



# Institutional Curriculum 2023

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# About us

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**CAPSUS** is a mission-oriented boutique consulting firm, established in 2009, specialized in sustainability issues in the energy, environmental management and urban sectors. We strive to develop a continuous improvement in environmental, economic and social terms. We solve questions with grounded innovative solutions that foresee a better future for coming generations.

## ::: About CAPSUS

**CAPSUS** works in the development of infrastructure projects that comply with the Mexican environmental regulations ensuring their economic performance and social viability, needed to make the project a reality. Additionally, in renewable energy projects, it participates in the research, design and management phases.

**CAPSUS** also collaborates with local governments and international institutions in the design, evaluation and implementation of public policies. In order to do so, we develop tools that facilitate the decision-making process while creating consensus among different actors.

**CAPSUS** aims at increasing the economic, social, political and brand capital of our clients by designing and promoting public policies, business practices and social behaviors that facilitate a sustainable development, where energy efficiency, environmental protection, social integration and economic development are paramount.

The services offered by **CAPSUS** are focused on empowering best practices in sustainability through different approaches. A bottom-up approach is taken with urban and environmental management projects and a top-down angle with research, development and public policy implementation projects. This two-end approach ensures not only the implementation of the projects, but also their impact at a bigger scale and the possibility of replication. Our services include scenario planning tools generation, environmental responsibility training, cost-benefit analysis, environmental impact assessment, clean energy generation and energy efficiency strategies, efficient waste and water management, city resilience, adaptation and mitigation strategies and emission reduction policies to improve air quality.

Starting by problem identification, we understand the client's needs, to propose innovative solutions backed up by robust technical proposals, that are the best fit for the issue and client at hand. Then we analyze the results and communicate them with the stakeholders. **CAPSUS** is formed by a multidisciplinary core team and a group of strategic allies. This gives us the capacity to tackle tasks that require different fields of expertise.





# Philosophy

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Mission & Vision

Objectives

Values

## Mission

**CAPSUS** promotes sustainable development by understanding cities and encouraging climate-informed, inclusive, and efficient policies, actions, and plans. Through the implementation of proven methodologies and the development of new methods and analytical tools, we foster economic growth, environmental protection, and equitable well-being to build a prosperous future.

## Vision

To become the first global reference for sustainable development consulting services.

## Objectives

We solve problems in a sustainable manner, granting its effectiveness in the short and long term.

We add value to our clients and partners, by improving the economic, social and environmental performance of the activities they carry out.

We maintain high standards of quality and professional ethics that lead us to be a company with high credibility in the environmental and urban sector.

We improve the quality of the investments that are made, so that they are enduring examples of the sustainable development.

## ■■■ Values (The 5 C's of CAPSUS)



### Co-responsibility

**Global.** We are jointly responsible for making our planet a better place for all living things. Specifically, we seek to improve the environment, and the quality and standard of living of the human population.

**Personal.** We understand that we are all responsible for our own actions, both as a team and personally.



### Commitment

We are committed to giving the best (energy, time, attitude, respect) to our planet, our clients and ourselves.



### Growth

(continual

improvement)

We know that the best way to grow and add value is through study, preparation, experience, and feedback.



### Creativity

Our clients have many options to implement traditional solutions to their problems. Our value lies in thinking outside the box, integrating various disciplines to create new solutions that are useful and applicable to our partners and clients.



### Credibility

Our own existence is based on the credibility of our work. Therefore, our recommendations are free of defects and are based on proven technical data. All our proposals, actions and solutions incorporate our values, state of the art solutions, updated information and the best practices in the field that we work on.



# Projects

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Selection of clients and projects carried out by **CAPSUS** and its team in the last decade.

## ::: Projects

### CCDR Palestine (2023-ongoing)

**CLIENT:** World Bank

**LOCATION:** Palestine

**DESCRIPTION:** The project consisted in assessing, analyzing, and proposing climate change strategies for seven cities in Palestine. The methodology consists in identifying the current, projected, and potential values for a set of relevant social, economic and environmental indicators. The project allows the quantification of benefits and costs of different development pathways for the cities.

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### Development of a Green Mortgage Product for a major private financial institution (2023-ongoing)

**CLIENT:** Financial Institution

**LOCATION:** Mexico

**DESCRIPTION:** The project was developed in partnership with the German Passivhaus Institute (PHI) and GOPA. It consisted in developing the methodology and system to estimate the energy and water savings of houses to review their potential to qualify for a lower mortgage rate named Green Mortgage. The team accompanied the Financial Institution during the pilot implementation phase.

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### CCDR Tunisia (2023)

**CLIENT:** World Bank

**LOCATION:** Tunisia

**DESCRIPTION:** CAPSUS conducted a study aiming at assessing, analyzing, and proposing climate change public policies. The methodology consists in identifying the current, projected, and potential values (related to the Business as usual and Best-case scenarios) for a set of relevant indicators (short-term GDP, job creation, poverty, and inequality in terms of exposition to natural disasters) towards the previously stated economic risks. The approach is expected to allow the quantification of opportunities and threats for each risk, as well as the impacts on financial system and fiscal sustainability. It included the assessment of climate-related risks, Tunisia's climate commitments, current and prospective policies and capacities, economic implications and policy recommendations.

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### **Green credits for energy efficiency in Mexican households (2023)**

**CLIENT:** GIZ / FIPATERM

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS worked with FIPATERM and GOPA to develop an online system to guide homeowners in the best choices for improving energy efficiency in their homes through the installation of new equipment. The system helps calculate and approve a green loan to the home owners through the Mexican FIPATERM energy efficiency fund.

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### **Supporting Climate Smart Urbanization in South Asia Region (2023)**

**CLIENT:** World Bank

**LOCATION:** India

**DESCRIPTION:** The project informs the India Country Climate and Development Report (CCDR) by identifying urbanization trends and providing recommendations to improve urban policy and actions for a just transition for climate-resilient and low-carbon growth. It consists of a macro assessment of 24 cities and a deep dive into selected cities. The team developed a base analysis of the sustainability status of the country's urban system through a set of environmental and social indicators. It forecasted the trend under a business-as-usual scenario. The team also analyzed in a more detailed manner five cities in India and developed a set of recommendations to improve the sustainable performance of the cities in India.

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### **Connecting Communities and Local Governments to Co-create Circular Economy Approaches in Indonesian Cities (2022-2023)**

**CLIENT:** World Bank

**LOCATION:** Indonesia

**DESCRIPTION:** The main objective of this project is to support the development of a Collaborative Planning Tool to access a variety of information that points to the development potential of the identified public space. This platform allows community members, and informal sectors such as waste pickers to be an integral part of identifying waste dumps and include the community in the process of regenerating these areas. CollabData (developed by CAPSUS and UP Tech) is the baseline technology to enable platform users (residents, academia, government officials, platform administrators including the World Bank, etc.) to enter data about the potential public spaces various information of the identified public spaces and follow up on the associated projects. CollabData can be accessed via the web, but also on mobile devices. It was designed to be as light as possible so that there is very limited use of cellular data.

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## **Train the trainers for climate action in Ecuador (2022)**

**CLIENT:** GIZ

**LOCATION:** Ecuador

**DESCRIPTION:** CAPSUS designed and implemented a capacity development training course for a team of experts of several institutions in Ecuador with the objective that they could help local governments in Ecuador identify projects that would reduce the emission of GHG and improve the resiliency of their communities. The project also had the aim of developing capacities so that the relevant stakeholders could draft project proposals that could receive climate financing either locally or internationally.

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## **Mexican Monitoring of the Agenda 2030 (2022)**

**CLIENT:** GIZ

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS worked with the Mexican ministry of Economic Development to build a methodology and digital platform to monitor the progress of Mexico in achieving the goals of the Agenda 2030.

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## **Low Carbon Central Asian Cities (2022-2023)**

**CLIENT:** World Bank

**LOCATION:** Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan.

**DESCRIPTION:** The project aims to provide country-level diagnostics and evaluate policy options for urban areas in Central Asia through quantitative, spatial, and qualitative analytical exercises to catalyze effective policy-making that furthers green, inclusive, sustainable, and climate-smart urban development. The main objective of the study is to deepen understanding of sub-national level (including regions, metropolitan areas and cities as appropriate) challenges and identify potential actions in selected CA cities across five countries to advance the development of low-carbon climate resilient cities and regions. These will contribute to reducing CA cities' carbon footprint, energy consumption and Greenhouse Gas (GHG) emissions, setting them on a greener and more resilient development path. The study will also examine adaptation actions that could contribute to both mitigation and broader resilience agenda. Findings from the study could provide the starting points for CA cities to think about strategies and potential actions on climate smart planning, investments and finance. The geographic coverage begins with a wider lens covering medium to large cities in CA, which includes around 50 cities before narrowing down to more in-depth support for five cities.

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## **Dissemination and Capacity Development Semarang Siap 2.0 (2022-2023)**

**CLIENT:** World Bank

**LOCATION:** Indonesia

**DESCRIPTION:** This project aims at developing the capacity of the City Government of Semarang to gain insight into the city's situation in real-time using a digital solution. As part of this project, CAPSUS is further developing the open-source digital platform, called Semarang SIAP. This tool guarantees a seamless process for collecting, managing, and analyzing data for the City Government of Semarang. Working collaboratively with the World Bank and the Planning Agency of Semarang, CAPSUS will ensure the usability and sustainability of the platform through implementation support and capacity building. The general activities of this project are: 1) updating and adding additional functionalities to the Semarang SIAP platform according to the needs of Semarang City, 2) supporting an implementation pilot of Semarang SIAP, and 3) updating and developing additional resources for capacity building and knowledge transfer to promote the sustainability of Semarang SIAP utilization.

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## **Design and Test of a Methodology Based in Digital Tools for the Frequent Collection of Information of the Current Situation in Informal Settlements in the Asuncion Metropolitan Area (2022-2023)**

**CLIENT:** Inter-American Development Bank

**LOCATION:** Paraguay

**DESCRIPTION:** This project aims at designing and implementing a methodology to identify and characterize slums in the Metropolitan Area of Asuncion in Paraguay. This methodology is supported by the adaptation and use of two systems. The first is an automatized system to remotely identify slums, as well as changes in shape or extension. The second tool is a system to continuously collect real-time information from the residents to understand the needs, concerns, and infrastructure deficits. The results from the data collection assist government entities in making informed decisions about water and sanitation services and therefore improve their life quality.

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## **Analysis of the status quo of Mérida, Mexico (2022)**

**CLIENT:** GIZ

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS worked with ORU to generate an analysis of the status quo of the municipality of Merida, in relation to resilience strategies and adaptation to climate change. The team identified the strengths, weaknesses and opportunities, the current state of the regulatory framework, and the institutional capacities of the municipality. Likewise, the team developed potential options for financing adaptation measures. The analysis integrated gender perspective criteria and the recognition of the cultural diversity of vulnerable groups in the face of the effects of climate change.

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## **Green financing for Cargo Trucks (2022)**

**CLIENT:** GIZ

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS worked with Mexican institutions to identify local financing options for the acquisition of newer cargo trucks, with the aim of reducing GHG emissions from the cargo transportation sector. The analysis focused on leasing strategies.

