

Institutional Curriculum

Innovative Solutions for a Better Future

capsus.mx

2026

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About CAPSUS

About Us

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.

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 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 on 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 with problem identification, we understand the client's needs to propose innovative solutions backed up by robust technical proposals, which are the best fit for the issue and client at hand. Then we analyze the results and communicate them to 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.

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 sustainable development.

Values

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 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 in.

Projects

This section presents a selection of representative projects that demonstrate the consulting firm's experience and execution capability.

Concept and Methodology for Positive Impact Assessment and Double Materiality (2026)

Client: BBVA

Location: Mexico

Technical support to define the institutional concept of "Positive Impact" and its assessment methodology. Project activities include the construction of environmental and social indicators to measure the positive impacts generated by the bank's sustainability projects; the development of an indicator tracking tool (dashboard); the construction of the assessment methodology; and the implementation of a pilot program to test the methodology.

Environmental Impact Advisory (2025-2026)

Client: Quantum Energía

Location: Mexico

Specialized advisory for Quantum Energía to ensure comprehensive compliance with environmental regulations for its energy infrastructure projects. Activities include training plant coordinators and regularizing responsibilities and procedures before ASEA and SEMARNAT, specifically regarding natural gas pipelines and electric power generation plants.

Conservation and Management Guidelines, and Master Plans for Protected Natural Areas (2025-2026)

Client: Ministry of the Environment of Mexico City (SEDEMA)

Location: Mexico City, Mexico

The first component of the project consists of the design and implementation of a strategic identity and a manual of image and design guidelines to guide the intervention and management of Mexico City's Natural Park System, promoting ecological protection, resilience against urban and climate risks, and cultural integration. The manual proposes sustainable design principles and directives for architectural elements, green infrastructure, mobility, furniture, and signage. The second component focuses on the development of Master Plans for two natural parks, including a site diagnosis and a system of environmental and social monitoring indicators to evaluate the results of the Plans.

Elaboration of City Action Plans, under the African Cities Program (2025-2026)

Client: African Development Bank Group

Location: Juba, South Sudan

The project established a clear strategic roadmap, with a strong emphasis on investment prioritization, by systematically moving from a Rapid City Profiling that validated local challenges and data gaps, to a Strategizing and Prioritizing phase that collaboratively identified a shortlist of 12 high-impact actions. This prioritization was finalized during the action plan development phase, using a Multi-Criteria Analysis (MCA) to select and detail the top 3-5 investment-ready

priority projects, along with comprehensive project sheets and an implementation roadmap. The final plan directly addressed Juba's vision of becoming a more climate-resilient, livable, and productive urban center, laying the groundwork for future institutional transformation and the mobilization of urban finance.

Colima Strategic Investment Roadmap (2025)

Client: Alianza para la Regeneración Urbana

Location: Colima, Mexico

CAPSUS spearheaded a high-level territorial governance and investment prioritization study for the State of Colima to anchor the 2025–2026 Development Program. By deploying the UN-Habitat GAF-MTR framework, we conducted a rigorous diagnostic of the state's legal, institutional, and financial architecture, ensuring alignment with international best practices. A standout feature of our approach was the application of mathematical network analysis to the project pipeline; by modeling investments as nodes and functional interdependencies as edges, we moved beyond static ranking to identify “catalytic assets”—strategic projects that optimize capital allocation by unlocking secondary investment cycles. This data-driven methodology provided the State and potential multilateral lenders with a transparent, bankable roadmap that mitigates institutional risk and maximizes the socio-economic return on metropolitan infrastructure.

Update, Hosting, and Monitoring of the Rainwater Harvesting Potential Calculator (2025)

Client: Cántaro Azul

Location: Mexico

Update and accessibility improvements for the rainwater harvesting potential calculator, a tool previously developed by CAPSUS. The work included alignment with Cántaro Azul's brand identity and integration into their website. Support materials were updated to ensure transparency and clarity in the processes, and improvements were made to the geolocation system. These changes allow for the use of global-scale climatological data based on the project's location, as well as climate change projections. Additionally, improvements were made to the language system, making the tool now available in Spanish, English, and French.

Municipal Spatial Data Infrastructure in Samarkand (2024)

Client: World Bank

Location: Samarkand, Uzbekistan

The objective of this assistance is to foster a city-level spatial data ecosystem that enables informed planning, improved coordination, and more efficient use of public resources. The project is based on the IPDS methodology developed under the World Bank's City Planning Labs (CPL) initiative, which applies a four-building-block framework: Institutions (policies, regulations and practices for creating, managing, sharing and updating data), People (technical capacities, quantity of qualified persons, roles), Data (type and quality of available datasets), and Systems (software and hardware). The technical assistance has been structured into four phases: (1) an assessment of existing geospatial datasets in Samarkand; (2) an assessment of the city's MSDI readiness across the IPDS framework; (3) the formulation of an MSDI Roadmap based on the assessment findings; and (4) the development of a Capacity-Building Strategy for the city government.

Guiyang Green Urban Development Project (2024)

Client: World Bank

Location: Guiyang City, China

The project aims to estimate current GHG emissions, carbon sequestration, and heat islands in Guiyang, forecasting their evolution under business-as-usual and alternative growth scenarios for 2050. It will focus on the citywide benefits of carbon reduction, nature-based solutions, and sequestration policies, particularly in the Aha Lake area. Key activities include analyzing available data, developing a GHG emission profile, assessing carbon sequestration potential through afforestation and reforestation, modeling future emissions and sequestration scenarios, identifying extreme heat exposure and estimating the benefit of using nature based solutions for heat management, carbon sequestration, flood prevention, natural conservation, and urban footprint containment.

