRE.

Furthermore, the alignment and coherence of the project with development plans and government programs at the subnational level demonstrate a degree of adjustment to existing frameworks and environmental policy instruments which is a necessary yet insufficient condition to reach a just energy transition.

Sources:
SCJN. (2024, January 31). *Press Releases No. 028/2024*
https://www.internet2.scjn.gob.mx/red2/comunicados/noticia.asp?id=7699

3. Relative openness of public governance paradigms

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

In the analysis of respondents' views on government initiatives within the framework of projects, the importance of **effective collaboration** between local/regional government and communities is highlighted. It is emphasized that the success of these initiatives lies in the focus of benefiting the community, avoiding favoring specific individuals. In addition, the relevance of involving **all community representatives** in the talks to ensure inclusive participation is underlined.

It is evident that in some cases, it is the government that seeks out the community to integrate it as a beneficiary, indicating a proactive work of **local linkage**. This approach builds on previous relationships established between the government and communities in previous projects, promoting ongoing dialogue. This dynamic can be observed in cases such as Hermosillo, Sonora, Guanajuato, and Jalisco, where public agencies already had previous collaboration.

In the search for support for projects, there is a differentiation in access to federal agencies. While contact with subnational bodies is perceived to be more accessible, the **difficulty of access at the federal level is highlighted**, indicating that the doors for projects at the subnational level are more open.

In other testimonies, proposals to give greater autonomy to communities are explored, such as the idea that ejidos, as landowners, can initiate and finance energy projects. However, it highlights the need to work on proposals that allow communities to obtain funding independently.

At the regional level, experiences are shared in reaching out to communities with a social rather than environmental focus. It is recognized that although renewable technology contributes to climate change,

the central objective of government programs is to **socially benefit marginalized communities**. This is evidenced in specific projects in Sonora, which seek to maintain and strengthen small communities, offering job opportunities and improving living conditions.

In summary, the opinions collected reflect the importance of government initiatives that seek collective benefit and establish a constant dialogue with communities. Effective collaboration between government and communities is essential to the success of projects that seek not only to address environmental issues but also to improve social conditions in specific communities.

4. Formalized institutional channels for citizen participation and community mobilization

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

In the context of project collaboration, there is a integration of existing formal institutional channels in the decision-making process. The communities, with their own mechanisms, base their practices on laws, such as those related to the ejidos, highlighting **the ejido assemblies** as key forums for decision-making.

Ejido assemblies are fundamental in the dynamics of projects, since relevant decisions are made in them. The community, with years of experience, has adapted and practiced these dynamics in diverse contexts, from the sale of plots to participation in projects. The autonomy of these decisions, without government intervention, is a salient aspect, showing that governments respect and allow communities to make their own decisions in these formal instances.

In some cases, the formalization of collaboration is evidenced through the signing of documents in **community assemblies**. In Sonora, for example, the implementation of a project was supported by the signing of the agreement in an assembly with community representatives. This process highlights the importance of community participation and approval in relevant decisions.

In the field of energy projects, the limited participation of the population in technical planning stands out, although there is interest on the part of municipal presidents. However, the need for more active participation in this area is recognized, evidencing an opportunity for improvement.

In terms of dissemination and replicability of the cooperative governance model, there is an effort to share experiences through **institutional actors**. Dialogue with subnational governments and presentation in dedicated forums demonstrate the attempt to integrate these collaborative models into broader structures.

In conclusion, the integration of formal institutional channels, such as ejido assemblies, into collaborative projects is a key component. The autonomy and adaptability of communities, supported by existing laws, are evidence of strong decision-making dynamics. Formalization through assemblies and the

dissemination of the model through institutional actors contribute to strengthening collaboration in projects in a structured and participatory manner. However, collaboration at the community level cannot yet be documented due to the maturity stage of the project.

It is appropriate to paraphrase the statement of an interviewee from Sonora:

> *At the end of the day, in the case of leases, it's essential to engage with ejidatarios and communities, as they ultimately hold the decision-making power. Assemblies must be held, with attendance varying depending on the municipality. Initially, discussions mainly involve the ejido commissioner, who has access to other contacts to spread awareness of the project. However, it's challenging to gather all ejidatarios or community members, as many only attend assemblies but are not permanent residents. Despite this, assemblies serve as an opportunity to formally present the project's benefits, expected timeline, and previous groundwork, such as soil tests and INAH evaluations. Generally, ejidatarios respond positively to the project, given that it's an external investment with benefits solely for them. Occasionally, objections arise due to internal disputes.*
>
> *At times, the government has had to take care of all the paperwork, such as the registration or re-registration of the ejido board, especially after a change of administration, when the records were not up to date or were missing. In these cases, they have assisted in these administrative procedures with entities such as the National Agrarian Registry and the Agrarian Prosecutor's Office.*

In summary, the highest authority in ejidos is the general assembly, while the governing body is the Comisariado Ejidal. This body is appointed via direct vote by the ejidatarios and consists of a President, Secretary, and Treasurer, who are supervised by a Surveillance Council comprising a President, Secretary, and Vocal, each with their respective substitutes.

In practice, the Comisariado Ejidal undertakes various vital activities for their communities. They act as intermediaries between the municipality, state government, and the ejidal community. Their responsibilities include voicing the needs of their ejidos, managing affairs, and securing resources from social programs for their territories.

The Ejidal Assembly serves as a formal forum for communication of pertinent information and decision-making. Here, collaboration with state and municipal authorities is formalized, laying the groundwork for the subsequent establishment of Citizen Committees. Alternatively, as decided by the General Assembly, the Surveillance Council may be formed. This agency empowers the community to review and monitor the implementation and operation of the solar farm. Ultimately, it may also oversee the project's autonomous operation or collaboration with the municipality.

However, the Ejido governance structure and general assembly majority decisions -as any common pool resource institution- does not necessarily reflect micro local governance dynamics and patterns of interaction regarding their own rules of use which may be nested in other cross-cutting issues such as, for example, gender equality.

5. Mechanism for ensuring top-down government and bottom-up social accountability

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

The design of Ejido Solar stands out for its high intentionality, as detailed in the Replicability Handbook that presents a 'Route of rapprochement and social inclusion' and a 'Co-benefits Strategy'. This approach underscores the importance of obtaining the approval and willingness to participate of the ejido community as a critical first step. From this point on, the full integration of the ejido community is promoted throughout the project cycle, encouraging continuous interaction.

Instead of establishing a relationship based on mechanical consultations, it proposes the construction of a new dynamic in which responsibilities and benefits are distributed and shared equitably. This approach aims to mitigate potential conflicts and enhance value creation for all actors involved.

In this context, the aim is to encourage a more meaningful participation of the ejido community. Permanent interaction is postulated as a key element to build a solid and sustainable relationship over time.

b) Implementation Phase

Informants express concern about the lack of routine and institutionalized accountability mechanisms in the project. In several references, the absence of solid foundations for accountability is highlighted as a weak point in implementation.

It is stressed that the relationship between the government and the community is deficient, with limited communication on the status of the project. A reference mentions the gap between the General Directorate of Energy and the community, indicating that the ejidatarios are not well-informed about the progress of the project. The need to communicate and socialize the project more effectively is highlighted.

Another reference identifies accountability as the weakest point, underscoring the lack of an established process for project review and oversight after implementation. The absence of a clear protocol for accountability is pointed out as a significant weakness.

Despite mentioning the existence of a trust, which could facilitate accountability between the parties involved, it does not detail how it would be implemented or how it would address the specific concerns of the community.

An interview addresses the disconnect in access to information about the project. Acceleration of the process by governments and misalignment between implementation timelines and community processes contribute to this disconnect, hindering effective participation and accountability.

In general, informants note that although there may be attempts by the project to communicate with the local government and the community, there is no systematic approach that generates significant importance in accountability. The lack of a structured process for review, oversight, and accountability after project implementation is an area of improvement identified by respondents.

Sound, top-down communication mechanisms exist, but there is a lack of systematicity in feedback mechanisms.

Government administration deadlines set the pace of implementation, with high pressure to achieve goals at the expense of dialogued communication. This approach maintains conventional ways in interactions between the government and beneficiaries of local programs and policies. The ejido community is not strengthened since the Assemblies, represented by the Ejidal Commissariat, are the main interlocutor. It is imperative to expand dialogue capacities to facilitate more active community participation.

A notable dilemma arises related to the regulatory framework that governs agrarian communities and ejidos. Although legal recognition is granted to the Assembly and the Ejido Commissariat as bodies of authority and representation, the 'Ejido Solar' model promotes community participation in decision-making, introducing innovative mechanisms to achieve gender equity and inclusion. The key question is: how to reconcile these two figures in the decision-making on the co-benefits and productive projects derived from the future economic gains of the 'Ejido Solar'? Reconciling these divergent approaches will be crucial to establishing an effective and equitable framework that ensures active community participation at all stages of the project.

The project effectively meets two specified criteria for determining the presence of the GF:
a) The project complies with formal or informal demands from public authorities and/or local citizens to account for the work, progression, and/or results of the project:

During the design phase, the project demonstrates a strong intentionality towards community involvement and accountability. It emphasizes obtaining approval and participation from the ejido community as a critical step. The project promotes continuous interaction and seeks to distribute responsibilities and benefits equitably, mitigating potential conflicts and enhancing value creation for all stakeholders.

b) Interviews with the project facilitator corroborate the existence of requirements or expectations to maintain communication channels with the local community or government:

Informants express concern about the lack of routine and institutionalized accountability mechanisms during the implementation phase. Despite attempts to communicate with the local government and the community, there is no systematic approach that generates significant importance in accountability. While there are some mechanisms for accountability at the community level, such as evaluating the project and deciding on land donation, they are not fully institutionalized or systematic.