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## **Technical Assistance Program on Cambodia Sustainable Cities Initiative (2022-2023)**

**CLIENT:** World Bank Group

**LOCATION:** Phnom Penh Green City, Cambodia

**DESCRIPTION:** The objective of the project is to update the Phnom Penh Green City Strategic Plan and help prepare Phnom Penh for the challenges that climate change will impose and make the city part of the solution by focusing on a low-carbon and resilient development path that aims to reach net-zero emissions by 2050. The specific objectives of the project are:

- Improve spatial and land use planning systems for risk-informed and carbon-sensitive development
- Enhance efficiency, resilience, and sustainability of urban infrastructure and service delivery systems
- Mainstream environmental sustainability, citizen engagement, and social inclusion

These objectives will be achieved through a deep assessment of the current policies and characteristics of Phnom Penh, coupled with policy and investment recommendations based on international best practices that are adjusted to the context of the city and country. The information obtained will be used to develop urban scenarios that will be compared to identify the environmental, social, and economic tradeoffs of each urban growth trajectory path. The exercise will facilitate city-level planning, policy, and investment choices. Knowledge sharing and capacity building will be central pillars for this project to foster appropriation and replication of the methodological approach.

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## **Developing energy-efficient and resilient housing scenarios for secondary cities in Mongolia (2022-2023)**

**CLIENT:** World Bank Group

**LOCATION:** Mongolia

**DESCRIPTION:** The project supports the development of resilient, energy-efficient, green, and affordable housing for the ger districts in the two key secondary cities in Mongolia: Darkhan and Erdenet. The project will produce a detailed assessment for the cities which support the prioritization of affordable housing planning and development with low GHG emissions and resilience to climate change, in ger areas and non-ger areas. The results will strengthen existing housing programs and incentivize the use of resilient and low-carbon solutions. This project is a consequence of previous work done by CAPSUS in Mongolia.

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## **Evaluation of the effectiveness of the diesel IEPS accreditation policy (2022-2023)**

**CLIENT:** French Development Agency (AFD)

**LOCATION:** Mexico

**DESCRIPTION:** This program seeks to evaluate: (1) the effectiveness of the tax accreditation policy for the products and services special tax (IEPS) to promote the formality of small businesses in the motor transport sector, (2) the economic concentration of accreditations in the sector, and (3) the environmental impacts generated by the granting of IEPS tax accreditations to diesel. Additionally, potential strategies to reduce costs and emissions in the transport sector will be produced. The results of the evaluation will help the Ministry of Finance and Public Credit (SHCP) to define fiscal policy alternatives for the trucking sector in Mexico.

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## **Economic Sustainability of Cargo Trucks (2022)**

**CLIENT:** HEAT / German International Cooperation for Sustainable Development (GIZ)

**LOCATION:** Jalisco, Mexico

**DESCRIPTION:** The project is part of a border national program on "Sustainable Freight Transport". In this project, CAPSUS worked with HEAT and the GIZ to foster the economic sustainability of SME's private cargo fleets. The team works alongside local stakeholders to identify the best practices for the sustainable development of the sector, with a special focus on taking advantage of economies of scale.

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## **Bulgaria Compact Cities ASA urban growth/shrinkage scenario exercise (2022)**

**CLIENT:** World Bank Group

**LOCATION:** Vratsa and Sliven, Bulgaria

**DESCRIPTION:** The objective was to provide technical assistance to the Government of Bulgaria and selected Bulgarian municipalities to achieve both climate adaptation and mitigation benefits by developing a pragmatic Sustainable Cities approach. CAPSUS conducted an urban and climate risk mapping, through literature review and research of urban spatial modeling, sector plans and climate change in Bulgaria. The analysis forecasted three possible urban growth/shrinkage scenarios to assess accessibility to urban services and employment opportunities, exposure to climate hazards, climate change mitigation, expansion costs, poverty, and infrastructure coverage. Also, CAPSUS adapted existing dissemination material to develop dialogue with the stakeholders.

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## **Climate-Smart Scenarios for Affordable Housing in South Sumatra, Indonesia (2022-2023)**

**CLIENT:** World Bank Group

**LOCATION:** Palembang, Musi Rawas, and Lubuklinggau, Indonesia

**DESCRIPTION:** The project supports the Local Governments of Palembang, Musi Rawas, and Lubuklinggau to generate a comprehensive housing policy. Through a holistic and climate-smart approach, the project produces a detailed assessment for the cities to identify strategic locations for affordable housing investments. The objective is to aid in the definition of affordable, green and energy-efficient housing projects in these cities to increase regional competitiveness, climate resilience and sustainable development. The work also includes the development of a spatial land-suitability assessment to identify priority locations for affordable housing, an in-depth spatial assessment to prioritize affordable housing investments, the estimation of GHG emission reduction targets, the proposal of green and energy-efficient technical housing guidelines, and the development of three scenarios for the implementation of affordable housing projects (present conditions, business as usual, and climate-smart scenarios).

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## **Supporting the Implementation of Nationally Determined Contribution-Cities and Climate Change in South Africa (2022)**

**CLIENT:** World Bank Group

**LOCATION:** South Africa

**DESCRIPTION:** The project supports the Government of the Republic of South Africa to identify urbanization trends and possible actions to improve urban policy in support of a just transition. Through a comprehensive spatial analysis, the project produces key insights to support sustainable urban development, and low-carbon & resilient economic development. The objective is to conduct urban growth analytics to assess the impact of climate change risks and urban growth choices on the overall livability and productivity of urban clusters in South Africa, and provide strategic transition pathways & policy levers that are critical for climate resilient and low-carbon urbanization across South Africa. The work is divided into three main activities, focusing on baseline spatial analytics and urban policy diagnostics, future scenario modeling for medium to long term, and dissemination of the results.

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## **Financing Efficient Cargo Trucks (2022)**

**CLIENTE:** GIZ

**LUGAR:** CDMX

**DESCRIPCIÓN:** Explore pure leasing in Mexico; identifying operating mechanisms; experiences of financial institutions that offer the service and implementation path to incorporate it into NAFIN's portfolio of operations and services. Specifically: 1) Identify its legal nature, operation generalities and accounting management scheme; 2) Identify experiences of three financial institutions that arise pure lease, highlight the challenges, benefits, asset management mechanism and treatment of default; 3) Identification of a general road map on the possible incorporation of pure leasing into NAFIN's portfolio of operations and services.

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## **Climate-Smart Scenarios for Green & Energy-Efficient Housing in the Maldives (2023-ongoing)**

**CLIENT:** World Bank Group

**LOCATION:** Greater Male, Addu, and Fuvahmulah, Maldives

**DESCRIPTION:** The project supports the Government of Maldives on developing metrics that provide socio-spatial economic assessments, and key recommendations to inform the national housing policy. The work provides input for more efficient and effective financing on housing in Greater Male (Malé City, Hulhumalé, Thilafushi, Gulhi Falhu), Addu City, and Fuvahmulah City. The project produces a detailed assessment for the cities which prioritizes affordable housing investments with low GHG emissions and resilient to climate change. The work includes data collection and mapping of urban development and climate risk vulnerability metrics; scenario planning for housing development; the evaluation of scenarios; the development of green and energy-efficient technical housing guidelines; and the dissemination of results.

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## **Urban Development Technical Assistance (2022-2023)**

**CLIENT:** World Bank Group

**LOCATION:** Indonesia

**DESCRIPTION:** The project has two main components: 1) *Metropolitan analytics*; and 2) *Municipal Spatial Data Infrastructure (MSDI)*. Both components support the World Bank in its analytical and technical advisory to the Government of Indonesia (GoI) and the Ministry of National Development Planning of Indonesia (BAPPENAS) in, 1) identifying strategic areas for investment and financing to focus on, in the development of medium-term metropolitan scale competitiveness and sustainable, socio-spatial economic growth plans for 10 metropolitan areas; and 2) preparing a practical capacity building (training for trainers') program that will support other cities on data governance to accelerate the operationalization of MSDI in all regions throughout Indonesia, in an effort to further increase the capacity of potential government and non-government stakeholders on MSDI to provide targeted technical assistance to local government officials.

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## **Dissemination of the Social Communication and Participation Strategy for Asunción, Paraguay (2022)**

**CLIENT:** Inter-American Development Bank (IADB)

**LOCATION:** Paraguay

**DESCRIPTION:** Collaboration with the IADB to publish a Technical Note about the Social Communication and Participation Strategy, designed on 2019-2021, for a project in Tacumbú, Paraguay. This strategy aims to promote transparent and straightforward public consultations on housing programs. The publication expects to disseminate the key findings of this strategy to encourage more social participation components in the urban planning projects in the region.

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## **Urban Growth Model and Sustainable Urban Expansion for the Hashemite Kingdom of Jordan (2022)**

**CLIENT:** World Bank Group

**LOCATION:** Amman, Jordan

**DESCRIPTION:** The objective of this project is to provide analytical insights to the Jordan Climate Change Development Report (CCDR) focusing on urban, transport, and energy sectors, and other related activities being carried out by the World Bank on climate change and cities in Jordan. The analysis and recommendations were developed using tools and methodologies to assess spatial and sectoral linkages across Amman and neighboring cities. The analysis comprised 1) identifying the potential for greenhouse gas emission reduction from urban sprawl and city services, including transport and energy improvements; 2) determining the potential co-benefits associated with the GHG emission reduction strategies, and 3) selecting key urban planning and infrastructure priorities to guide policies and interventions.

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## **Publication of the Manual “Self-production of Adequate Housing in Mexico” [Autoproducción de Vivienda Adecuada en México] (2021-2022)**

**CLIENT:** GIZ / CONAVI / INFONAVIT

**LOCATION:** Mexico

**DESCRIPTION:** Development of the content for a publication together with GIZ, CONAVI and INFONAVIT for the dissemination of a comprehensive strategy for self-production of adequate housing in Mexico based on financing schemes for the low-incomes Mexican population, ensuring informed decision-making by families about building safe and functional houses. As a final product, 1000 copies of the publication were generated for distribution and dissemination.

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## **Accessibility Modeling for Sustainable Urban Mobility Plans (SUMP) in Sarbagita, Kedungsepur, and Mamminasata (2021-2022)**

**CLIENT:** Cardno Emerging Markets (Australia) Pty Ltd

**LOCATION:** Sarbagita, Kedungsepur, and Mamminasata metropolitan areas in Indonesia

**DESCRIPTION:** The objective of the assignment is to inform the development and selection of urban mobility strategies in the Sarbagita, Kedungsepur, and Mamminasata metropolitan areas by quantifying accessibility to economic, social and cultural activities for a set of spatial development and public transport network scenarios. The output of this assignment will be used to examine the strengths and weaknesses of combinations of spatial development and public transport integration in order to identify a preferred integrated scenario that will lead to better, and equitable, accessibility across the metropolitan area.

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## **Green, Low Carbon, and Climate Resilient Prishtina (2021-2022)**

**CLIENT:** World Bank Group

**LOCATION:** Prishtina, Kosovo

**DESCRIPTION:** The purpose of this project is to support the municipality of Prishtina to undertake decisions for a greener, low-carbon, and resilient development. CAPSUS performed an analysis of the current urban and development strategies and trajectories to identify the investment projects at a city and a neighborhood scale. The scope of work included 1) developing low carbon and climate-resilient urban growth analytics, and 2) supporting the identification of location-specific low carbon and climate-resilient investments.

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## **Climate Change and Development in cities in Egypt (2021-2022)**

**CLIENT:** World Bank Group

**LOCATION:** Egyptian Cities

**DESCRIPTION:** The objective of the project is to assess the urban growth of 14 cities in Egypt, focusing on understanding possible pathways for low-carbon and resilient urban development in Egypt. In this assessment instead of addressing sector-specific actions, the efforts were focused on integrated mitigation and adaptation actions. This project made sectorial assessments, splitting efforts, and missed the opportunity of identifying synergies.

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## **City Climate Action Plan Analysis (2021-2022)**

**CLIENT:** World Bank Group

**LOCATION:** Latin America and the Caribbean

**DESCRIPTION:** The overall objective of this project is to analyze 30 Climate Action Plans (CAP) from cities of Latin America and the Caribbean region to foster an analysis that can recognize patterns that could guide in the identification of actions in similarly endowed cities. The analysis helped categorize the actions identified in each city's CAP, by sector, cost (if available), source of funding, and timeline (short, medium, or long-term).

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## **Development of Municipal Climate Action Plans for Tulum and San Cristobal de las Casas (2021-2022)**

**CLIENT:** World Bank Group

**LOCATION:** Tulum, Quintana Roo & San Cristóbal de las Casas, Chiapas Mexico

**DESCRIPTION:** The overall objective of this project is to guide and support the municipalities of Tulum and San Cristobal de las Casas through a process of stakeholder engagement, collection of relevant data/information, and development of a Municipal Climate Action Plan for each city, compliant with the IPCC methodology and other relevant, internationally recognized reporting methodologies. This includes the organization of workshops with local stakeholders (municipal authorities) to engage with beneficiaries, provide context and direction for local efforts and cooperation, and buy-in for target setting. A second component of the project is to build local capacities in the use of appropriate tools, templates, and international reporting standards related to GHG inventories and assessments, scenario planning, and regular monitoring.

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## **Conceptual development of a Green Mortgage (2021-2022)**

**CLIENT:** BBVA / GOPA / Passivehouse Institute

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS worked with GOPA and Passivhaus Institut to develop a green mortgage concept through the design-thinking methodology for an international bank in Mexico. The program aims to offer a new financial product that could promote future homeowners to buy houses with high water and energy efficiency. It is expected that this product could move the market towards improved environmental performance, as more people will seek and prioritize housing units with eco-technologies, designs, and locations that achieve energy and water savings. Part of the project consisted in developing the concept of a software tool that could be used to evaluate the potential energy and water savings that the house could achieve.

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## **Strategy to Strengthen Community Water Governance (2021-2022)**

**CLIENT:** German International Cooperation for Sustainable Development (GIZ)

**LOCATION:** Rural communities in the state of Quintana Roo, Mexico

**DESCRIPTION:** The objective was to develop a Strategy to Strengthen Community Water Governance. The project started with a diagnosis of the social and environmental conditions of several communities in Quintana Roo, Mexico. These results served to develop three main components of the Strategy: 1) Accompaniment Training Program, 2) Community Management Proposal, and 3) Capacity Building Program. All components work in synergy and relate to a set of environmental and social indicators to measure the success of the strategy's implementation.

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## **Climate Finance Options for Rural and Affordable Homes (2021-2022)**

**CLIENT:** German International Cooperation for Sustainable Development (GIZ) and the National Housing Commission of Mexico (CONAVI)

**LOCATION:** Mexico

**DESCRIPTION:** The objective of the project was to identify actors and sources of climate financing that can collaborate with the Mexican National Housing Commission to address the lack of sustainable housing, enhance energy efficiency in housing improvement, expansion, and reconstruction actions, as well as the mitigation of the lack of services. The project consisted of mapping national and international actors/institutions/mechanisms that offer climate financing that can support the Commission's programs; prioritizing the identified alternatives; contacting the prioritized actors to propitiate the collaboration; and generating roadmap sheets detailing the steps or processes to formalize the cooperation.

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## **Community water governance strengthening strategy (2021)**

**CLIENT:** Amigos de Sian Ka'an A. C. (National NGO on Environmental Conservation)

**LOCATION:** Quintana Roo, Mexico

**DESCRIPTION:** The objective of this project was to develop a community water governance strengthening strategy by designing three different components: 1) Proposal for community management, 2) Community assistance capacity building program, and 3) Capacity strengthening program targeted to the communities. This project started with a comprehensive diagnosis of eight communities in Quintana Roo. The information was collected through the use of a digital platform to systematize the results. Collecting information from the communities guaranteed that the strategy was in line with the region's reality. This strategy involved the installation of water efficiency technologies by Amigos de Sian Ka'an team, and the development of accessible visual materials by CAPSUS, to facilitate the knowledge for the use and maintenance of these technologies.

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## **Creating a Learning Management System for Mexican National Banking and Securities Commission to Accelerate Green Finance Flows (2021)**

**CLIENT:** Global Green Growth Institute (GGGI) / Comisión Nacional Bancaria y la Comisión de Valores de México (CNBV)

**LOCATION:** Mexico

**DESCRIPTION:** The main objective of the project was to strengthen capacities within the financial and bank community in Mexico about sustainable finance by generating an e-learning platform with training content.

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## **Performance Evaluation of Grantees in Mexico (2021)**

**CLIENT:** Children Investment Fund Foundation / C230 / RICARDO

**LOCATION:** Mexico

**DESCRIPTION:** The Children Investment Fund Foundation has several international grants to a diverse portfolio of organizations. One of their grants is aimed at supporting the Climate Change and Renewable Energy agenda in Mexico. CAPSUS was part of a team that included RICARDO and C230 Consulting to evaluate the effectiveness and benefits of the grants in Mexico.

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## **Environmental, Social, and Risk Assessments for a Cogeneration Plant (2021-2022)**

**CLIENT:** Igasamex

**LOCATION:** Querétaro, Mexico

**DESCRIPTION:** CAPSUS worked with Igasamex and AESA in the development of a natural gas cogeneration plant for an industrial park in the state of Queretaro in Mexico. This plant was planned to work stand-alone or interconnected with the national grid, its intention is to improve the reliability of electricity for the park, reduce the costs of electricity to the industries located there, and reduce the carbon intensity of the industrial park. The cogeneration plant could achieve a 50% reduction in GHG emissions from electricity consumption.

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## **'ETS in Mexico' e-learning course, Mexico Partnership for Market Readiness (PMR Mexico). (2021)**

**CLIENT:** World Bank Group

**LOCATION:** Mexico

**DESCRIPTION:** The project undertook tasks developed in close coordination with the PMR Mexico task team, as well as the ETS team at SEMARNAT. The consultancy work required collaboration with other national Mexican agencies, stakeholders, and consultants working in areas relevant to this project. Along the project, the team developed learning materials to the context of the implementation of the ETS pilot phase in Mexico. The team also developed a web platform for its use as an application in the official websites designed for this purpose. The final product was an e-learning course, uploaded to a virtual platform.

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## **Environmental Impact Assessment of the Vaso El Cristo (2021)**

**CLIENT:** Water Commission of the State of Mexico (CAEM)

**LOCATION:** Estado de México, Mexico

**DESCRIPTION:** The project supports the Water Commission of the State of Mexico to comply with the guidelines established by federal environmental legislation for the development of the Project for the rehabilitation of the Vaso El Cristo and in the development of new public spaces. The work includes establishing an environmental management and rehabilitation strategy for the area, so that the impact is positive for both the environment and society.

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## **Technical Assistance for Environmental Policy Design and Implementation (2021-2023)**

**CLIENT:** Environmental Commission of the Megalopolis (CAME)

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** The project supports the Environmental Commission of the Megalopolis (CAME) in its operation, monitoring, coordination, and follow-up on strategic projects. The work also includes the presentation and monitoring of the projects financed by the 1490 Trust; follow-up on programs and projects in the field of transportation and sustainable mobility; the analysis of vehicle and air quality verification programs' databases; monitoring environmental actions and projects; the management of social networks, website, newsletters, interviews, press conferences and various communication materials; and the support and legal follow-up to all CAME issues.

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## **Climate Resilient Cities (2021)**

**CLIENT:** World Bank, Urban Resilience Office (ORU) and the Secretariat of Agrarian, Territorial and Urban Development (SEDATU)

**LOCATION:** Mexico

**DESCRIPTION:** The project supports the Secretariat of Agrarian, Territorial and Urban Development SEDATU in the development of design and construction guidelines to maximize the mitigation and adaptation benefits of infrastructure investments financed under the PMU, in the context of promoting a green and resilient recovery from the COVID-19 Pandemic. The objective is to develop the general guidelines and design criteria to be adopted in the design, procurement, construction and supervision of the investments financed under the PMU. These guidelines establish the parameters so that the works carried out within the framework of the program meet sustainability criteria in accordance with the different climatic conditions of the project sites in various regions.

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## **Demonstration project development (2021)**

**CLIENT:** Amigos de Sian Ka'an A. C. (National NGO on Environmental Conservation)

**LOCATION:** Mexico

**DESCRIPTION:** The objective of this project was to design a demonstration project for the Río Hondo Basin based on the Management Program of the Río Hondo Basin Commission (CCRH) and its guidelines. This project took up the lines of action and objectives established during various collaborative workshops and strategic planning sessions between experts from the CCRH and several communities within the framework of the project Integrated Management from the Basin to the Reef in the ecoregion of the Mesoamerican Reef System (MAR2R).

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## **Promotion of sustainable housing solutions for low-income families in Mexico (2020-2021)**

**CLIENT:** World Bank Group

**LOCATION:** Mexico

**DESCRIPTION:** The project supports the National Housing Commission (CONAVI) to promote more sustainable housing solutions for low-income families in 15 selected Mexican municipalities. The work focuses on adjusting and refining existing housing subsidies to incorporate elements of sustainability in the auto-construction and improvement of low-income housing, including bioclimatic design, sustainable construction materials and ecotechnologies, to reduce energy consumption of the families and increase housing energy efficiency. The work also focuses on the redesign of housing sustainability manuals and scenario development related to regionalized passive solutions to achieve energy-efficient and comfortable housing for low-income households.

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## **Catalog of best technologies for efficient water management (2020-2021)**

**CLIENT:** Amigos de Sian Ka'an A. C. (National NGO on Environmental Conservation)

**LOCATION:** Quintana Roo, Mexico

**DESCRIPTION:** The objective of this project was to assess the results of the first stage of a project that built and installed technologies for efficient water management in rural communities in the state of Quintana Roo, Mexico. The results of this assessment helped to develop a lessons learned report. Considering these lessons learned, CAPSUS designed and implemented two workshops with national and international experts to define a catalog with the best technologies to install and build in other rural communities in Quintana Roo, as a second stage of the project.

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## **Chapultepec Master Plan (2021)**

**CLIENT:** Mexico City Government

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Together with ORU and a group of Mexican architects, CAPSUS developed the new Master Plan for the main city park of Mexico City. The plan had a social and environmental objective to revitalize the central park and serve as a nature based solution for mitigating the effects of climate change in the city.

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## **Sustainable Infrastructure Plan for Zacatecas (2021)**

**CLIENT:** Government of Zacatecas

**LOCATION:** Zacatecas, Mexico

**DESCRIPTION:** The project consisted in developing an analysis of the state of Zacatecas to identify the infrastructure needed to reach sustainable development at the regional level. CAPSUS conducted an analysis of the existing infrastructure, and demographic and economic trends of the state, and then using this information the team developed a set of recommendations for investments to improve the environmental, social, and economic development of the state.

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## **Household Appliance Replacement Program (2020)**

**CLIENT:** World Bank Group

**LOCATION:** Buenos Aires, Argentina

**DESCRIPTION:** The project developed a baseline study of the consumption patterns of household appliances in a low-income area of the city called "Barrio 31". The work included the design and execution of a survey, direct measurements and other relevant field work in representative areas.

Using the data gathered, an appliance replacement program was developed with the objective of increasing the energy efficiency of the appliances, improving the quality of life of the inhabitants and lowering the electricity cost of the households.

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## **Environmental Management Program for Air Quality in the Metropolitan Area of the Valley of Mexico 2021-2030 (ProAire ZMVM 2021-2030) (2020)**

**CLIENT:** Mexico City Ministry of the Environment (SEDEMA)

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** The Program to Improve the Air Quality of the Metropolitan Area of the Valley of Mexico (ProAire ZMVM) includes the 16 districts of Mexico City, 59 conurbation municipalities of the state of Mexico, and Tizayuca, Hidalgo. The Program comprises an air quality diagnosis carried out in the ZMVM that included the analysis of the results of the emissions inventory, the institutions, the budgetary and operational capacities, as well as the results of the atmospheric monitoring stations. Based on the diagnosis, the metropolitan strategy was developed to reduce the emission of local air pollutants, reverse deterioration trends, protect the public health of the population and strengthen monitoring activities. The public policy strategies and measures included in the Program were evaluated and prioritized in terms of emissions reductions and implementation costs.