Ultimately, there are public resources invested both in the design phase, in this case by the United Kingdom, and by the state government, each carrying formal obligations. At the grassroots level, communities have horizontal accountability mechanisms. Regarding the ejido, there are accountability instruments from the moment project evaluation is requested until the decision to donate land for its

execution. This involves accountability and negotiation processes among ejidatarios to decide on the removal of land from communal property.

6. Strategic agenda-setting by means of translation

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

The design of the 'Ejido Solar' initiative incorporates the SDGs in a strategic way. For its part, UK PACT is a program whose nature stems from the SDGs, in general from the international agenda on Climate Transitions. Both actors are aligned with global narratives and sustainable development goals, as are the development plans of governments in Mexico.

However, in the implementation, bureaucratic actors have reflected that they adhere to international narratives on climate change in an instrumental way for the design of government programs and policies, there is no organic appropriation, but it is a requirement to be fulfilled in the justifications and meanings of policies for Mexico's commitments acquired before the international convention.

b) Implementation Phase

In the analysis of the provided references, it is evident that mentions of the UN Sustainable Development Goals (SDGs) are presented in a dispersed manner and without substantial integration into the implementation of the Ejido Solar project. This dispersion indicates a nominal presence of the SDGs, but does not reflect an active adaptation to local contexts, implying a lack of significant relevance in the practical implementation of the project.

From the codified references, it is highlighted that the consideration of the SDGs varies depending on the approach of government entities and communities involved. At the state level, the search for projects is linked more to economic objectives than to the active implementation of the SDGs. State institutions prioritize economic development and the energy transition, but the connection with the SDGs seems to be superficial and does not decisively influence the conceptualization of projects such as Ejido Solar.

On the other hand, in interactions with the communities, it is observed that although topics such as climate change and renewable energy have been discussed, the presence of the SDGs in the conversations is limited. Communities have more immediate, local concerns, such as lack of access to electricity and quality of life issues. The relevance of the SDGs is not evident in the communities' narratives, suggesting a lack of adaptation of the global agenda to their daily realities.

In the very conception of the Ejido Solar project, it is revealed that the incorporation of the SDGs arises at a later stage and not as a starting point. The SDGs are considered as a frame of reference after local

objectives and the specific needs of communities have been defined. This indicates a late adaptation and an intrinsic lack of alignment of the project with the principles of the SDGs.

In summary, respondents' views support the perception that, although there are loose references to the SDGs, they have not been actively adapted to local contexts. The presence of the SDGs in the talks seems to be more nominal than substantial, suggesting a lack of effective integration of these global goals into the practical implementation of the Ejido Solar project.

Regarding the approach to the ejido communities, awareness is raised about issues related to environmental sustainability. By explaining the economic benefits of photovoltaic plants, the project seeks to show their relationship with environmental problems and how they affect environmental goods such as soil and its productivity, as well as the lack of water resources. However, populations still show greater interest in everyday issues related to economic and labor matters that are more pressing among these marginalized and/or poor populations.

The score of 0.33 registered in the current state of implementation is acknowledged, recognizing ample possibilities for a strategic translation of the SDGs by most actors involved.

7. Construction of narratives about successful multi-actor collaboration

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

The informants express positive experiences with the multi-stakeholder collaboration in the project, highlighting the willingness and openness of the communities. In the four communities studied, there is an ease of rapprochement due to previous experiences with social projects and the willingness of the communities to collaborate in solar energy projects. Although three case studies have been discussed, work is also being done in Sonora, adapting the solar fabric to the national government's social program of distributed solar generation.

In these experiences, the willingness of the communities to dialogue, learn about the projects, and understand the benefits is highlighted. Although each community has its own context, there is a general predisposition to collaborate on solar energy projects. There are no significant barriers to project acceptance, and prior familiarity with social projects makes it easier to open doors.

> *I know I've talked about three case studies, but we're also working with Sonora, uh, hand in hand with, or adapting a lot of Ejido Solar to the social program of distributed solar generation that the Government has in Sonora. The truth is that there are previous experiences with the four communities that we have worked with, and it has been very easy to get closer. They already had rapprochement with governments, I tell them; they didn't*

have renewable energy or energy projects. But they already had some projects of some kind that they had done before, and that has allowed the communities to open their doors and be willing to talk, to dialogue, to learn about the projects, and to know what benefits they are going to have. And what do they have to do? So that's been common in everything we've done with solar energy, that communities are willing to collaborate. We also understand that it has been because the governments themselves have indicated to us which communities it is best to approach because this relationship already exists.

However, despite these positive individual experiences, no meaningful connection is observed in the collective narratives during the collaborative processes of the project. Each community has its own experiences, but they are not integrated into a collective narrative about multi-stakeholder collaboration. Although communities are willing to collaborate, there is no collective construction of the history of multi-stakeholder collaboration during meetings, site visits, or other social events of the project.

In summary, the informants report positive experiences at the individual level in multi-stakeholder collaboration, highlighting the openness and predisposition of the communities. However, these experiences do not translate into a collective narrative during project interactions, suggesting that individual perceptions are not widely shared in the collaborative context of the project.

8. Building or harnessing institutional platforms and arenas

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

In the opinions of the informants, the use of physical spaces in communities for holding meetings and discussions on various topics, including the project in question, is highlighted. In some communities, such as Vacadeuis, there is mention of a full willingness on the part of the ejidatarios to use spaces such as classrooms, even though these may be precarious, to make important decisions. There is a clear preference for holding these meetings in the communities themselves, avoiding travel to the capital or other government offices.

However, feedback indicates that, despite the existence of these sites, they are not systematically used for project collaboration processes. It is pointed out that ejido assemblies are important for decision-making, but they are characterized by being closed and centered on the ejido members. In this sense, although the relevance of having reliable land and physical sites for the project is recognized, there is no evidence of an effective integration of these places into the practices, routines, and institutional norms that facilitate collaboration processes.

It also highlights the lack of other places for discussion where the community can propose projects from the local level. Despite the existence of municipal bodies and assemblies, the absence of a table, linkage,

or public policy that effectively instructs the use of these spaces for collaboration in the project is mentioned.

The Ejidal Assembly itself has been used as an institutionalized meeting place, as a legally and socially validated stage to carry out meetings, communications around the project, and decision-making space. In Jalisco, a business approach prevails, highlighting the leadership of private actors to promote and initiate an initiative such as Ejido Solar. During the research, no arena or platform was identified in this regard that was being used to implement the distributed community generation project model locally.

In Guanajuato, the initiative generated good expectations, but to the benefit of large energy producers, seriously considering including the Ejidos under a debt scheme for financing, which is unlikely and highly risky for generally marginalized and poor populations.

On the other hand, in Sonora, a social approach does prevail, closely linked to the government's agenda. It can be considered that as the commissioning of the photovoltaic plants progresses, the construction of arenas and multi-stakeholder meeting platforms will be encouraged.

9. Provision of access to blended financing

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

The design of the Ejido Solar project demonstrates a solid strategy to obtain **blended financing** from various sources, considering the participation of the ejido community, the Qualified User (UC), the provider (Installer), the Qualified Service Provider (SSC), and other potential investors. The diversification of sources makes it possible to cover the cost of the project in a comprehensively.

In terms of funding sources, different options are identified, including public sector grants, private sector grants, and the possibility of credit from financial intermediaries. It is crucial to highlight the active participation of the ejido community, which, due to economic constraints, benefits from financial strategies based on external sources.

The paper explores in detail the feasibility of various alternatives. The option of a **direct supplier credit** from the supplier of the photovoltaic plant stands out, taking advantage of the solidity of the company and its financial incentives. In addition, the possibility of an **advance of clients** by the local government is raised, based on their economic and social interest in the project.

The analysis extends its scope to financial institutions, such as FIRA and FND, noting the project's eligibility to access specific programs, such as FIRA's Sustainable Project Support Program. The inclusion of detailed program terms and conditions provides clarity on opportunities and benefits.

The consideration of **commercial banking** is also addressed, identifying banks with products specialized in renewable energies and attention to the agricultural sector. The suggestion to contact several banks, including smaller ones.

Additionally, possibilities are explored with **non-bank financial intermediaries (NBFIs),** such as SOFOMES, highlighting their speed in the process, although it is recognized that their rates may be higher.

Finally, the spectrum is extended to resources from the **Mexican government and international entities,** mentioning funds such as FOCIR and FOTEASE, as well as institutions such as the IDB, IDB LAB, ETAF, and DFC, which could contribute to the financing of the project.