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## **Location Suitability of Subsidized Housing in Indonesia (2020)**

**CLIENT:** World Bank Group

**LOCATION:** Indonesia

**DESCRIPTION:** The main objective of the project is to analyze the suitability of the location of housing projects using the urban planning tool "Suitability". The tool assesses the location of housing projects with respect to the coverage of services, distance to urban areas, and the cost of land. It also provides recommendations that guide governments in terms of housing typologies based on geographic location, economic and urban characteristics, and environmental risk criteria. This project is piloted in 6 metropolitan areas, spanning 20 cities in Indonesia.

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## **Handbook for Gender-Inclusive Urban Planning and Design (2020)**

**CLIENT:** World Bank Group

**LOCATION:** Worldwide

**DESCRIPTION:** A manual developed by the World Bank Group was redesigned, which presents clear and practical guidelines for implementing inclusive planning and design processes, adaptable to a plan or project in any context, and with a focus on establishing gender principles.

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## **Urban Planning Tools as Agents of Change: Collaborative spatial data for sustainable urban development in Indonesia (2019-2020)**

**CLIENT:** World Bank Group and the National Government of Indonesia

**LOCATION:** Indonesia

**DESCRIPTION:** A web-based spatial information repository (Geoportal) was developed in addition to three urban planning tools integrated into the Geoportal. The tool called "CollabData" is intended to promote public participation in urban planning processes. The "Urban Hotspots" tool identifies the most suitable location within a city to carry out a specific activity, such as the prioritization of investment projects. The "Urban Performance" tool allows users to design and evaluate urban scenarios to compare the impact of investment projects through a set of indicators. The project was a collaboration with the World Bank Group to support various agencies and six cities in Indonesia to improve the process of evaluating and approving their urban master plans.

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## **Technical Guidance in the Development of Climate Action Plans (2019-2020)**

**CLIENT:** The European Commission and the cities of Bahía de Banderas (Nayarit), Culiacán (Sinaloa), Juárez (Chihuahua), Ciudad Madero (Tamaulipas) y Zapopan (Jalisco)

**LOCATION:** Bahía de Banderas (Nayarit), Culiacán (Sinaloa), Juárez (Chihuahua), Ciudad Madero (Tamaulipas) and Zapopan (Jalisco), Mexico.

**DESCRIPTION:** Five Mexican cities were trained in the preparation of their local Climate Action Plans. The process included the compilation of a greenhouse gas emissions inventory, climate risks, and vulnerabilities analysis, the development of climate mitigation and resilience measures, and strategies, their prioritization, and communication and community interaction strategies. The project was carried out in collaboration with the Global Covenant of Mayors for Climate and Energy (GCoM), and the International Urban Cooperation Program (IUC).

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## **New environmental solutions for Mexican Houses (2019-2020)**

**CLIENT:** German Agency for International Cooperation (GIZ) and the National Housing Commission of Mexico (CONAVI)

**LOCATION:** Mexico

**DESCRIPTION:** An exploratory research of components that make up a house was carried out for eco-materials, eco-technologies, and bioclimatic systems that can achieve water and energy savings. The research consisted of interviews, collection of information, estimation of energy and water consumption, and cost analysis of the solutions.

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## **Urban Growth Scenarios to evaluate the benefits of urban densification strategies (2019-2020)**

**CLIENT:** German Agency for International Cooperation (GIZ) and City Government of León, Guanajuato, Mexico

**LOCATION:** León, Guanajuato, Mexico

**DESCRIPTION:** The project consists of the development of urban growth scenarios to analyze the benefits of urban densification in previously identified vacant lots within the city of León, Guanajuato. The project is a collaboration with the German Agency for International Cooperation (GIZ) to support the urban planning process in the city of León, Guanajuato.

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## **Social Communication and Participation Strategy for Asunción, Paraguay (2019-2021)**

**CLIENT:** Inter-American Development Bank (IADB)

**LOCATION:** Asuncion, Paraguay

**DESCRIPTION:** The social communication and participation strategy is designed and implemented in Tacumbú, Asunción, Paraguay. This strategy is composed of three mechanisms 1) Social communication and information, 2) Public consultation and participation, and 3) Grievance redressal. These mechanisms are supported by a digital platform named CollabMap. The strategy seeks to strengthen communication and information management, social inclusion, attention to complaints, and to promote the active participation of the population around a Housing Program and related projects for neighborhood consolidation.

Derived from a contract extension, additional urban planning tools are being implemented to gather field and institutional information, which will advance informed decision making for vulnerable groups during the COVID-19 crisis and recovery stage.

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## **Climate Smart Urbanization in Mongolia (2019-2020)**

**CLIENT:** World Bank Group, National Government of Mongolia, Cities of Ulaanbaatar, Darkhan y Erdenet

**LOCATION:** Ulaanbaatar, Darkhan and Erdenet, Mongolia

**DESCRIPTION:** The main objective of the project is to increase the resilience and urban sustainability of Mongolia's three major cities: Ulaanbaatar, Erdenet and Darkhan. It consisted of three scopes: The first consisted of analyzing the growth trend of Mongolia's three major cities, Mongolia's urban policies and investment ideas and new strategies for each city. This information modeled cities in the future and evaluated their performance in environmental, economic and social matters through indicators related to air quality, energy consumption, the cost of maintaining infrastructure, proximity to public spaces, among others. The second scope was to analyze the environmental, economic and social impacts of moving an industrial zone within the urban estate of Mongolia's capital and carrying out urban regeneration. The third scope was to produce an urban planning guide for Mongolia with a sustainability and resilience approach.

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## **Communication Strategy and Capacity Building for Municipal Spatial Data Infrastructure (2019)**

**CLIENT:** City Planning Labs - World Bank Group

**LOCATION:** Indonesia

**DESCRIPTION:** Development of an internal communication, dissemination and knowledge exchange strategy for City Planning Labs (CPL), which is a World Bank Group technical assistance initiative. CAPSUS assistance consisted in organizing workshops and working groups to improve local capacities in data management.

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## **Air Quality Forecast (2019)**

**CLIENT:** Ministry of the Environment of the Government of the State of Mexico

**LOCATION:** State of Mexico, Mexico

**DESCRIPTION:** The research was conducted to assess the feasibility of implementing an air quality forecasting system in the State of Mexico, the suitability of available models and a roadmap to define possible steps to be taken in the development and implementation of the system.

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## **Consulting in Environmental and Social Responsibility for Cuitláhuac Park in Iztapalapa, Mexico City (2019)**

**CLIENT:** NetaCero

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Advice was provided on a socio-environmental analysis related to the rehabilitation of the main public park of the municipality. To this end, an environmental and social environment analysis was made using remote perception tools, inputs provided on social behavior and the use of geographic information systems.

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## **Climate Investment Fund (2019)**

**CLIENT:** C230

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** This project reviewed different methodologies and tools used by multilateral banks to select and design public and private programs that are eligible for resources from Climate Investment Funds.

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## **Urban Sustainability Training (2019)**

**CLIENT:** Instituto Tecnológico de Estudios Superiores de Monterrey (ITESM)

**LOCATION:** State of Mexico, Mexico

**DESCRIPTION:** The Institute was supported in the delivery of a course for professors that teach urban planning at the bachelor's level with a sustainability approach and through the use of computer tools.

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## **Environmental Studies for Natural Gas Pipelines (2016-2022)**

**CLIENT:** IGASAMEX

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Environmental studies were conducted to support compliance with federal environmental conditions to a natural gas industry.

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## **Urban Growth Scenarios for Palestine (2018-2019)**

**CLIENT:** Municipal Development and Lending Fund (MDLF) of Palestine

**LOCATION:** Ramallah-Al Bireh, Bethlehem, Hebron, Nablus and Gaza, Palestine

**DESCRIPTION:** The Ministry of Local Government, through the Integrated Cities and Urban Development (ICUD) project, supports the increase in sustainable planning capacities in the urban areas of Ramallah, Bethlehem, Hebron, Nablus and Gaza City. As part of this project, the consultancy consisted of developing a comprehensive urban planning tool, called Urban Performance, and modeling of urban development scenarios by 2035 for the five cities. The scenarios were developed and analyzed by local actors, who also received training to continue using and developing the tool further in the future. The five cities continued assessing urban scenarios with Urban Performance after the consultancy ended.

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## **Optimization of Emergency Service location (2019)**

**CLIENT:** City of San Diego

**LOCATION:** San Diego, California, USA

**DESCRIPTION:** CAPSUS collaborated (pro-bono) with the City of San Diego's Performance and Analytics team and developed a forecasting model for emergency medical services (EMS) that accounted for time and seasonal variations in the location of the population. The model aimed to restore the service level of the EMS department to reduce response time.

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## **Environmental and social studies (2018)**

**CLIENT:** Las Garzas Solar Park

**LOCATION:** Durango, Mexico

**DESCRIPTION:** The Environmental and Social Impact Assessment were carried out for a solar park. The power plant will be located near the City of Torreón in the state of Durango. The development of the park was acquired by Iberdrola for its future construction.

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## **Evaluation of investment projects for low carbon development (2018)**

**CLIENT:** German Agency for International Cooperation (GIZ), European Investment Bank (EIB)

**LOCATION:** Mexico

**DESCRIPTION:** A feasibility status review and opinion on environmental, social, economic and legal aspects of two investment projects was done for the GIZ and EIB initiative Financing Energy for Low-carbon Investment - Cities Advisory Facility (FELICITY). One project consists of a biodigester of organic waste that aims to reduce the amount of urban solid waste sent to landfill, produce electricity and mitigate air pollutants. The second project was an energy saving scheme in public buildings that would be financed by the issuance of a green bond.

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## **Scenarios for the Resilience Strategy for Colima (2018)**

**CLIENT:** AECOM and the Resilience Office for Colima of the Rockefeller Foundation

**LOCATION:** Colima, Mexico

**DESCRIPTION:** The project is one of the elements that make up the Resilience Strategy for the City of Colima, as part of the Rockefeller Foundation's 100 Resilient Cities initiative. Its objective was to identify the strategies with the greatest potential to promote the resilient development of the Colima-Villa de Álvarez Metropolitan Area with a vision for the year 2030. To this end, more than ten possible interventions or public policies were analyzed quantitatively. These include those related to planning urban growth in a compact way, new transport routes and bicycle routes, the creation of new urban amenities and the change of public lighting to LED technology. The process and results of the study were used to define elements of the new Urban Development Program.

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## **Air Quality Program for the State of Mexico 2018-2030 (2018)**

**CLIENT:** Ministry of the Environment of the Government of the State of Mexico

**LOCATION:** State of Mexico, Mexico

**DESCRIPTION:** The Program to Improve the Air Quality of the State of Mexico was developed. To this end, an air quality diagnosis was carried out in the State of Mexico that included the development of the emissions inventory, institutional analysis, budget, and operational capacities, as well as the results of atmospheric monitoring stations. Based on the diagnosis, the state strategy was developed to reduce the emission of local air pollutants, reverse deterioration trends, protect public health and strengthen monitoring. A list of public policy strategies and actions was developed, where the policy actions were prioritized, assessed in terms of their reduction of air contaminants and their cost of implementation was estimated.