Potential Participants in Ejido Solar Financing

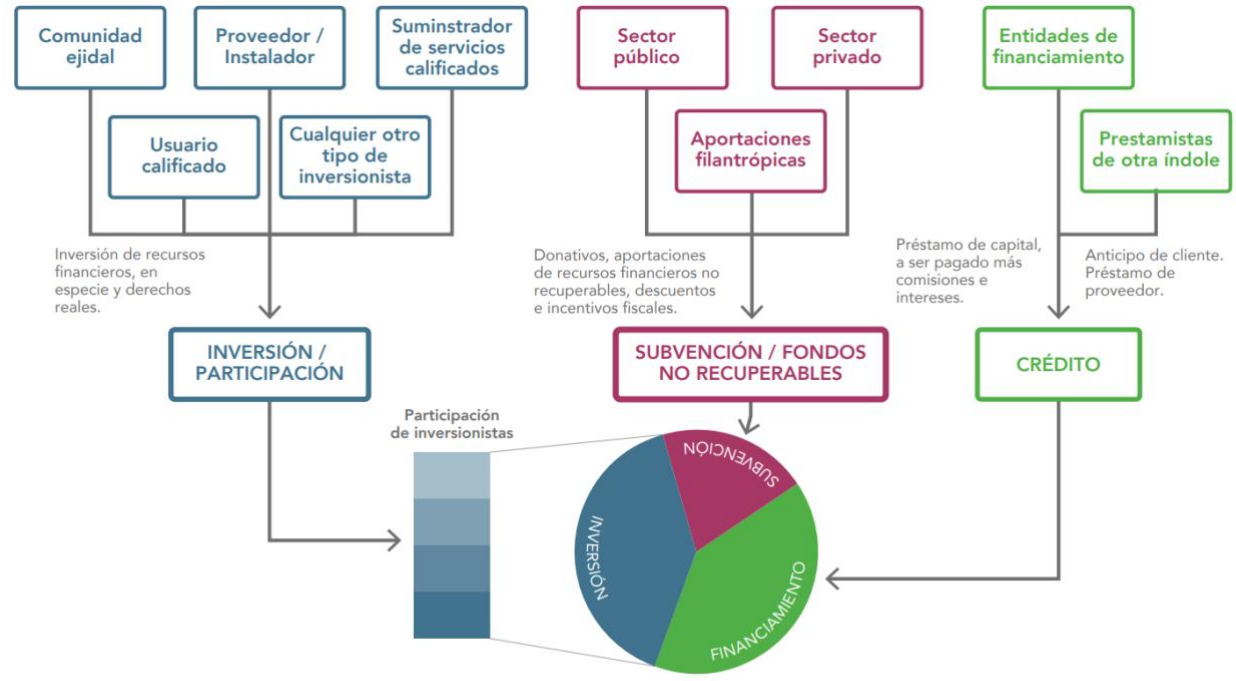

Figura 6.1. Esquema de levantamiento o financiamiento de capital.
Fuente: Elaborado por ASORE para el Proyecto Ejido Solar.

Source: Mexico AC Climate Initiative (ICM). (2022). *Ejido Solar. Replicability Handbook. Project: Ejido Solar Iniciativa Climático de México, A.C.* UC-Mexico Pact, ICM.

b) Implementation Phase

The project has sought to adapt to the requirements of multiple funding sources. The informants highlight the collaboration with the private sector, seeking their participation as investors, even as angel investors. Two non-standard forms of financing are identified: the total sale of energy, either to the Federal Electricity Commission (CFE) or to qualified private suppliers, with the possibility of negotiating prices. In addition, the receipt of donations from foreign sources, such as the United Kingdom, for energy transition and decarbonization projects is noteworthy.

In terms of obtaining land, there is evidence of the willingness of municipal governments to donate land, showing a positive acceptance of the program. It mentions the creation of a trust fund per plant to channel resources and benefit the community, focusing on reducing electricity billing.

Among the experiences shared, in the case of Sonora, the conceptual coincidence with the term "Ejido Solar" and the need to adapt to viable financing models stand out. A reflection on financial viability is evidenced, considering aspects such as indirect costs and the importance of finding reliable buyers for the energy generated.

The project has engaged specific narratives to collaborate with the private sector, identifying different types of actors, such as developers, funders, and angel funders. The importance of presenting social and environmental benefits to the private sector to maintain its interest is highlighted.

In terms of governance, the active participation of the community through committees and trusts is noted, with the intention of giving the beneficiaries a voice in decision-making about the resources generated by the project.

It emphasizes the importance of using land for communal use, which does not replace existing agricultural activities, but becomes an additional source of income. The project is tailored to the specific needs of each community.

In short, the project has managed to diversify its sources of financing, seeking the participation of the private sector, obtaining international donations, and generating mechanisms for community participation in decision-making and economic benefits.

The project evaluation is substantively justified by the implementation phase. While the design phase establishes a solid strategy to obtain blended financing from various sources, it is during the implementation phase that the extent of adaptation to the requirements of multiple funding sources is demonstrated, potentially influencing the collaborative process of the project favorably.

a) Collaboration with the private sector: During implementation, efforts have been made to engage the private sector as investors or angel investors. Although direct financial contributions from companies have not materialized, the participation of the sector through civil associations funded by the business sector is relevant, as is the case with the Sonora Energy Cluster (https://clusterenergiasonora.org/).
b) Unconventional forms of financing: The government of Sonora promotes two non-standard forms of financing, such as total energy sales, either to the Federal Electricity Commission (CFE) or to qualified private suppliers, with the possibility of negotiating prices. This adaptation to alternative forms of financing reflects the project's flexibility, which could strengthen collaboration among the involved stakeholders.
c) Receipt of international donations: Access to foreign funds (UK-PACT) for energy transition and decarbonization projects, and technical assistance from specialized social sector organizations (ICM), highlights the project's ability to adjust to different sources of financing, potentially positively impacting the collaborative process by increasing available resources.
d) Community participation in decision-making: Community participation through their assemblies, their inclusion in collaboration committees and in trusts for fund management, involves them in

decisions, supervision, management and oversight of the resources generated by the project. This focus on community participation can strengthen commitment and collaboration among the different groups involved in the project.

In summary, the project's adaptation to financing requirements during the implementation phase, such as collaboration with the private sector, seeking alternative forms of financing, receiving international donations, and community participation in decision-making, demonstrates a potentially favorable influence on the collaborative process of the project, as required by the Support (1) criterion.

10. The capacity to leverage support from authorities to enable local collaboration

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

According to the opinions collected:
Projects are driven with government support, whether at the federal, state, or local level. Although the community is central, the federal, state, or local government drives the initiative. This support facilitates the relationship with communities, indicating which communities are conducive to addressing. The relationship with the government has been crucial in identifying the right communities. There is government-suggested coordination to address specific communities, which has facilitated progress in the process. (Design Phase)

Land Negotiations and Agreements:
Negotiations with municipal governments and communities have been successful. Cases where the donation of land was achieved through Cabildo agreements are highlighted. The Agrarian Prosecutor's Office and the Agrarian Registry (RAN) play a vital role in ensuring the certainty of the land.

Financial Challenges and Negotiations with CFE:
Financial challenges arise when dealing with the Federal Electricity Commission (CFE). Despite project proposals and submissions, some encounter financial and fiscal hurdles that affect the economic viability of the project.

Adaptation to State Programs and Regulations:
Adapting the conceptual model of the solar ejido to state programs presents challenges and opportunities. Alignment with the state government's goals, while setting priorities, also imposes constraints on project implementation.

Dialogue with Federal Authorities:
In the initial phases, processes focus on local, municipal, and state levels. The need to engage the federal level arises as a significant regional impact is projected with multiple interconnected plants. It mentions

the exploration of multiple regions in Mexico to implement solar projects, evidencing extensive efforts to establish relationships and find suitable locations. Although some regions express interest, relations in Sonora proved to be fundamental.

In summary, interaction with higher-level authorities is essential to overcome challenges and advance solar projects, from choosing communities to resolving financial and regulatory issues.

The decision to assign a score of "Support (1): The project has benefitted from positive relations with higher-level authorities, which have helped the project to overcome challenges" is corroborated in interviews, where the project's commitment to higher-level authorities is observed, along with their fundamental role in facilitating various aspects of the project.

a) **Collaboration with Municipalities:** The project engages with municipalities to secure land for solar plant construction. Municipalities are key stakeholders at the local level and their cooperation is essential for land acquisition.

b) **Government of Sonora's Involvement:** As the state government, Sonora plays a crucial role in the project. The government's engagement with the municipalities and ejidos demonstrates its willingness to support the project at the regional level. The mobilization of federal agencies in intergovernmental meetings has been fundamental to address legal issues and manage administrative assistance.

c) **Engagement with Federal Agencies:** The project interacts with federal agencies such as SEMARNAT, INAH and CFE in high-level meetings. These interactions illustrate the project's reliance on federal authorities for regulatory approvals and technical expertise. The participation of federal agencies indicates their active involvement in facilitating project implementation.

Overall, the project's interactions with municipalities, the government of Sonora, and federal agencies highlight its reliance on higher-level authorities for support and guidance. These engagements demonstrate the positive influence of higher-level authorities in addressing challenges and advancing the collaborative process of the project, aligning with the "Support (1)" criterion.

11. Inclusion and empowerment of relevant and affected actors

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

In the project, there are efforts to ensure the participation of various actors, although some challenges remain. In ejido communities, ejidatarios, landowners, often make decisions that exclude the community. Despite this limitation, there is a genuine attempt to address inclusion. The donor UK Pact promotes social and gender inclusion, seeking to expand representation in decision-making, overcoming the traditional exclusion of community voices.

Inclusion varies depending on the institution involved and the person in charge of the collaboration. The creation of a rural production society in Guanajuato reflects the first attempt to integrate the community into the process. In addition, the formation of committees with diverse participation for the management of benefits is proposed. In Sonora, strategies such as the creation of a registry of beneficiaries with inclusive criteria are being explored.