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## **Methodology to assess the benefits of urban densification in "District 4.0" in the city of Morelia, Michoacán, Mexico (2018)**

**CLIENT:** German Agency for International Cooperation (GIZ) and The City Government of Morelia, Mexico

**LOCATION:** Morelia, Michoacan, Mexico

**DESCRIPTION:** The project consisted of the development of urban growth scenarios to analyze the benefits of urban densification in strategic polygons within the city of Morelia, with special emphasis on the area called "District 4.0". Appropriate densities for the city were also proposed. The project was a collaboration with the German Agency for International Cooperation (GIZ) to support the urban planning process in Morelia.

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## **State Development Plan of Yucatán (2018)**

**CLIENT:** A911 and the Government of the State of Yucatán.

**LOCATION:** Yucatan, Mexico

**DESCRIPTION:** Advice was given on energy and environmental strategies for the state government, which served as input for the development of the State Development Plan 2018 – 2024.

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## **Urban Planning Tool for the reduction of emissions of air pollutants (2018)**

**CLIENT:** Mexico City Ministry of the Environment (SEDEMA)

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Capacity building, consultancy and the installation of a software tool were part of this project that aimed to identify urban policies and investments that can mitigate the emission of air contaminants in the city.

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## **Feasibility of a Waste to Energy Plant in Mexico (2018)**

**CLIENT:** CC Investments

**LOCATION:** Mexico City and the State of Mexico, Mexico

**DESCRIPTION:** Field research was carried out to identify the type of waste that reaches landfills in the metropolitan areas of Toluca and Mexico City. In addition to physical characterization, laboratory tests were performed to have more data on the composition of solid waste, such as moisture and caloric power. Based on this information, an opinion was issued on the technical and economic feasibility of establishing a recycling or waste to energy power generation plant with the solid waste produced in the region.

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## **Review of the Mexico City Climate Action Plan (2018)**

**CLIENT:** C40

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Based on the C40 guidelines and The Paris commitments, the Climate Action Plan (PAC) of Mexico City 2020 to 2050 was revised. Following the review, a technical opinion was issued to C40 on the process of developing the CAP, the content, the goals and the general consistency with the commitment of mayors of the cities that are part of the C40. The review covered the areas of participatory processes, integration of vulnerable groups, emissions inventory, climate vulnerability analysis, measures, prioritization, costs and financing.

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## **Tool to locate areas ideal for social housing (2017-2018)**

**CLIENT:** National Housing Commission of Mexico (CONAVI)

**LOCATION:** Mexico

**DESCRIPTION:** The tool was developed for CONAVI in order to facilitate the analysis of the urban environment in 384 cities in Mexico. It consists of a computer system that uses algorithms and geographic systems to evaluate each city block. It allows the analysis of one or several layers of urban information simultaneously, integrating them into a city scale suitability index. The index is shown as a heat map, highlighting the most suitable areas of the city according to the desired analysis; for example, the best locations for social housing projects. In its first phase, the tool was developed, and installed on the CONAVI server, and its personnel trained in its use and maintenance. In its second phase, more than 30 layers of information were integrated for 384 Mexican cities.

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## **Demographic Trends (2018)**

**CLIENT:** World Bank Group

**LOCATION:** Worldwide

**DESCRIPTION:** The project consists of the analysis and information design of demographic trends in 6 regions of the world. The project shows changes in growth and the average age of the population in different countries.

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## **Metropolitan Profile Version 2 (2017-2018)**

**CLIENT:** World Bank Group and Korean Green Growth Trust Fund

**LOCATION:** Mexico

**DESCRIPTION:** The Metropolitan Profile Version 2 is a project funded by the Energy Sector Management Assistance Program through the World Bank Group to assess development paths for Mexican cities and identify the most sustainable options. The National Housing Commission (CONAVI, for its acronym in Spanish) is the government dependency performing this assessment and working as a link between the actors. This second version of the Metropolitan Profile analyzes the urban growth trends, by 2030, in 37 metropolitan areas of Mexico and compares it with scenarios of compact growth or in accordance with the current Urban Development Programs. More than fifteen indicators are used to evaluate the scenarios. Additionally, it includes two case studies, Mérida and Tijuana, which include scenarios defined by the local planning institutes and energy efficiency strategies. In the case of Mérida, the study was used to compare the benefits of the new Urban Development Program against the previous version.

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## **Discipline Update Course (CADI in Spanish) for teachers - Information technologies for urban analysis (2017)**

**CLIENT:** Instituto Tecnológico de Estudios Superiores de Monterrey

**LOCATION:** State of Mexico

**DESCRIPTION:** The objective of the course was to show how a Geographic Information System (GIS), can be an important support tool in urban analysis. The syllabus included topics such as the basics of a GIS, the types of data used by a GIS, how to integrate, edit and model the data to solve a particular problem, how to visualize the information and how to perform GIS analysis.

The course was given in conjunction with SIGSA, a company dedicated to the integration of Geographic Information Systems.

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## **Industrial Energy Savings (2017)**

**CLIENT:** Silanes Laboratories

**LOCATION:** State of Mexico, Mexico

**DESCRIPTION:** Consulting services were provided to reduce energy costs. The service consisted in researching energy-saving options, identifying the best possible providers, and making a recommendation based on economic, environmental, and operational benefits. Some of the options analyzed were equipment substitution, energy providers, tariff changes, and self-generation investments, among others.

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## **Industrial Energy Savings (2017)**

**CLIENT:** DIPAK

**LOCATION:** State of Mexico, Mexico

**DESCRIPTION:** Consulting services were provided to reduce energy consumption and energy costs. The service consisted in researching energy-saving options, identifying the best possible providers, and making a recommendation based on economic, environmental, and operational benefits. Some of the options analyzed were equipment substitution, energy providers, tariff changes, and self-generation investments, among others.

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## **Public Consultation (2017)**

**CLIENT:** Amigos de Sian Ka'an A. C. (National NGO on Environmental Conservation)

**LOCATION:** Quintana Roo, Mexico

**DESCRIPTION:** The project consisted in designing and implementing a public consultation process for the conservation and management program of the protected area: Mexican Caribbean Biosphere Reserve for the National Commission of Protected Areas (CONANP). This process included a web-based platform for interactive visualization and for systematizing the opinions registered by citizens.

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## **Public Consultation (2017-2018)**

**CLIENT:** World Bank Group and Korean Green Growth Trust Fund

**LOCATION:** Amman, Irbid, Zarqa, Russiefa, Mafraq, Jordan

**DESCRIPTION:** Through modeling urban scenarios, the Jordanian national government and local authorities in Amman, Irbid, Russeifa, Zarqa and Mafraq evaluated strategies and investments to drive long-term sustainable urban development in the country. The study compares different urban growth alternatives for the five cities. Through the study, the impact of different public policies on the environmental, social and economic aspects was quantitatively compared, informing decision makers and generating consensus on the policies that provide greater benefits. The project was developed with funds from the Korean Green Growth Trust Fund through the World Bank Group.

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## **Urban Growth Scenarios for Indonesia (2017)**

**CLIENT:** World Bank Group, Korean Green Growth Trust Fund, and National Government of Indonesia

**LOCATION:** Denpasar and Semarang, Indonesia

**DESCRIPTION:** The Urban Growth Scenarios for Indonesia were funded by the Korean Green Growth Trust Fund through the World Bank Group to assess development paths for two Indonesian cities –Semarang and Denpasar. Urban growth scenarios were developed by adapting two tools: Suitability and Urban Performance. The tools were used to visualize the impacts of different public policies on the environmental, social, and economic dimensions. The scenarios included different urban public policies in terms of housing availability, water efficiency, energy consumption, costs-revenues balance, and greenhouse gas emissions, thus estimating environmental, social, and economic indicators for each urban growth path option. Additionally, the benefits and drawbacks of different combinations of public policies, projects, and conditions were assessed to reach a consensus about the best development path. Stakeholders participated in a series of capacity-building and technology transfer workshops. Finally, as an extension for the project, we proposed new land regulations for Palu, after the 2018 earthquake and tsunami.

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## **Urban Growth Scenarios for Abidjan (2017)**

**CLIENT:** World Bank Group and Ivory Coast National Government

**LOCATION:** Abidjan, Ivory Coast

**DESCRIPTION:** Urban Growth Scenarios for Abidjan is a project funded by the Korean Green Growth Trust Fund through the World Bank Group to assess development paths for Ivorian cities and identify the most sustainable options. Capsus is a consultancy firm working with BNED to perform this assessment for Abidjan. Urban growth scenarios are planning tools that facilitate the understanding of various possible outcomes related to specific urban policies. These policies can range from transport or infrastructure investment plans, to land use changes and housing policies.

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## **Study about construction waste and social housing waste in Mexico (2017)**

**CLIENT:** Infonavit

**LOCATION:** Mexico

**DESCRIPTION:** A study was done to define strategies or mechanisms promoted by the institute for the adequate management of the waste generated during the construction of housing units and the occupation of the dwellings. The objective of developing these strategies is to improve the living conditions of the beneficiaries in the housing units financed by the institute.

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## **Linking the Green Mortgage program of INFONAVIT with the Green Housing Assessment System (Sisevive- Ecocasa) (2016-2017)**

**CLIENT:** German Agency for International Cooperation (GIZ)

**LOCATION:** Mexico

**DESCRIPTION:** The evaluation methods of the Green Mortgage program and the "Sisevive-Ecocasa" program were standardized to have one single methodology that incorporates energy, water saving, and bioclimatic evaluation.

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## **Emission Control Strategies for Heavy Diesel Vehicles (HDV) (2016-2017)**

**CLIENT:** Ministry of Communications and Transport

**LOCATION:** Mexico

**DESCRIPTION:** We worked with the Mexican Transportation Department and with transportation companies to propose emission control strategies in the HDV sector in Mexico. The project aims at developing public policies and identifying technological options to improve the environmental performance of the cargo trucks, without diminishing competitiveness.

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## **Environmental Studies and Permitting for a Combined Cycle Plant (2016-2017)**

**CLIENT:** PANEM Energy

**LOCATION:** Tecate, Baja California, Mexico

**DESCRIPTION:** We worked with the client to establish a 300 MW power plant that uses natural gas and whose technology is a combined cycle turbine. CAPSUS's role was to develop both an Environmental Impact Assessment and a Social Impact Study. The aim of the overall project is to provide electricity at low cost and with minimal environmental impact, therefore, part of the work consisted in modeling emissions and proposing cost-effective options for pollution control.

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## **Environmental Studies for a Wind Farm (2016-2017)**

**CLIENT:** ZUMA ENERGY

**LOCATION:** Tamaulipas, Mexico

**DESCRIPTION:** Various support services for the establishment of a 400 MW wind farm and its transmission lines were carried out. Some of the services performed were environmental feasibility studies, environmental Due Diligence, flora and fauna field studies, Environmental Impact Assessment, and Technical Justification Study for Land Use change. The project was conducted jointly with ENVIROSENSE.

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## **Rainwater Utilization in Schools and Areas of Hydric Vulnerability in Mexico City (2016-2019)**

**CLIENT:** Isla Urbana (lead national NGO on rainwater harvesting)

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** The project consisted in generating information and developing a software tool that would allow schools to develop projects that could harvest rainwater and educate students in the process. Additionally, a management software was developed to facilitate the installation of 10,000 rainwater harvesting systems in Mexico City as part of a 6-years local government program.

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## **Training for the Construction Code for energy efficiency (IECC) (2016)**

**CLIENT:** World Resource Institute – Mexico

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** For this Project, we studied the proposed construction code and developed educational material for local government officials. The workshops and training seminars had two objectives. The first one was to convince decision-makers of the importance of energy conservation codes and the second one was to train public officials to adapt the code to the local regulations. The project was developed in association with Coenergia.