In the photovoltaic distributed generation model, the importance of involving the entire community is highlighted. Parity structures in committees are proposed, recognizing the participation of people without formal rights. In later phases, the inclusion of women is emphasized, highlighting their needs and contributions.

The British embassy stresses the importance of integrating gender perspectives into all projects, recognizing the need to provide equal opportunities. International cooperation highlights the gap between planning and implementation, advocating for the effective participation of beneficiaries to achieve sustainable impacts.

Although inclusion challenges remain, such as economic and information asymmetries, the project seeks to balance interests to empower the community. The importance of understanding the local reality and recognizing relevant actors beyond formal roles is highlighted. In short, the project shows a genuine commitment to inclusion, adapting to specific contexts to achieve sustainable results.

The information obtained reveals an important dilemma in the project, which seeks to balance the empowerment of ejidatarios with the inclusion of traditionally marginalized people. Despite efforts to involve the community in decision-making, tensions persist over who has a say in the process. In the context of the original ejido model, the ejidatarios, as owners of the land, are the decision-makers. However, it is recognized that this dynamic does not necessarily include the voices of the entire community, generating a challenge in terms of representativeness and inclusive participation.

Regarding the gender dilemma, the importance of including women in the decision-making process is addressed. Specific meetings with women are mentioned to address their concerns and needs, highlighting attention to the gender perspective.

In summary, the project faces the challenge of balancing the autonomy of ejidatarios with the active inclusion of the community in key decisions. It seeks to overcome the limitations of the traditional model to ensure fairer and more inclusive participation, considering the diversity of actors and perspectives at stake. This dilemma underscores the need to find solutions that empower ejidatarios without marginalizing those who have traditionally had less of a say in these processes.

Based on the interview transcripts provided, the project cannot be evaluated as "Significance (0.66): Specific measures have been taken to ensure that not only are all relevant and affected actors included in the project, but all actors (particularly the marginalized ones) are also able to have a voice in the collaborative process."

Despite efforts during the design and implementation phases to include relevant and affected actors, including participatory dynamics with women and strategic workshops to develop mechanisms for inclusion of regularly marginalized sectors such as people with disabilities, single mothers, or those without participation in "communal private property" of the Ejido, there are mixed conditions observed.

During the design phase, efforts were made to involve key stakeholders and affected communities, as evidenced by consultations with local people and attempts to address gender and social inclusion issues. However, challenges remain in fully ensuring the participation of all stakeholders, particularly the marginalized, in decision-making processes and benefit-sharing mechanisms.

Initiatives such as the creation of rural production societies and the inclusion of non-ejidatario community members in decision-making structures are in the process of being created in Sonora, meanwhile gaps in representation and empowerment remain, especially for women and other marginalized groups. In addition, disparities in access to resources and decision-making power persist, highlighting ongoing challenges in promoting inclusive and participatory processes at all levels of the project.

As referenced in the previous section (GF 10), during the design phase conducted in Guanajuato, a significant moment of community inclusion in decision-making was witnessed. Additionally, two aspects can be highlighted: a) the playbook focused on designing alternatives to achieve broader inclusivity and empowerment of traditionally marginalized actors; b) interviewees emphasized the efforts and challenges to realize the aspiration for inclusivity. It could be argued, therefore, that in the design phase, the project is on the margins of Significance (0.66).

However, the case of Sonora emerges from a different dynamic, where the state government owns the project, and even though, because of ICM cooperation, it has incorporated components of the Ejido Solar governance model, the corresponding actions are still in the process of implementation. Hence, in the working group, and according to current evidence, we lean towards rating the GF as Presence (0.33).

12. Clarification of interdependence vis-à-vis common problem and joint vision

QCA score:	Scoring confidence:	Data sources
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

The project has implemented significant measures to address participants' awareness of the need to collectively contribute to the resolution of common problems. In the interviews, the importance of social governance and collaboration between different actors is highlighted.

In ejido communities, where ejidatarios are the formal leaders, it is recognized that representation does not always reflect the needs of the entire community. Despite this, there is an awareness of the importance of considering the whole community in decision-making, and the possibility of improving this inclusion is raised.

In Sonora, the dynamics are different due to the municipality's involvement. The collaboration between the municipality and the ejido assembly demonstrates an effort to involve the community in decisions that affect everyone. This personal, though non-institutional, approach highlights the importance of building relationships beyond formal roles.

In terms of social governance, the informants underline the collaboration between different entities. It should be noted that the State Government, the municipality, the private sector and the ejido community contribute in a complementary way to the project. International cooperation is also recognized for its support in technical and financial aspects.

The project addresses social governance as a major challenge. It mentions the need to generate recommendations to bring the project closer to a solar ejido model. Sonora's strategy, carried out at the municipal level rather than at the ejido level, shows an adaptation of the project to specific contexts.

In short, the project strives to balance the autonomy of ejidatarios with the active inclusion of the community in key decisions. Collaboration between different actors, both locally and internationally, reflects the understanding that common problems require diverse contributions. Although challenges remain, commitment to social governance and collective participation demonstrate the importance of addressing these dilemmas to achieve sustainable and equitable outcomes.

In this regard, the opinion of a government informant in Sonora is revealing:

> *In our approach to social governance, we focus on technical direction from the government, making specific efforts in technical terms. We recognize that our contribution has focused on the technical side, rather than on social development. This partnership has been a necessary adaptation.*
> *In collaboration with ICM, we addressed the implementation of plants in different villages, taking advantage of their international funds. We emphasize the importance of direct contact with the community and the realization of studies that, due to budgetary constraints, we would not be able to carry out. We are grateful for ICM's collaboration and support in this regard.*
> *The execution of design studies and executive projects is not contemplated in our allocated budget. This limitation has led us to depend on the collaboration and accompaniment of ICM in this area, since we do not have the financial resources to propose projects of this type.*

We welcome any additional help that can be offered. The contributions we receive, although they largely involve discussions and verbal expressions, are extremely beneficial to us. These contributions have a real impact and support us in areas where, as a government, we cannot use resources or where they are not essential to us.
In particular, we recognize the significant benefit of the participation of individuals in law firms that have been funded to address legal issues. This collaboration has been especially beneficial in providing strong legal arguments, contributing positively to our efforts [paraphrasing]

The text provided highlights the interdependence between project participants, particularly between the government and ICM. This interdependence is evident in several ways:

a) **Technical Direction and Implementation:** The government focuses on technical direction, while ICM assists in implementing projects in different ways.

b) **Design Studies and Executive Projects:** The government's budget does not cover design studies and executive projects, leading them to depend on ICM for support in these areas.

c) **Legal Expertise:** The collaboration with legal firms funded by ICM has provided substantial benefits by offering strong legal arguments, particularly essential for the government's efforts.

Overall, the interviews demonstrate a sense of interdependence among the involved parties. There is clear mutual recognition of the need for each other's resources and competencies for the successful implementation of the project. Without the international funding, ICM would not have developed the project design; without the land donation from the ejido or municipality, there would be no project; without the Sonora government program, there would be no resources to make Ejido Solar a reality. The mutual dependencies are complex and varied, and the parties seek each other out, engage in dialogue, agree, and collaborate on specific actions, implicitly recognizing the importance of each party's contribution to the project's success. However, all interviewees explicitly acknowledge their dependence on the resources of their counterparts. Ultimately, the Playbook is a design for collaborative governance, rigorously integrating a multiactor perspective.

This acknowledgment of mutual dependency and the tangible benefits derived from collaboration align with the criteria for "Support (1)" rating, emphasizing the key role of interdependence as a driver for project collaboration.

13. Trust-building and conflict mediation

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☒ 0.66	☒ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

From interviews and documentary evidence, trust has been a factor since the beginning. It's based on bonds of trust. In the first phase of design, building trust made the development of the project possible, culminating in two very complete pilots. In other words, the alliance forged between the Mexican Climate Initiative (NGO) and the British Embassy in Mexico (International Cooperation), allowed the 'Ejido Solar' initiative to move from the drawing board to a series of pilot actions, improving the Initiative and publicly communicating the project to attract other potentially interested actors for implementation in their contexts.

To carry out the pilots in the states of Jalisco and Guanajuato, building bonds of trust was mostly the responsibility of ICM and allies who carried out communication work of the project with the populations of the potential communities. In interviews, members of ICM report that some local leaderships were even activated, although they were diluted as the pilots did not necessarily advance to formal phases of implementation.

The strategies of the playbook, at the same time, are based on a governance model that is largely relies on the principle of trust; however, mechanisms for conflict resolution have not been fully developed. Some risks are warned around the Ejido Assemblies, since internal conflicts may arise that hinder or prevent the operation of photovoltaic plants, impacting the quality of their operation and the generation of energy.

Partly, the gender and social inclusion strategies contained in the playbook seek to manage possible conflicts from the diagnosis of the ejido communities with which to implement 'Ejido Solar'. It establishes that to the extent that contracts and agreements are established for the distribution of the benefits of the power generation system, conflicts will have a better possibility of mediation. The strategies of the playbook include guidelines for approaching ejido communities, recognizing that they must have a sensitive approach to the conflict (we give an account of these methodologies in 'GF 14. Use of experimental tools for innovation'). It stands out that the first objective of the strategies of the playbook is to motivate the internal resolution of conflicts to generate autonomous capacities; if the conflicts transcend these capacities, either due to their environmental or social nature, the intervention of other actors is recommended.