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## **Sustainable Strategy for the Social Housing Sector of Mexico (2016)**

**CLIENT:** ARA, CADU, DEREX, JAVER, RUBA, SADASI, UNION, VINTE

**LOCATION:** Mexico

**DESCRIPTION:** Work was carried out with several developers of social housing in Mexico, with the dual purpose of (1) proposing a sustainability scheme in housing that is cost-effective for businesses and their people, achieving high energy efficiency and improving environmental performance; and (2) quantify the benefits in terms of energy savings and mitigation of greenhouse gasses that the sector's actions have had and will have in the future.

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## **Research Agenda for Clean Energy and Energy Efficiency (2016)**

**CLIENT:** SENER, World Bank Group, and Inter-American Development Bank

**LOCATION:** Campeche, Quintana Roo, Tabasco, Yucatan

**DESCRIPTION:** Cabinet and field studies were carried out in the Yucatan Peninsula in four states in southeast Mexico to develop a research agenda for the Mexican Department of Energy for public spending in this part of the country. This project included the analysis of the natural vocation of the region, the economic dynamics, the energy supply and demand, the established companies and existing investment projects, the regional competitiveness in the field, the existing infrastructure, the current research efforts and results, the business needs, and the installed capacity of academic institutions. The result was the development of State Investment Plans in Clean Energy, based on an assessment of regional needs. For this project, we worked with PRETIUM S.C.

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## **Environmental Feasibilities (2016)**

**CLIENT:** ZUMA Energy

**LOCATION:** Mexico

**DESCRIPTION:** Technical Due Diligence of potential renewable energy projects was done to prioritize the investment program of the fund.

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## **Ecotechnologies for Social Housing (2016)**

**CLIENT:** INFONAVIT

**LOCATION:** Mexico

**DESCRIPTION:** Consulting services were provided to the INFONAVIT (national mortgage bank) to improve the processes and eco-technology options for the Green Mortgage program.

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## **Master Plan for a New National Tourism Center (2016)**

**CLIENT:** FONATUR

**LOCATION:** Sinaloa, Mexico

**DESCRIPTION:** A Master Plan was designed for a new tourist destination with over 2,000 hectares of potentially developed land. The aim of the project was to create an urban-tourism design that could bring economic development to the region in the most sustainable way possible. As part of the work, sustainability guidelines were provided, including the efficient use of energy and natural resources, environmental protection practices, and sustainable urban development design. The project was developed in conjunction with A911.

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## **Tool for calculating water consumption and savings in social housing (2016)**

**CLIENT:** German Agency for International Cooperation (GIZ)

**LOCATION:** Mexico

**DESCRIPTION:** Thanks to the support of the German Agency for International Cooperation (GIZ), work was carried out with federal institutions in the housing sector to update the Water Simulator Tool (SAAVI). This tool estimates the water savings a home can have through different eco-technologies. The tool also includes estimates of energy savings and greenhouse gas emission reductions.

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## **Demographic Transition (2016)**

**CLIENT:** Inter-American Development Bank (IDB)

**LOCATION:** Latin America

**DESCRIPTION:** Production of a 7-minute animated presentation summarizing the main findings of the demographic transition study for 20 cities in Latin America. The presentation includes changes in longevity, births and fertility since 1950 and its projection to 2100.

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## **Green Improvement Program for Affordable Housing (2016-2017)**

**CLIENTS:** German Agency for International Cooperation (GIZ) – INFONAVIT

**LOCATION:** Mexico City

**DESCRIPTION:** Thanks to the support of the German Agency for International Cooperation (GIZ), work was done with the INFONAVIT (National Mortgage Bank) to design the conceptual strategy of a program that could improve the environmental and energy performance of existing social housing in a way that creates enough savings for the homeowner to pay back the credit. The program was mainly aimed at the substitution of Home Appliances to reduce water and energy consumption. A financial analysis was done to verify that the economic savings were profitable to the homeowners even after the interest rate from the loan.

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## **Waste Management (2014)**

**CLIENTS:** Toluca Municipality, State of Mexico

**LOCATION:** Toluca, Mexico State

**DESCRIPTION:** Consulting services for the strengthening of the waste management area of the municipality (part of the Capital of the State of Mexico).

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## **Mexico City's Resilience Strategy (2014)**

**CLIENTS:** Mexico City Government, AECOM

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Work on the conceptual development of the resilience strategy of Mexico City was done, by defining the main vulnerabilities (environmental and social), and prioritizing actions. The work triggered the creation of the Office of Resiliency in Mexico City and the Resiliency Plan of the city. The project was done in association with A911 and the Environmental Operations Workshop (TOA).

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## **Urban Performance of the City of Merida, Yucatan (2013)**

**CLIENT:** Ministry of Territorial and Urban Development (SEDATU)

**LOCATION:** Merida, Yucatán, Mexico

**DESCRIPTION:** An evaluation of the different scenarios of urban growth for the city of Merida was performed: trend growth; Municipal Urban Development Plan; and an ideal scenario. Environmental, economic, and social indicators were used to perform an urban sustainability analysis. Some of the factors considered in the spatial analysis were density, infrastructure costs, maintenance costs, availability of resources, capacity, financial independence, occupation of housing, mobility strategies, consumption of energy, school equipment, and demographics, among others.

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## **Commercial Energy Efficiency (2012)**

**CLIENT:** Devlyn

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Consulting services were given, to implement an energy-savings program within the branches, buildings, and laboratories of the group. Advising services included the option of self-supply schemes by renewable energy sources.

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## **Water recycling (2012)**

**CLIENT:** Papalote Children's Museum

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** A proposal was made to develop a project for the treatment and reuse of water. The project recirculates approximately 70% of the water consumed in the museum and reduces its water bill. The project is self-financed.

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## Wind Farms in Zacatecas (2011-2012)

**CLIENT:** PRENEAL

**LOCATION:** Zacatecas, Mexico

**DESCRIPTION:** Environmental Impact Assessment, Land Use Change, permitting and other environmental studies were made for the wind farm project and its associated transmission line.

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## Wind Farms in Oaxaca (2011-2012)

**CLIENT:** PRENEAL Mexico

**LOCATION:** Oaxaca, Mexico

**DESCRIPTION:** Environmental studies, consulting, and fieldwork was done to comply with federal regulations. Furthermore, an environmental impact assessment and other requisites were made to obtain the approval of the transmission line.

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## Sustainable Local Development Guide (2011)

**CLIENT:** Ministry of Social Development and the World Bank Group

**LOCATION:** Mexico

**DESCRIPTION:** CAPSUS was hired by the Mexican Ministry of Social Development and the World Bank Group to draft a guide that would help local authorities develop their communities in a sustainable manner. The guide includes an analysis of the legal framework; sections on climate change, water, air, energy, soils, biodiversity, and waste; it addresses the importance of social participation, proposes a methodology to analyze specific projects to increase their sustainability, provides an analysis of experiences Mexico and other nations; appends a checklist to assess local sustainability and a series of eco-technologies applicable to marginalized localities.

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## Energy Savings in Public Lighting (2011)

**CLIENT:** Huixquilucan Municipality, State of Mexico

**LOCATION:** Huixquilucan, State of Mexico, Mexico

**DESCRIPTION:** The Municipality intended to reduce its expenses and carbon footprint through an energy efficiency project. The specific action consisted in the replacement of public lighting (more luminosity, less energy use), which achieved energy savings of 38% and economic savings of 7 million pesos annually. The project also included a campaign of social communication about the measure (website, press release), and a launch event that was carbon neutral. Later, this project expanded to the public, with a light-bulb replacement campaign, exchanging more than 30,000 traditional light bulbs with efficient ones in homes within the municipality.

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## **Municipal Environmental Action Plan (2010)**

**CLIENT:** Huixquilucan Municipality, State of Mexico

**LOCATION:** Huixquilucan, State of Mexico, Mexico

**DESCRIPTION:** The plan sets out the environmental policy guidelines, milestones and goals for the municipal administration.

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## **Water Savings (2010-2016)**

**CLIENT:** President Hotel Mexico City

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** A water savings program was developed in order to treat and recycle water used by the hotel's laundry. The Project was financed by Capital Sustentable.

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## **Energy Efficiency (2010)**

**CLIENT:** +KOTA

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Consultancy services were done to reduce the energy consumption across the stores of the client.

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## **Waste to energy consultancy (2010)**

**CLIENT:** GUASCOR Mexico

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** CAPSUS worked with the client to identify and implement biogas projects from solid and water waste.

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## **Energy Efficiency in Public and Private Lighting (2010)**

**CLIENT:** Huixquilucan Municipality, State of Mexico

**LOCATION:** Huixquilucan, Mexico

**DESCRIPTION:** A self-financing luminaire replacement project was developed for the Municipality, an energy saving of 38% was achieved, equivalent to 7 million pesos per year. It was supported by a social communication campaign, which included a carbon neutral launching event and the recognition of environmental NGOs. This project included a campaign to replace domestic light bulbs, exchanging more than 30,000 traditional light bulbs for efficient ones.

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## **Municipal Environmental Action Plan 2009-2012 (2010)**

**CLIENT:** Cuautitlán Izcalli Municipality, State of Mexico

**LOCATION:** Cuautitlán Izcalli, Mexico

**DESCRIPTION:** The plan sets out the environmental policy guidelines, milestones and goals for the municipal administration.

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## **Comprehensive Solid Waste Management (2010)**

**CLIENT:** Metepec Municipality

**LOCATION:** Metepec, Mexico

**DESCRIPTION:** Consulting services for the strengthening of the waste management area of the municipality (part of the Capital of the State of Mexico).

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## **Electricity Generation using biogas (2009)**

**CLIENTS:** GUCAHE / IDEAL

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** We advised on the implementation of a self-supply project to replace electric power generation substituting diesel with biogas from a nearby landfill. We also advised on the feasibility of including the project as a Clean Development Mechanism (CDM).

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## **Environmental Social Responsibility (2009)**

**CLIENT:** Marsh Mexico

**LOCATION:** Mexico City, Mexico

**DESCRIPTION:** Corporate consulting on business practices and environmental responsibility and training courses.

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As a subcontractor of the Mario Molina Center for Strategic Studies on Energy and Environment, between 2010 - 2015 CAPSUS S.C. participated in the following projects:

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## **Housing Suitability (2013-2014)**

**CLIENT:** Sociedad Hipotecaria Federal (SHF)

**LOCATION:** Mexico

**DESCRIPTION:** An analysis was done regarding the influence of the location of social housing related to the indirect greenhouse gas emissions generated by its inhabitants. The analysis included a study of the mobility patterns of the families that lived in these housing complexes, in relation to the location of employment, urban equipment and services. The project required the development of a geospatial tool to calculate the emission differential between locations in the main cities of Mexico.

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## **Climate Action Plan for the Municipality of Naucalpan (urban area of Mexico City) (2013)**

**CLIENT:** Naucalpan Municipality

**LOCATION:** Naucalpan, Mexico

**DESCRIPTION:** The Climate Action Plan for the Municipality was developed according to best international and local practices. Aside from the mitigation and resilience actions, the plan included a hydro-meteorological risk atlas. The Plan was recognized by SEMARNAT as one of the best national examples for Climate Action at the Municipal level. The project was developed collaboratively with Local and Global Ideas.

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## **Climate Action Plan for Mexico City (2012-2013)**

**CLIENT:** Mexico City

**LOCATION:** Mexico City

**DESCRIPTION:** The City Strategy and the Climate Action Plan (2014-2020) for the government of Mexico City were developed in this project. The two products started with the evaluation of the previous instruments and used the information as a base to design the Strategy and the Climate Action Plan. During this project, several consultations were conducted with experts, local groups and public officials from different government units. The work included the calculation of mitigation potentials and associated uncertainties. The deliverables also included an online software program for monitoring, reporting and tracking of the activities that included in the Plan. The project was done in collaboration with Notland and the Mario Molina Center staff.