The project has sought to build trust and mediate conflicts at different times, but the measures taken have not been fully institutionalized. Building trust has been addressed through linkage with individuals or subcontractors who already have an established relationship with the community. These actors, recognized and trusted by the community, facilitate the approach to the project, ensuring that it is perceived as legitimate and without harmful intentions.

Despite efforts, the institutionalization of systematic routines for trust-building or conflict mediation has not been completely successful. The lack of implementation in some cases, such as in Guanajuato and Jalisco, has generated unmet expectations, affecting the perception of the project. Managing these expectations and implementing effective measures are identified challenges. In addition, the lack of initiation in benefit-sharing has postponed the visualization of the implementation challenges that are expected. It is recognized that, with the influx of money into community projects, challenges and conflicts

arise. However, it is hoped that these problems will be mitigated through clear governance mechanisms, such as trusts and committees, although it is anticipated that some conflicts will be inevitable.

In some cases, detailed explanation of decisions, such as land donations, has contributed to community ownership of the project. In addition, the commitment and trust generated from the state government have facilitated interactions in certain areas. Despite these efforts, social and economic factors, contribute to the persistence of mistrust and challenges in the implementation of the project.

Therefore, trust has been a factor involved since the design of the initiative, however, it is still necessary to know the behavior of the construction and maintenance of the bonds of trust, as well as the mechanisms of conflict resolution that emerge in the concrete experience of Sonora and the deployment of the 40 photovoltaic plants that will intensify the interactions between the multiple social actors. bureaucrats and funders. This period, which is expected to take place during 2024, is the one that will present the greatest challenges.

b) Implementation Phase

The project has sought to build trust and mediate conflicts at different times, but the measures taken have not been institutionalized *stricto sensu*. Building trust has been addressed through linkage with individuals or subcontractors who already have an established relationship with the community. These actors, recognized and trusted by the community, facilitate the approach to the project, ensuring that it is perceived as legitimate and without harmful intentions. However, building trust from scratch presents itself as a complex challenge.

Despite efforts, the institutionalization of systematic routines for trust-building or conflict mediation has not been completely successful. The lack of implementation in some cases, such as in Guanajuato and Jalisco, has generated unmet expectations, affecting the perception of the project. Managing these expectations and implementing effective measures are identified challenges. In addition, the lack of initiation in benefit-sharing has postponed the visualization of the implementation challenges that are expected. It is recognized that, with the influx of money into community projects, challenges and conflicts arise. However, it is hoped that these problems will be mitigated through clear governance mechanisms, such as trusts and committees, although it is anticipated that some conflicts will be inevitable.

In some cases, detailed explanation of decisions, such as land donations, has contributed to community ownership of the project. In addition, the commitment and trust generated from the state government have facilitated interactions in certain areas. Despite these efforts, social and economic factors, such as the lack of permeation of benefits in some municipalities, contribute to the persistence of mistrust and challenges in the implementation of the project.

The project fits the description provided in the "GOGREEN Scoring instructions" in relation to "Significance" (0.66), as evidenced by systematic measures or routines serving as a functional equivalent for building trust and/or mediating conflicts. This is reflected in the interviews, where widespread acceptance and consensus among participants are mentioned, along with the willingness of municipal governments and ejidos to collaborate on the project. Additionally, efforts to ensure project certainty by managing lands legitimately are highlighted, implying a form of mediation and trust-building among the involved parties.

The interviews reveal that meetings and assemblies have been held to discuss and agree on project details, indicating efforts by project facilitators to facilitate communication and decision-making among participants. Furthermore, the need to carry out procedures and manage administrative matters to ensure the participation and support of ejidatarios demonstrates a concern for establishing measures and routines to resolve potential internal conflicts and ensure the long-term viability of the project.

The following interview excerpt exemplifies measures for building trust and/or mediating conflicts:

> *We have always had very good reception from all participants. Then it is quickly approved, there is no type of conflict, say, questioning of solar plants. There is a very wide consensus, very very very wide. I mean, no, um, um. We have not had any incidents of this kind from anyone here. Well, then we have lands that belong to the municipalities and in which the participation of municipal governments, the mayors, or the female mayors, has been a total willingness, this program has been very accepted. And well, there is a long waiting list to want to have a plant. So we have those, we have the ejidos and we have private individuals and commoners.*
>
> *And then in the case of Vacadeuish, for example, which is already there with ejidos, there is full willingness from the municipal president and full willingness from the leaders of the Ejido. And here, the whole process was carried out in an assembly in a first call, then a second, and then the agreement was reached and the details of how this can be done were applied. These are lands that can be given in loan for 30 years. So, what I mean is that in this process of trying to give certainty to the project, starting with a reliable land, free of any conflicts. So, we realize that in this governance process, either municipal administrations or ejidos are involved.*

As for the qualification of "Support" (1), although it is recognized that the known experience aligns with these criteria, due to its early implementation phase, due to their early stage of implementation, the forms of interactions are unknown given the interests that the plants will potentially generate when they are received by the communities for self-management. It should also be added that interviewees express, in the mini-survey, a high confidence in the solution developed and its alignment with the project objectives, and a slight agreement on the long-term effects and strength of the collaboration. As there are mixed factors that could justify both classifying as "Significance" and "Support," the research group, in holistically evaluating the project, suggests considering a score of "Significance" (0.66) at this stage. Thus, it is necessary to wait for the project to progress and consolidate to confirm if the implemented measures and routines have had a positive impact on the collaboration process, as described in the definition of "Support."

14. Use of experimental tools for innovation

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☐ Medium confidence	☒ Documents
☐ 0.66	☒ High confidence	☐ Observations
☒ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

The initiative itself serves as an experimental tool for fostering innovation. Specifically, the 'Ejido Solar' initiative is designed as an open platform for experimentation, adaptation, and redesign. While adhering to high professional standards, it is conceived as a model that addresses both climate and social agendas, with a particular emphasis on benefiting marginalized and impoverished communities.

Through interviews with ICM members and documentary analysis, it becomes evident that this model embodies a cross-cutting axis focused on gender equity and social inclusion for renewable energy generation projects, often referred to as GESI (Gender and Social Inclusion). The underlying premise is rooted in the belief that the design and implementation of projects impacting communities should inherently incorporate women and the most marginalized populations, as this inclusion yields positive consequences for communities at large.

The design of the 'Ejido Solar' initiative, including its implementation, aligns with 'SDG 9: Industry, Innovation, and Infrastructure.' As outlined in its playbook (p.430), the initiative aims to promote innovation and the construction of sustainable, resilient infrastructure for electricity generation. This emphasis is placed on ensuring accessibility and equitable distribution. Simultaneously, the initiative seeks to facilitate access to financing for infrastructure development in populations that traditionally lack such services. In essence, the initiative posits that technological innovations can catalyze and solidify provided that local governance dynamics are aligned with the main objectives of the program.

b) Implementation Phase

The implementation has not been a laboratory of innovations as such. The operation of the photovoltaic plants and the construction plan of 40 plants in total follows a partial model of innovation, that is, although the 'Ejido Solar' model is an innovation, the local public administration in Sonora follows other parameters linked to the realization of its policies, which reproduce traditional logics of the government sector.

Huachinera, Sonora, as the first implementation, could be considered as a pilot capable of generating useful knowledge as an innovation laboratory, however, there is no evidence to suggest that it has this treatment.

Based on interviews and reviewed documentation, the design of the Ejido Solar project was a collaborative effort led by ICM. It involved consultations, dialogues, and workshops with beneficiaries or affected parties at the ground level, addressing design aspects as well as negotiations with higher-level entities (federal government agencies).

II. In the case of Sonora, the state government developed its project through intergovernmental collaboration, with the involvement of a specialized civil association (project facilitator in this state). However, they also sought advice and collaboration from ICM, adapting the handbook to their specific process. This involved conducting socioeconomic assessments with communities, incorporating dialogues and various activities to address people’s concerns during implementation.

The Replicability Manual, with its citizen-centered design tailored to ejidatarios, resembles an experimental tool. It addresses the lack of electricity in remote communities by proposing a design

adapted by ICM for cases in Jalisco, Guanajuato, and Sonora. This design introduces photovoltaic solar panels as an alternative to meet the energy needs of selected Ejidos according to criteria of feasibility and social benefits for marginalized communities."

III. Analyzing the experiences of Jalisco, Guanajuato, and Sonora collectively, it is evident that there is a tangible impact of systematically harnessing user feedback mechanisms in shaping the final solution design. This impact is more pronounced in the case of Guanajuato but has also led to valuable learning applied in the Sonora context.

IV. However, it's important to note that the categories of "experimental tools," "User-centered design," and "Prototyping" are not explicitly mentioned by the interviewees, who seem uncomfortable with these formalistic terms. Instead, they prefer to discuss interactive dynamics for making informed and legitimate decisions, incorporating user concerns through practices from previous experiences such as dialogues, workshops, assemblies, and informal communications.

V. According to the criteria outlined in the table above, the project meets the specifications for a Support score (1). Although the score for Sonora seems to straddle between Significance (0.66) and Support (1), we lean towards Support for two reasons:

a) considering the combined experiences of Jalisco, Guanajuato, and Sonora, and
b) referring to the mini-survey results, which yielded average scores of 6.6 for questions related to collaborative processes mobilizing diverse experiences and generating innovative solutions for green transition challenges (questions 3 to 6).

15. Ongoing critical self-reflection and learning (i.e., process and/or developmental evaluation):

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☒ 0.33	☒ Medium confidence	☒ Documents
☐ 0.66	☐ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

'Ejido Solar' has been conceptualized as an initiative open to implementation in the distinct contexts of Mexican states, aiming to maximize the potential for learning and critical reflection during its execution. A significant source of learning is anticipated to arise from shared social or community benefit programs, directly impacting local economies and contributing to the mitigation of environmental issues associated with green distributed energy generation. With the expectation that ejido communities will define these benefit programs, they are poised to become primary informants on the operational impacts of the photovoltaic plants. While monitoring, follow-up, and evaluation systems are not pre-defined, communities are expected to assess the relevance, sustainability, continuity, results, and impact of the benefits.

The playbook emphasizes that the implementation of 'Ejido Solar' is likely to spawn new community projects, driven by insights gained from the operation and benefits of photovoltaic plants. Ejido communities are anticipated to leverage technical, administrative, financial, social, and environmental impact information generated by 'Ejido Solar' to propose and select community projects associated with these benefits, facilitated through the establishment of committees or similar associative structures. This information is expected to circulate among project stakeholders, enabling proposals for improvements, identification of obstacles, refinement of measurement systems and benefit distribution, and public communication regarding the photovoltaic plant's development.

It is important to note that the implementation is in its early stages, making it challenging to document the processes of information generation and utilization for self-reflection and learning.

b) Implementation Phase

It is mentioned that, in the case of Sonora, the existing model was adjusted, and commitments were negotiated to adapt to the local reality. This adaptation process has been a significant learning process, allowing us to evaluate which parts of the model are viable and which are not. It also points out the importance of learning from past experiences and international organizations. It recognizes that practical implementation is a challenge and highlights the philosophy of looking for success stories downwards, learning from difficulties and adjusting strategies accordingly.

In several testimonies, the need to avoid overly theoretical approaches and to adapt solutions to the specific circumstances of each ejido is addressed. It highlights the importance of finding buyers early on and managing practical factors such as price certainty and readiness for the sale of energy. In general, there is evidence of a continuous process of reflection and adjustment in response to the challenges encountered during the implementation of the project. The accumulated experience, both locally and internationally, has contributed to a more practical and adaptive approach, seeking financial viability and community acceptance from the outset.

However, there are still no evaluations planned or carried out, therefore, there is no self-critical reflection that generates learning based on the continuous review of the results of a formal evaluation. Although in Sonora it is monitored through meetings with ejido communities, it has not been possible to report on documents that establish systematicity in monitoring, evaluation, and systematization of the experience.

Due to the stage in which the initiative is in Sonora, the main dynamic actors are just obtaining a little information to know failures even of the model itself. Where it has been implemented, it has not been fully carried out in accordance with the Replicability Handbook, that is, the governance model or the installation of bodies such as the Community Council to define the use of the benefits have not been implemented, since the operation of the plants has only just begun. This is leading actors to rethink various issues that emerge given implementation.

c) Critical analysis

The data provide elements that generate an apparent contradiction with respect to the evaluation of the 'Ejido Solar' project. On the one hand, it is argued that the project has no evaluation measures before its completion, and there is no deliberate self-evaluation until the end, the term of which is not clearly defined. On the other hand, it is identified that the revision of the first stage and the work planned for a

second stage in Sonora indirectly imply an evaluation of the theoretical-conceptual approach of the playbook, suggesting that the results of this review were partially used during the useful life of the project.

The apparent dichotomy lies in the lack of clarity about the evaluation actions and their relationship to the ongoing development of the project. The absence of specific evaluation measures prior to completion raises questions about how the project is monitored and adjusted to ensure its effectiveness and relevance over time. The lack of deliberate self-evaluation to the end also leaves unanswered the crucial question of how results are measured and improved throughout implementation.

The review of the first stage and the planning for a second stage in Sonora invite a more nuanced perspective. This suggests that, although explicit evaluation measures have not been implemented, actions have been carried out that implicitly evaluated and adjusted fundamental aspects of the project.

Ultimately, the problem of effective management and evaluation of long-term projects is clear. How can you ensure the continued relevance and adaptability of a project without a clear evaluation framework? The apparent contradiction highlights the importance of establishing evaluation measures from the outset and how these can be organically integrated into the project lifecycle, allowing for continuous adjustments, and ensuring that implementation is guided by meaningful learnings.

16. Exercise of facilitative leadership:

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Interviews
☐ 0.33	☒ Medium confidence	☒ Documents
☒ 0.66	☐ High confidence	☐ Observations
☐ 1		

Please elaborate on the reasoning behind your scoring for this governance factor:

a) Design Phase

The 'Ejido Solar' Initiative integrates a governance model with co-responsibility and benefits distribution among multiple actors, emphasizing inclusion and gender equity. The dynamics of constructing the playbook and the pilots in Jalisco and Guanajuato exemplify a networked governance approach, emphasizing the relevance of shared leadership to facilitate processes.

Despite a distribution of leadership in building the 'Ejido Solar' Initiative, the pilots in Jalisco and Guanajuato did not progress to an effective implementation phase. In Guanajuato, interactions between local bureaucratic actors and higher authorities created an obstacle or 'glass ceiling,' slowing down the process. In Jalisco, the lack of attention from bureaucratic, private, and financial actors hinders the transition to implementation. Implementation in Sonora is in early stages.

In Sonora, a robust leadership network formed, driven by trust and aligned agendas: bureaucratic actors, BWI, the British Embassy, and local promoters, including the Sound Energy Cluster. This encompassed legal, administrative, financial, social, community, and technical aspects, resulting in the successful implementation of the first photovoltaic plant in a few months. The presence of British Ambassador Jon Benjamin in Huachinera underscores UK PACT's commitment to achieving this milestone, standing

alongside key local actors, such as the Director General of Energy of the Government of the State of Sonora and the Municipal President.

Source:
Francovigh, G. (2023, August 25) Successful visit of the United Kingdom ambassador to distributed generation plants in Sonora. Strategic Energy. https://www.energiaestrategica.com/exitosa-visita-del-embajador-de-reino-unido-a-las-centrales-de-generacion-distribuida-en-sonora/

Juárez, U. (2023, August 8) United Kingdom ambassador visits distributed generation plant in Sonora. Energy up for debate. https://energiaadebate.com/visita-embajador-de-reino-unido-planta-de-generacion-distribuida-en-sonora/

b) Implementation Phase
The 'Ejido Solar' project has been implemented with a collaborative approach, and informant opinions suggest that formal leaders have played a prominent role in directing and promoting the problem-solving process. The relationship with local governments has influenced the choice of communities for the project, and it is beneficial to have those already linked to the government. The presence of local leaders has been consistent in several communities, strengthening collaboration, and the figure of the president of the Assembly stands out for his influence on decision-making.

Collaboration with external actors, such as the Sonora Energy Cluster, and local leaders, such as the director of an arts development center, has been key. In Guanajuato, mediating leadership contributed to the momentum of the project, as did the close collaboration with the municipal president. Although local leaders did not work directly in Jalisco, the Intermunicipal Board (Junta Intermunicipal) influenced the selection of communities. In Sonora, the aim is to strengthen existing leadership, including non-ejido people, such as the representative of the cultural center. The socio-territorial diagnosis and the facilitation of formal communication by the state government have contributed to an environment conducive to community participation.

Community leaders, initiators, implementers, and grantees share ownership and funding of the project, showing flexibility in roles. Role dynamics during implementation can generate tensions, such as divergences between community leaders and bureaucratic actors, as well as disagreements on government agendas on the use and destination of the energy produced.

Although it is still too early to fully document the learning processes, collaboration between parties, facilitated by ICM and UK Pact, has been instrumental in the implementation of the program.

Despite the challenges and conflicts identified in the implementation of the project, formal leaders show resilience in their efforts to advance the collaborative process. Their ability to forge relationships and their recognition of the importance of certain local leaders indicate a conscious strategy to drive collaboration and overcome obstacles.

However, despite clear efforts, it cannot be categorically stated that these leaders have achieved complete success in promoting collaborative interaction among project participants. The complexity of local challenges, the diversity of actors, and specific project dynamics can influence the effectiveness of these

efforts. Although the intent is obvious, the evaluation of success would require a more detailed analysis of the results and the perception of the participants involved.

Outcome variable: Successfully co-created green transitions

The outcome variable 'co-created green transitions' will be scored in two parts. First, 'co-creation' will be scored based on an assessment of whether the participants in the initiative, project or process engaged in collaborative problem-solving that fostered creative ideas and innovative solutions (data will consist of survey data combined with interviews and documents). Next, 'green transitions' will be scored based on an assessment of whether the initiative, project or process has fulfilled or is expected to fulfill its green goals, ambitions, and aspirations (data will consist of survey data combined with interviews and/or external evaluation reports, including scientific publications).

The scoring of this variable is done in two parts:

1. *Is the developed solution based on collaborative problem-solving spurring creativity and innovative solutions?*
2. *Does the developed solution engender a green transition?*

This scoring should be conducted based on both the survey and complementary green outcome evaluations. Please consult Sections 4.4 and 6.10 in the Research Protocol for more details.