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## **Guides for the Evaluation and Design of Local Climate Action Plans (2012-2013)**

**CLIENT:** CONACYT

**LOCATION:** Mexico

**DESCRIPTION:** Two separate guides were developed to help local governments (Municipalities and States) to (1) conduct a review of their climate action programs and (2) design their Climate Action Plans. The methodology was piloted in Mexico City.

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## **Environmental Evaluation of Social Housing (2012)**

**CLIENT:** National Government of Mexico and Several Social Housing Private Developers

**LOCATION:** Mexico

**DESCRIPTION:** The project was divided into three main stages. The first one included the development of a methodology to measure the sustainability of a social housing development. Therefore, a sustainability index and an evaluation methodology was created. The second stage included field work (in several cities in Mexico) to gather information directly from the social housing developments and from the private contractors to evaluate the economic, environmental and social performance of the social housing developments. Finally, the results were presented to public and private stakeholders to reach consensus on modifications to the national social housing program that would lead to a better quality of life of the homedwelers at a lower cost and reduced environmental impact.

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### **Mexico City's Climate Change Fund (2011)**

**CLIENT:** Mexico City

**LOCATION:** Mexico City

**DESCRIPTION:** A proposal regarding the structure and governing rules was developed for the fund. This project was done in association with Laguna Law Firm.

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### **Public Policy Evaluation School Transportation (PROTE) (2011)**

**CLIENT:** Mexico City

**LOCATION:** Mexico City

**DESCRIPTION:** Environmental studies were done to evaluate the environmental performance of the school transportation program of Mexico City.

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### **Regional Sustainability Strategies (2011)**

**CLIENT:** CONACYT

**LOCATION:** Mexico

**DESCRIPTION:** The project consisted of a strategic regional assessment of Mexico in which natural and anthropogenic factors were studied to propose regional environmental and energy policies and research. As an example, the work done for the central region of Mexico was used as a justification to create a regional environmental commission (Comisión Ambiental de la Megalópolis) that coordinates public policies among several Mexican states.

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# Team Organization



## ⌘ Coordinators and consultants profile

Alexis Cervantes.

*Geographical Information Systems*

[alexis.cervantes@capsus.mx](mailto:alexis.cervantes@capsus.mx)

**Bachelor and Mastering degree in Sustainable Management of Coastal Zones and Geography from the National Autonomous University of Mexico.** Before CAPSUS, Alexis collaborated in a project of The Mexican Carbon about the legal analysis of the wastewater treatment between South Korea and Mexico (specifically for the case of Quintana Roo). At the time his professional interests are focused on the processing of satellite images, geographic information systems management, and data analysis.

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Ana Castro

*Sustainable Development*

[ana.castro@capsus.mx](mailto:ana.castro@capsus.mx)

**Over 1 year of experience in data analysis, contamination assessment, and development of cartographic material to inform decision-making and management strategies for governmental and academic institutions.** Earth Science graduate from the National Autonomous University of Mexico. Core strengths include analytical skills, problem-solving, and teamwork. She has mainly worked on projects in Mexico, such as the Annual Program for Fire Prevention and Combat at Iztapalapa borough, the management plan for Cerro de la Estrella National Park, and developing maps of disruptive phenomena. She possesses international academic experience as a Huayu Enrichment Scholarship recipient at the National Normal Taiwan University.

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Andrea González.

*Sustainable development*

[andrea.gonzalez@capsus.mx](mailto:andrea.gonzalez@capsus.mx)

**More than 5 years of experience in the public sector coordinating the development of regulatory instruments, urban planning, and institutional structures focused on sustainable urban mobility, public space, and road safety. She has a master's degree in Environmental Management from Duke University.** Background in the development of urban experimentation exercises, under collaborative work schemes between the social, academic, public, and private sectors. Experience providing technical support to local governments for the development of urban improvement projects, with emphasis on sustainable mobility and gender perspective. Her international experience includes Cambodia, Indonesia, Ecuador, Peru, and the evaluation of Climate Action Plans of Argentina, Brazil, Chile, Colombia, Honduras, and Jamaica.

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**Antares Velázquez.**

**Information, digital and communication design**

[antares.velazquez@capsus.mx](mailto:antares.velazquez@capsus.mx)

**5 years of experience in the public and private sectors conceptualizing technical messages in specialized graphics using diverse design and communication solutions, data visualization, infographics, user interfaces design and actually acquiring knowledge about UX discipline and inclusive design for design processes and methodologies.** Graphic Communication Designer from the Universidad Autónoma Metropolitana Azcapotzalco, currently studying a Master in Design Studies at CENTRO. Core strengths include the strategic planning to create materials and solutions that respond to the communication and information needs based on sustainability and urban development issues. She has experience working with editorial design for environmental studies and research, audiovisual guides, branding and graphic identity, visual arts for social media and more areas inside the design discipline. She is one of the co-founders and members of the firm's Gender, Diversity, and Inclusion Committee and has contributed to obtaining a 100% score for the firm in the HRC Equidad Mx Index. Country experience includes Mexico, the United States, Indonesia, Jordan, Palestine, Paraguay, Egypt, Mongolia, Kosovo, among others.

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**Araceli Hernández.**

**Sustainable urban development**

[araceli.hernandez@capsus.mx](mailto:araceli.hernandez@capsus.mx)

**More than 20 years of experience in the academic, private and public sectors.** Araceli holds a bachelor in Design of Human Settlements from the Mexican Universidad Autónoma Metropolitana, and a Master's degree in Urban Planning from the National Autonomous University of Mexico. She also has post graduate studies in environmental policy and pollution control. In academia, Araceli has given undergraduate level courses in the urban development subjects. In the private sector she worked in architectural and construction companies, and in the public sector she has worked both in the local and national governments of Mexico, in the ministries of environment, urban development and social development.

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**Bardo Salgado.**

**Design and urban development**

[bardo.salgado@capsus.mx](mailto:bardo.salgado@capsus.mx)

**4 years of experience in the public and private sector developing urban mobility projects, public space guidelines, and urban development strategies.** Core strengths include analyzing the built environment at different scales through spatial patterns and people's behavior. Solid training in parametric urban design and analysis models for the generation and assessment of urban design variants and development patterns. Experience includes analysis of urban form attributes like density, visibility, and accessibility in order to identify human-centered strategies. Acquired know-how in applying and combining qualitative-participatory tools and quantitative methods for evidence-based interventions to improve urban settlements at different scales. Work experience in countries including Mexico, Honduras, Germany, Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, and the Kyrgyz Republic.

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**César Flores.**  
*Environmental law*  
[cesar.flores@capsus.mx](mailto:cesar.flores@capsus.mx)

**3 years of professional experience in the field of environmental and administrative law.** He has a Degree in Law from the Universidad Autónoma Metropolitana. In the public sector, he worked in the Legal Affairs Unit of the Mexican Secretary of Environment and Natural Resources. In the private sector, he worked in a law firm dedicated to environmental and administrative matters. Throughout his professional career in environmental and administrative law, he has participated in the evaluation and design of laws and their regulations, including guidelines, norms, standards, conventions, and international treaties.

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**Daniela Evia.**  
*Education and social processes*  
[daniela.evia@capsus.mx](mailto:daniela.evia@capsus.mx)

**Over 15 years of experience designing, curating, and implementing knowledge exchange and participatory processes, including training courses (online and offline) for cities of varying scales, political regimes, cultural contexts, and complexities** which in turn enables deeper penetration of institutional change in public interest among a wide range of actors -public, private, and civil society-, closing the communication gap in the realm of urban policy, planning, and development. Extensive experience teaching history, philosophy, and pedagogy, in Mexican universities. Strong background in designing and developing climate change education programs, and editing science dissemination and institutional documents. Country experience includes Mexico, the United States, Indonesia, Côte d'Ivoire, Jordania, Palestina, and Paraguay.

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**Dinorah León.**  
*Social analysis*  
[dinorah.leon@capsus.mx](mailto:dinorah.leon@capsus.mx)

**Over 6 years of experience development of methods to collect, analyze, and visualize qualitative and quantitative data.** Core strengths include fieldwork and desk-base data collection and analysis. Extensive experience baseline analysis, impact assessment and designing mitigation, prevention and adaptation measures. Strong background in designing and developing sustainable projects. Country experience includes Bulgaria, Cambodia, India, Jordan, Kosovo, Mexico, South Africa, and Uzbekistan.

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**Denisse Larracilla.**  
*Urban development and environmental design*  
[denisse.larracilla@capsus.mx](mailto:denisse.larracilla@capsus.mx)

**Over 5 years of experience in the public sector coordinating the development of regulatory, urban planning instruments, and institutional structures focused on sustainable urban mobility, public space and road safety.** Background in the development of urban-experimentation exercises, under collaborative work schemes between the social, academic, public and private sectors. Experience providing technical support to local governments for the development of urban improvement projects, with an emphasis on sustainable mobility and a gender perspective. Her international experience includes Chile, Ecuador and Paraguay

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**Fátima Viquez.**

**Sustainable Development**

[fatima.viquez@capsus.mx](mailto:fatima.viquez@capsus.mx)

**Environmental Engineer by the Instituto Politécnico Nacional.** Previous to CAPSUS she has participated in research projects about forest waste, life cycle analysis and circular economy. She also has experience working with international cooperation agencies on issues related to climate change and energy efficiency at SME's. At CAPSUS she has collaborated on projects focused on resilient affordable housing and climate change in Asian cities. She is currently working on a low-carbon city planning project in Central Asian cities. Work experience in countries such as Mexico, Mongolia, Indonesia, Kazakhstan, Uzbekistan, Tayikistán, Kyrgyzstan and Turkmenistan.

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**Fernanda Nájera.**

**Sustainable development**

[fernanda.najera@capsus.mx](mailto:fernanda.najera@capsus.mx)

**Over 2 years of experience evaluating, analyzing and designing sustainability solutions across several sectors.** Chemical engineer graduated from the UNAM (Universidad Nacional Autónoma de México). At CAPSUS, she has examined policies related to energy, waste management, water, and sanitation. Additionally, she has proposed strategies to take a step further towards urban sustainability. Previously, she participated in the development of technology for the generation of energy by salinity gradients, and in the private sector, she contributed to the implementation and adoption of sustainable practices. Core strengths include critical thinking, which enables her to identify key points and analyze the information, in order to overcome challenges and find optimal solutions. Country experience includes Mexico, Indonesia, and Latin America.

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**Guillermo Velasco.**

**Public policy, sustainable development**

[guillermo.velasco@capsus.mx](mailto:guillermo.velasco@capsus.mx)

**Over 20 years of experience evaluating, designing and implementing environmental and urban policies for the public sector at the national, regional and local level for countries and cities of varying scales, political regimes, cultural contexts, and complexities.** His professional experience in the public sector includes being chief of staff at the Mexican Senate, federal and local congressperson, as well as Secretary of the Environment for the State of Mexico. During this time, he designed and implemented policies and investments related to air quality, climate change, waste management, water, environmental impact, green infrastructure and natural conservation. In the private sector he worked at Accenture and was Program Coordinator at the Mario Molina Center, where he coordinated the air quality, waste management, transportation, and urban development teams. Guillermo has been part of the Mexican National Climate Change Council and the Mexican National Urban Development Council. Country experiences include Mexico, the United States of America, Côte d'Ivoire, Jordan, Palestine, Argentina, Kosovo, Mongolia, Brazil, South Africa, Bulgaria, Peru, Colombia, Ecuador, Paraguay, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.

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**Israel Huipio.**

**Administration and finances**

[israel.huipio@capsus.mx](mailto:israel.huipio@capsus.mx)

**More than 15 years of experience as a public accountant, mainly in the field of construction and property leasing.**

Graduated from the Mexican University, he has a specialty in Management Skills and a Bachelor's Degree in Public Accounting. In the companies in which he previously participated, he contributed to the development and implementation of projects that allowed a greater control of information.