1. Is the developed solution co-created?

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Survey
☐ 0.33	☐ Medium confidence	☒ Interviews
☐ 0.66	☒ High confidence	☒ Documents
☒ 1		☐ Observations

Please elaborate on the reasoning behind your scoring for this part of the governance factor, including the data sources used for the scoring.

Throughout the report, evidence has been presented that the Ejido Solar initiative is a co-created solution, the main arguments are listed below:

a) Effective collaboration between **local/regional government and communities** is crucial for the success of initiatives, emphasizing the importance of benefiting the community as a whole and avoiding favoritism towards specific individuals.
b) In some cases, the government takes a proactive approach by seeking out the community, demonstrating a proactive engagement effort **based on previous relationships** established in prior projects.
c) There is a differentiation in access to federal and subnational instances, where contact with subnational instances is perceived as more accessible, indicating that the **doors for subnational projects are more open**.

d) Proposals are explored to give more autonomy to communities, such as the idea that **ejidos can initiate and finance energy projects**, but the need to work on proposals allowing communities to obtain financing independently is emphasized.
e) Regionally, experiences are shared regarding approaching communities with a social rather than environmental focus, recognizing that, although renewable technology contributes to climate change, the central goal of government programs is to **socially benefit marginalized communities**.
f) Collected opinions reflect the importance of government initiatives seeking collective benefit and establishing **constant dialogue with communities**, emphasizing effective collaboration between government and communities as essential for project success.
g) Negotiations with municipal governments and communities have been successful in the **land negotiation and agreement phase**, highlighting cases where land donation was achieved through Cabildo agreements.
h) Financial challenges are presented when dealing with the Federal Electricity Commission (CFE), indicating financial and fiscal obstacles affecting the **economic viability of the project** in the Financial Challenges and Negotiations with CFE phase.
i) Adapting the conceptual model of the solar ejido to state programs presents challenges and opportunities, establishing priorities but also imposing restrictions on the **implementation of the project** in the Adaptation to State Programs and Regulations phase.
j) Interaction with higher-level authorities is essential to overcome challenges and advance solar projects, from community selection to resolving financial and regulatory issues, highlighting the importance of **coordination with federal authorities**.
k) The project has implemented significant measures to address participants' awareness of the need to contribute collectively to solving common problems, emphasizing the importance of **social governance and collaboration among different actors**.
l) The project strives to balance the autonomy of ejido members with the active inclusion of the community in key decisions, demonstrating the importance of **collaboration between different actors, both locally and internationally,** to address dilemmas and achieve sustainable and equitable results.
m) The strategy to address ejido conflicts involves establishing relationships with ejidos that have previously collaborated in the implementation of public policies, highlighting the **importance of previous relationships** to prevent and manage tensions.
n) The planning phase includes a weighted checklist that assesses case viability, setting prerequisites for a community, such as active cooperation to build community public goods, trust among members, resolution of internal conflicts, among others.
o) The initiative incorporates a governance model connecting civil society organizations, government levels, the private sector, and finance, emphasizing the **importance of clarifying rights, obligations, income, expenses, and co-benefit distribution** for the development and maintenance of positive relationships among involved actors.
p) In summary, the Ejido Solar Initiative stands out as a co-created solution, where collaboration among diverse actors, coordination with authorities, and adaptation to specific contexts are key elements for its success.

The case of Ejido Solar exhibits strong co-creation components during the program design stage, involving a diverse mix of stakeholders at various levels. This trend is evident in survey responses, where all interviewed parties expressed confidence in the co-creative nature of the program initiative.

It is important to clarify and recognize that at the implementation level and in terms of local governance, the issue of sustainable financing appears more complex and perhaps less co-creative according to recent evidence. This is partly due to the challenge of formulating local alternatives that can practically foster community participation. Although well-designed schemes are communicated in manuals, there is still a need to incorporate community plant self-management.

In summary, the case demonstrates the potential for co-creation initiatives to emerge from the beneficiaries themselves, where synergies and innovations can address energy poverty and reduce economic and environmental costs at the Ejido level. Although co-creation conditions may already exist on a broader scale, local catalysts fostering trust are still in early stages of development.

Given these considerations, according to the document "Scoring instructions for GOGREEN cases," the case can be evaluated positively for achieving innovation in the collaborative process and thereby successfully co-creating the dependent variable. Specifically, the survey reports the following results consistent with previous interviews and the Replicability Manual:

a) **The collaboration between the actors has led to a process of creative idea generation:** The collaboration among the actors drove a process of creative idea generation. There was evidence of exchange of experiences, ideas, and knowledge to reframe the problem, formulate relevant objectives, develop new perspectives, and seek unconventional solutions.
    1. Point 2: Mobilization of different experiences, ideas, and/or forms of knowledge to seek unconventional solutions (6.6).
    2. Point 3: Mobilization of different experiences, ideas, and/or forms of knowledge to seek solutions beyond known standard solutions (6.6).

b) **The collaborative process has fostered a degree of innovation:** The collaborative process fostered innovation by breaking with conventional practices and knowledge in the implementation context, while enjoying broad support. Innovation occurs in two aspects:
    1. **Social innovation:** The co-created solution garnered support from various social actors, mobilizing them around it by pooling distributed resources from communities, municipalities, state and federal authorities, civil associations, and indirectly the private sector.
    2. **Technological innovation**: New solutions were introduced in local contexts where they were absent and are received with positive anticipation by the community.
    3. Point 4: The collaboratively developed solution breaks with established practices (6.6).
    4. Point 5: The collaboratively developed solution breaks with conventional knowledge (6.5).
    5. Point 7: High support for the solution (6.9), indicating its potential for implementation and social mobilization.
    6. Point 10: Moderate satisfaction with the expected impact on community well-being (5.6), reflecting the solution's potential to generate a positive impact.

7. Point 11: The high rating (6.3) indicates that collaborative interaction generated an innovative solution.

In conclusion, although the score for point 8 (satisfaction with the collaborative process) was the lowest (5.4), the overall evaluation of the Ejido Solar case in the mini-survey was positive. This supports that collaboration among the actors drove creative idea generation and produced an innovative solution that breaks norms and existing practices, while enjoying broad support from participants. Therefore, the assigned score is **Innovation** (1).

If possible, please insert your survey responses in the table below (in % for each response), including the mean/average % for each survey item.

As outlined in section 3.5 Survey and Independent Evaluations of the Protocol, a 'small survey' will be conducted among the 12-20 individuals with whom we have had contact regarding the case study. In the case of Ejido Solar, we conducted 14 interviews involving 12 individuals engaged in the project. Of these 12, 8 participated in the survey. In three instances, the survey coincided with the interview and was conducted simultaneously during a virtual session via GMeet, resulting in an open-ended questionnaire.

	Strong. dis.	Dis.	Slight. dis.	Neither agr/dis	Slight. agree	Agree	Strong. agree	Mean
1. Problem-solving mobilized different experiences, and/or ideas and/or forms of knowledge to develop new perspectives	0%	0%	0%	13%	0%	25%	63%	**2.4**
2. Through the collaborative problem-solving process, different experiences and/or ideas and/or forms of knowledge have been mobilized to search for unconventional solutions	0%	0%	0%	0%	0%	38%	63%	**2.6**
3. The collaborative problem-solving process mobilized different experiences, and/or ideas and/or forms of knowledge to search for solutions that go beyond standard/text-book solutions	0%	0%	0%	0%	0%	38%	63%	**2.6**
4. The co-created solution breaks with established practices	0%	0%	0%	0%	13%	13%	75%	**2.6**
5. The co-created solution disrupts conventional wisdom	0%	0%	0%	0%	13%	25%	63%	**2.5**
6. The co-created solution offers new ideas to address the green transition problem	0%	0%	0%	0%	0%	38%	63%	**2.6**
7. I'm supportive of the co-created solution	0%	0%	0%	0%	0%	13%	88%	**2.9**

8. I'm content with the overall collaborative process of the project	0%	0%	0%	0%	0%	75%	13%	**1.4**
9. I feel the multi-actor collaboration process was a prerequisite for the success of the project	0%	0%	0%	13%	13%	25%	50%	**2.1**
10. I'm satisfied by the results of the co-creation effort in terms of expected impact on the welfare of the community	0%	13%	0%	0%	13%	50%	25%	**1.6**
11. The collaborative interaction in the project has led to an innovative solution	0%	0%	0%	13%	13%	13%	63%	**2.3**
12. The actors involved in the project are engaged in collaborative interaction that stimulated creative problem-solving	0%	0%	0%	0%	13%	38%	50%	**2.4**
13. The co-created solution meets the proposed goals of the project	0%	0%	0%	0%	0%	63%	38%	**2.4**
14. The co-created solution will be durable and robust in the long run	0%	0%	13%	0%	0%	25%	50%	**1.4**
15. The co-created solution is expected to significantly improve sustainability for the whole community	0%	0%	0%	0%	0%	25%	75%	**2.8**

2. Does the developed solution engender a green transition[1]?

QCA score:	Scoring confidence:	Data sources:
☐ 0	☐ Low confidence	☒ Survey
☐ 0.33	☒ Medium confidence*	☒ Interviews
☒ 0.66	☐ High confidence	☒ Documents
☐ 1		☐ Observations

[1] By "green transitions", we mean objectives and aspirations that correspond to at least one of the Green SDGs (SDGs 6, 7, 11, 12, 13, 14, 15). The project does not have to refer explicitly to the green SDGs, but the project's green objectives

Please elaborate on the reasoning behind your scoring for this part of the governance factor, including the data sources used for the scoring:

The idea of community renewable energy projects is an initiative that seeks to contribute to climate change mitigation and generate additional environmental, social, and economic benefits at the local level. These projects have the main objective of transforming the reality of communities through community action, while promoting a systemic change in electricity generation. In this context, community renewable energy projects are characterized by being decentralized models in which communities own and lead the change, actively participating in all stages of development, from design to operation and maintenance (Iniciativa Climática de México AC (ICM), 2022).