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**Jorge Márquez.**

**Urban planning**

[jorge.marquez@capsus.mx](mailto:jorge.marquez@capsus.mx)

**2 years of experience in the use of Geographic Information Systems for management and processing of spatial data, study of the behavior and development of urban areas.** This includes different training courses throughout the university trajectory and training for work activities related to spatial analysis. The main strengths of her work lie in the search and compilation of information in the office and in the field, as analysis of spatial information to prepare urban improvement proposals for cities or small towns. With 2 years working in Mexico, his international experience includes Indonesia, Egypt, South Africa, Maldives, and Bulgaria.

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**Jorge Santacruz.**

**Air Quality**

[jorge.santacruz@capsus.mx](mailto:jorge.santacruz@capsus.mx)

**More than 20 years of experience as Environmental Engineering Specialist in (Air Quality, Water Pollution, Urban and Municipal Solid Waste, and Environmental Management), Chemical Oceanography, Environmental Chemistry and Professor of Chemistry at UNAM.** The main strengths of his work lie in the resolution of environmental problems for decision-making in public policy, and are representative for the well-being of society, wildlife and industry. Evaluator of the CONACYT-Secretary of Energy-Hydrocarbons Fund about spills in the Gulf of Mexico, Chapter of the book, The Mexican Coasts: Contamination, Impact and Climate Change, design and support in international projects on Environmental Contamination in Mexico. His collaboration and international experience includes Mexico, the United States, Japan, Korea and Peru.

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**Leticia Galindo.**

**Administration**

[leticia.galindo@capsus.mx](mailto:leticia.galindo@capsus.mx)

**25 years of experience in the private sector focused on the administrative, finance, human resources and tax area.**

Public Accountant with a Master Degree in Finance. Most of her experience has been in the manufacturing area and now in the sustainability area, in both fields she has taken control of projects, has implemented programs to improve processes and increase productivity.

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**Louise David.**

**Urban development and public policy**

[louise.david@capsus.mx](mailto:louise.david@capsus.mx)

**With more than 15 years of research in urban development, she has a PhD in urban planning and land use planning from the Université Paris-Est, France, and a master's degree in public policy from the Sorbonne.** She has been a teacher of urban sociology and urban sustainability in urban development master's degrees for 9 years. Today, she is an expert in urban governance and participatory processes, housing and land, urban regeneration and redensification, public-private financing of urban development, and urban planning instruments. Her international experience includes Mexico, Peru, France and Great Britain.

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**Luis Enrique Juárez.**

**Sustainable urban development**

[luis.juarez@capsus.mx](mailto:luis.juarez@capsus.mx)

**2 years of experience in public works and sustainable development projects.** Graduated from Facultad de Estudios Superiores Acatlán, Universidad Nacional Autónoma de México. He holds a diploma on "Control and Transparency in Public Administration".

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**Luis Villarreal.**

**Geographic information systems**

[luis.villarreal@capsus.mx](mailto:luis.villarreal@capsus.mx)

**4 years experience in environmental consulting and 2 years experience in research in sustainability, geographic information systems, data management and analysis, environmental impact and forestry.** Biologist from the Universidad Autónoma Metropolitana, Xochimilco unit, currently in the process of obtaining the Master's degree in Sustainability Science at the Universidad Nacional Autónoma de México. Specialized Geographic Information Systems and performing in areas such as environmental impact, rainwater collecting systems, environmental diagnosis, environmental restoration and reforestation, forest survey, geospatial and territorial analysis, waste management programs, environmental auditing, data processing, cartography, eligibility and institutional capacity analysis for environmental services payment, participatory mapping workshops and geospatial analysis for risk and resilience. He has worked mainly in projects in México for the public and private sectors and currently working in a project for Indonesia.

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**Mariana Elizondo.**

**Foreign affairs and public administration**

[mariana.elizondo@capsus.mx](mailto:mariana.elizondo@capsus.mx)

**Over 15 years of experience in international and public relations for the public and private sectors.** Mariana holds a bachelor degree in International Relations and a Master degree in Public Administration. She has specialized in international relations and academic and professional foreign exchanges between México and the countries of the Americas. She has worked at Harvard University's LASPAU, the OECD, in the Mexican Ministry of Foreign Affairs and in the Mexican Ministry of Social Development as an international specialist. She has implemented academic and professional exchange programs in Mexico and abroad, and she has also worked on projects related to economic development, public-private partnerships and social development. Her country experiences include Mexico, the United States of America and France.

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**Mario Sánchez**

**Project management and architect**

[mario.sanchez@capsus.mx](mailto:mario.sanchez@capsus.mx)

**More than 10 years of experience in the development of architectural projects, from conceptualization to execution.**

Its strengths lie in the design and management of projects, including budget, labor contracting, execution, construction and supervision.

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**Mónica Palomero.**

**Sustainable development**

[monica.palomero@capsus.mx](mailto:monica.palomero@capsus.mx)

**More than 25 years of experience in the environmental sector, in the areas of air quality, water, hazardous waste, among others. This includes the development of supervision, inspection and surveillance programs at the national level in patrimonial, environmental and security in hydrocarbons.**

The main strengths of her work is in the effective and efficient communication of complex concepts and processes which has allowed her to do planning, programming, evaluation and project management. Extensive experience in supervising inspection, surveillance and verification plans and programs in the federal maritime-terrestrial zone at the national level, as well as in the development and execution of programs and projects in which inter-institutional coordination and linkage are needed. Solid experience in the management of national security actions to safeguard the Nation's Assets, the planning, coordination and execution of Special Operations in the main coasts of the country, with the support and direct interaction of the federal judicial authorities. International experience includes Germany, Japan and Venezuela. She was an active member of the Clean Beaches Committee of Mexico, contributing to the sanitation, prevention and correction of contamination of Mexican beaches through various actions, investigations and proposals.

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**Paul Cota**

**Public policy and regional development**

[paul.cota@capsus.mx](mailto:paul.cota@capsus.mx)

**Over 5 years of experience designing and implementing development projects and analyzing public policies, as well as methodology design and participatory diagnostics in the public, private and social sectors.**

He has a Master's in Regional Studies, with an emphasis on public policy, local governments, and governance. Core strengths include effective communication, scientific research, and negotiation skills. This enables a deep understanding of topics such as international affairs, regional and transborder development, subnational government capacities, and metropolitan governance. Extensive experience researching spatial and sociopolitical issues such as spatial segregation, multicultural policies, urban social movements, and community development. Strong background in designing and analyzing public policies within public urban planning offices and research centers, as well as designing, implementing and evaluating development projects in grassroots and international NGOs. Country experience includes Mexico, The United States, Canada, Poland, Indonesia, Turkmenistan, Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan.

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**Ricardo Ochoa.**

**Energy, housing and urban planning**

[ricardo.ochoa@capsus.mx](mailto:ricardo.ochoa@capsus.mx)

**17 years of experience in climate change mitigation and adaptation in the built environment.** Ricardo has a mechanical engineering and administration background, postgraduate studies in energy, and 17 years of experience in sustainable development. Ricardo has developed tools to support local governments in making informed choices. His work combines system analytics, software development, and evidence-based decision-making processes. He has developed systems for more than 300 cities in Africa, Latin America, the Middle East, and East Asia and the Pacific.

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**Yeni Solis.**

**Communication**

[yeni.solis@capsus.mx](mailto:yeni.solis@capsus.mx)

**More than 12 years of experience in the area of social communication, particularly in issues related to the environment.**

The main strengths of her work lie in his extensive experience in the preparation of press releases, lines of discourse, content creation and programming of social networks. As well as his proactivity, responsibility and teamwork. Her professional development has been mainly in government agencies in Mexico.

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**María Elena Camargo**

**Legal lawyer**

[mariaelena.camargo@capsus.mx](mailto:mariaelena.camargo@capsus.mx)

**11 years of experience in the Federal Public Administration.** Graduated in Law from the Faculty of Law of the National Autonomous University of Mexico. With ethical value and analytical thinking, she has performed functions in Legal Departments, especially in the areas of legislation and consultation and administrative responsibility, collaborating at the institutional level in the design of internal regulations for the due exercise of powers and improvement of the specific organization of the Administrative units.

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**Lucina Hernández**

**Public policy and sustainable mobility**

[lucina.hernandez@capsus.mx](mailto:lucina.hernandez@capsus.mx)

**Experience in issues related to interaction with society and the environment and she has been part of working groups dedicated to environmental education.** She has a degree in Earth sciences and a master's degree in sustainability sciences from the National Autonomous University of Mexico (UNAM). She has also been a professor at the Faculty of Sciences of the UNAM teaching courses on Applied Ecology and Philosophy and Ethics of Sciences. She disseminates issues related to science, particularly on environmental and sustainable processes. She is currently supporting low carbon transportation and sustainable mobility for the Megalopolis Environmental Commission.

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**Andrea Morales**

*Internationalist and public policy*

[andrea.morales@capsus.mx](mailto:andrea.morales@capsus.mx)

**She worked as a research assistant at the “think tank Ethos Innovation in Public Policy” and was a consultant for the United Nations Development Program (UNDP) at the Ministry of Foreign Affairs.** Graduated from the Tecnológico Autónomo de México (ITAM), she has contributed to issues of green energy, sustainable transportation, public policies and Mexico's participation in multilateral forums and, currently, she works as Support for the Linkage of Public Policies in the Environmental Commission of the Megalopolis (CAME).

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## ⋮ Associates profile

**Amílcar González.**

*Software development*

[amilcar.gonzalez@capsus.mx](mailto:amilcar.gonzalez@capsus.mx)

**Over 6 years of experience in the public and private sectors with software and web development, and systems management, including HTML/CSS/JS. PHP, jQuery, Dart/Flutter, Java, Hugo, Python and Angular, as well as systems management in Linux-based systems (Ubuntu, Debian, etc.).** Computer Systems Engineer from the Universidad Tecnológica de México (UNITEC). Core strengths include constant learning of various technologies according to different projects, handling mainly the frontend, but also working on the backend. He also has experience handling resources from the Google Cloud Consoles, including DNS, virtual machines. Country experience includes Mexico, Argentina, Paraguay, and Indonesia.

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**Juan Manuel Gómez.**

*Software development*

[juanma.gomez@capsus.mx](mailto:juanma.gomez@capsus.mx)

**He studied applied mathematics at the National Autonomous University of Mexico.** Juan Manuel has been working on the design and development of systems since 2007, he has collaborated in the development of information platforms for the National Autonomous University of Mexico in the project "Informed Vote" and "National Diagnosis with Gender perspective on all forms of violence against women and girls and preliminary draft of the comprehensive program to prevent, protect, sanction and eradicate violence against women". He also participated in the development team of the Information System of the Agenda of the Special Climate Change Program (SIAT-PECC), collaborated in the programming of the Monitoring System of the Climate Action Program of Mexico City (SS-PACCM) and in the Monitoring System of PROAIRE of Mexico City (SS-PROAIRE). He also assisted the development of the National Air Quality Information System (SINAICA) for THE INECC.

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**Tania Guerrero.**

***Urban development and housing***

**tania.guerrero@capsus.mx**

**Architect with a master's degree in Science in Architecture, Urbanism and Construction from Delft University of Technology, and a PhD candidate in Human Geography from University College London.** Tania has worked as an architect and urban planner in Mexico and the Netherlands.





## **Green Tower**

Boulevard Manuel Avila Camacho 118, int. 2401

Lomas de Chapultepec, Miguel Hidalgo,  
Mexico City, 11000

Tel. +52 (55) 44 31 29 27

[www.capsus.mx](http://www.capsus.mx)