Ejido Solar is conceived as a driver of community renewable energy projects in Mexico, with the integration of the members of an ejido to create a photovoltaic solar generation system. This initiative is based on a strategy of effective and inclusive communication for all parties, with the aim of maximizing co-benefits and guaranteeing a substantive participation of all members of the community.

Co-benefits in community renewable energy projects are those additional positive results obtained beyond the core objectives of the project. These may include reducing greenhouse gas emissions, eliminating energy poverty, and increasing access to affordable and sustainable energy. As well, shared social benefits are additional components that contribute to the development of people and communities affected by the project, such as measures to ensure a positive impact in the short, medium, and long term.

The implementation of Ejido Solar not only has benefits at the local level but can also have effects in other regions by reducing the intensity of generation with fossil fuels. In addition, it can promote the adoption of digital technologies at the local level, contributing to the optimization and monitoring of high energy consumption processes. Likewise, the information generated by the implementation of the project can be useful for the development of other community renewable energy projects, facilitating the replication of the model in other community (ICM, 2022)

It is important to explain that the Replication Manual (Playbook) does not present objectives by its nature as a guide instrument for the design and operation of distributed energy projects. Therefore, the achievement of objectives is the result of the co-creation/co-responsibility of multiple actors. However, the Playbook does raise the potential of Ejido Solar to contribute to the SDGs, specifically:

SDG 7: Affordable and Clean Energy:

a) *Ejido Solar increases the percentage of renewable energy in the national electricity system and contributes to the fulfillment of national and international emission reduction targets in the electricity sector.*
b) *Likewise, the model promotes the expansion of infrastructure and clean technologies in ejido communities and the attraction of investment to rural regions with scarce resources.*

SDG 13: Climate Action:

a) *Ejido Solar will contribute to meeting national greenhouse gas emission reduction targets in the electricity sector by incorporating renewable energy into the grid.*

b) *The installation of Ejido Solar will also mean raising awareness among local populations about photovoltaic technology and its adoption as an alternative energy source to fossil fuels.*

In general, increasing the capacity of electricity generation with renewable sources contributes to reducing air, water, and ecosystem pollution and educating about the importance of renewable energy in the current context.

The implicit green transition objectives in the Playbook include:

a) Mitigating climate change through renewable energy projects.
b) Generating additional environmental, social, and economic benefits at the local level.
c) Empowering communities to lead the transition towards renewable energy.
d) Maximizing and distributing co-benefits among project participants.
e) Ensuring social and economic benefits are shared equitably within the community.
f) Reducing greenhouse gas emissions and promoting sustainable energy accessibility.
g) Contributing to the achievement of Sustainable Development Goals (SDGs).

Justification for considering the project as "Major realization (0.66)":
The Playbook emphasizes the importance of renewable energy projects in mitigating climate change and generating additional benefits at the local level. These projects aim to empower communities to lead the transition towards renewable energy while ensuring equitable distribution of co-benefits and contributing to the achievement of Sustainable Development Goals (SDGs).

The project qualifies for a rating of "Major realization (0.66)" due to indications that it fulfills over half of the established green objectives, especially its core ones. While there are no independent evaluations available to confirm the project's achievement of objectives, survey item 15 provides supporting evidence. The average response for this item is 6.8, with a rating of 7 indicating "Strongly Agree.".

The project cannot be assigned a score of "Full realization (1)" due to its early stage of implementation. Additionally, full realization of objectives would need to be assessed based on reports from the ongoing case in the state of Sonora. However, participants account that relevant project reports have not yet been generated, and the process of creating citizen committees and replicating the pilot case in Huachineras Sonora is still underway. Given the project's early stage of implementation, a score of "Full realization (1)" cannot be assigned.

Source:
Iniciativa Climática de México AC (ICM). (2022). Anexo G. Co-beneficios en proyectos de energía comunitaria In *Ejido Solar. Manual de Replicabilidad. Proyecto: Ejido Solar Iniciativa Climática de México, A.C.* UC-Mexico Pact, ICM.

If possible, please insert your survey responses in the table below (in % for each response). N= 8

1. The project:	Yes	No	Don't know
... did not produce any green transition solution	0%	0%	0%
... is expected to produce/has produced a green transition solution aiming to avoid a worsening in the status quo	25%	0%	0%
... is expected to produce/has produced a green transition solution aiming to maintain the status quo	0%	0%	0%
... is expected to produce/has produced a green transition solution aiming to improve the status quo	75%	0%	0%

Please list all the informants you have interviewed for the case study (list project role + interview date):

a) Project Manager - Mexico Climate Initiative, BWI, 2023-07-31
b) Project Coordinator - Mexico Climate Initiative, BWI, 2023-08-02
c) Technical Advisor – GIZ, former member of Mexico Climate Initiative, BWI, 2023-08-15
d) Executive - AC Sound Energy Cluster, 2023-09-08
e) Executive- Commission of Ecology and Sustainable Development of the State of Sonora (CEDES), Sonora, 2023-09-08
f) Executive - Secretariat of Economic Development, SEDECO, Jalisco, 2023-09-11
g) Researcher - CIESAS Occidente, Center for Research and Higher Studies in Social Anthropology, Jalisco, 2023-09-12
h) Project Manager – former member of UK Pact, British Embassy, 2023-09-26
i) Executive - UK Pact Director, British Embassy, 2023-09-21
j) Executive- Secretary of Economy, Government of the State of Sonora.
k) Holder - Department of the Environment, Government of the State of Guanajuato, 2023-10-05
l) Project Coordinator - Mexico Climate Initiative, BWI, 2024-01-23
m) Holder - Department of the Environment, Government of the State of Guanajuato, 2024-02-01
n) Project Manager, General Directorate of Energy of the State of Sonora, 2024-02-09

Please list all the observations you have made (type of meeting/workshop/etc. + observation date):

All interviews were conducted virtually. In the case of Sonora, the interviewees were offered the face-to-face visit, but in no case did they get a positive response, in fact, it was a very slow process to get them to schedule the interview. Although attempts were made to interview community leaders or grassroots participants, it was not possible to access them due to logistical difficulties in managing our research processes and the long periods between our communications and the responses of the project facilitators. Half of the interviewees were offered a second interview to assist them in answering the mini-survey, resulting in two additional open-ended interviews. the number of mini-survey responses increased from 6

to 8, and the number of interviews increased from 12 to 14. These latter interviews were of high importance, as the development of the Case Report allowed us to identify gaps that were appropriately filled by these interviews.

On all occasions, at least two of the members of the research group participated. The interview instrument was restructured to improve time management, and the questions were grouped as follows:

1. Local Rules: Who are the participants in the initial phase of the project and how were they selected?

07. Building Narratives on Successful Multi-Stakeholder Collaboration

15. Continuous critical self-reflection and learning (e.g., developmental assessment)

2. Conditions of interdependence

11. Inclusion and empowerment of relevant and affected stakeholders

12. Clarifying and establishing interdependence vis-à-vis the common problem and ahared vision

05. Mechanism to Ensure Top-Down Governance and Bottom-Up Social Accountability*

3. Collaborative process

16. Exercise of Facilitative Leadership (meetings)

14. Use of experimental tools for innovation

10. The ability to leverage support from authorities to enable local collaboration

4. Ecosystem for Co-creation. Which international, national, regional and/or local agencies and public authorities are directly or indirectly involved in this project?

Institutional Participation

04. Formalized Institutional Channels for Citizen Participation and Community Mobilization

08. Build or leverage institutional platforms and spaces

09. Provision of access to blended finance

Opportunities in the environment

02. National and International Legislation, Programs, and Formal Goals

03. Relative openness of public governance paradigms

Please list all the documents you have analyzed (document name + source + year):

COBENEFITS. *Mexican 'Ejidos Solar': a tool for development in rural communities.* https://www.cobenefits.info/2021/08/31/mexican-ejidos-solar-a-tool-for-development-in-rural-communities/

Iniciativa Climática de México AC (ICM). (2022). *Ejido Solar. Manual de Replicabilidad. Proyecto: Ejido Solar Iniciativa Climática de México, A.C.* UC-Mexico Pact, ICM. https://www.iniciativaclimatica.org/wp-content/uploads/2023/04/PlaybookEjidoSolar_Final_ConAnexos.pdf

ICM (2022) Ejido Solar. Oportunidades para la implementación de esquemas comunitarios de generación distribuida.

ICM (2023) Caso Conceptual Ejido Solar en Guanajuato. Resumen Ejecutivo.

Ley de la Industria Eléctrica

Ley de Transición Energética

Ley General de Cambio Climático

UK PACT () Solar Ejidos, a renewable energy project to foster social prosperity in rural communities and climate change mitigation.

SCJN. (2024, enero 31). *Comunicados de Prensa No. 028/2024*
https://www.internet2.scjn.gob.mx/red2/comunicados/noticia.asp?id=7699

Please note the response rate for the survey/measurement of outcome variable:

8/12 = 66%