Ranking of Public Transportation for Mexican Cities (2024)

Client: Centro Mario Molina (Mario Molina Centre) and GIZ Mexico

Location: Mexico

The project focused on designing and building a digital platform to assess the general performance of public transportation in Mexico. By analyzing 32 transportation systems and gathering user feedback, the platform is able to display data regarding various indicators in numerous ways, allowing for quick and simple understanding. The platform also provides detailed insights into these 32 transportation systems.

Simulation of urban growth scenarios for the municipality of San Pedro (2024)

Client: Centro Mario Molina (Mario Molina Centre)

Location: Mexico

The project aimed to address San Pedro's new urban challenges and accelerated demographic transition by developing an innovative urban scenario simulation tool. The tool helps stakeholders visualize and measure the impacts of policies and investments on the future city's structure and performance, and facilitates consensus-building on urban planning strategies to ensure the municipality's long-term sustainability and resilience.

Roadmap for Distributed Renewable Energy (2024)

Client: IFC

Location: Mexico

The project was developed with Econoler and Coenergia, with the aim of developing a roadmap to promote distributed renewable energy in Mexico. During the project, the team identified the relevant stakeholders and conducted research on the current market characteristics, its challenges, opportunities and potential actions that could increase the share of renewable energy implemented by the private sector. Along the project, the team conducted a workshop and several interviews with industry experts, public officials, financial institutions, developers and consumers to understand the existing

challenges and how to overcome them. The final product was a Road Map that recommends a specific list of actions, milestones and policies needed to increase private investment in distributed renewable energy in Mexico.

Formulation of the Environmental Governance Chapter of the Strategic Sustainable Development Plan of Quintana Roo 2050 (2024)

Client: Ciudadanos por la Transparencia (Citizens for Transparency Organization)

Location: Mexico

This project involved the creation of the Environmental Governance chapter for the Strategic Sustainable Development Plan of Quintana Roo 2050. It entailed comprehensive documentary research on the state's primary environmental challenges and a detailed mapping of the environmental regulatory framework and relevant public policies. CAPSUS led the project, designing and implementing instruments for information co-generation and facilitating citizen participation processes with key stakeholders from the private, public, and civil society sectors across the different regions of the state. CAPSUS also developed strategic action lines and public policy recommendations aimed at enhancing the multisectoral relevance and effectiveness of environmental governance in Quintana Roo.

Urban Planning Tools Demo Capacity Building Sessions (2024)

Client: World Bank

Location: Worldwide

The project consisted in designing and programming three urban planning tools, 1) Urban performance (this tool compares urban growth scenarios and assesses the impact of investment projects using a set of indicators), 2) Suitability (This tool identifies the most suitable locations within a city for implementing urban planning projects and investments), and 3) CollabData (This tool promotes social participation and communication regarding community needs and priorities). Additionally, the project included planning and conducting capacity-building sessions for the World Bank's stakeholders. These sessions aimed to facilitate knowledge transfer for ex-

perts and practitioners through the development of graphic materials, audiovisual materials and collaborative activities.

Urban Growth Scenarios for Kolkata (2024)

Client: LEA Associates

Location: India

The main objective of this consultancy was to develop three urban growth scenarios for the city of Kolkata, India, and evaluate them through a group of urban and environmental indicators, including urban growth, land use change, GHG emissions, municipal operating costs, among others. The consultancy utilized the Urban Growth Scenarios methodology and the Urban Performance model to forecast the city, evaluate it, and compare the three urban growth scenarios: Business as Usual, Planned Scenario, and Climate Resilient Scenario.

Technical Assistance for Municipal Spatial Data Infrastructure (MSDI) Implementation in Kenya (2024)

Client: World Bank

Location: Kenya

The main objective was to assist three Kenyan cities (Kathwana, Kitengela, and Nakuru) in taking their initial strides toward establishing a robust Municipal Spatial Data Infrastructure (MSDI) that facilitates data-driven decision-making for effective urban planning and governance. This support entailed conducting an initial assessment for all three cities. Additionally, one Kenyan municipality received assistance in developing an MSDI Roadmap, while the other two municipalities benefited from technical assistance.

Benchmark analysis of the port sector in Mexico (2024)

Client: Cosol

Location: Mexico

The objective of this project was to evaluate the current state of the port sector in Mexico by comparing it with the international context, to identify areas of opportunity and formulate recommendations for the sector. In addition to the cabinet

research, the project used a multi-criteria geospatial tool to identify the most optimal sites for port development.

Livable Cities in Sri Lanka: Contributions to the Climate Change and Development Report (2024)

Client: World Bank

Location: Sri Lanka

The project conducted a comprehensive analysis of the livability, climate change vulnerability, and potential mitigation and adaptation strategies for the Colombo Metropolitan Area (CMA) and Sri Lanka to inform the development of policy recommendations for Sri Lanka's Climate Change and Development Report (CCDR). It included 1) an evaluation of national-level climate change mitigation and adaptation policies and their linkages with urbanization processes, 2) a quantified and spatial analysis to assess the contribution of unplanned urban growth and the lack of a low-carbon focus across municipal services to the country's GHG emissions and performance against key indicators, and 3) an assessment of the Solid Waste Management (SWM) value chain. The project also forecasted trends under three scenarios for CMA up to 2050: the Do-nothing scenario, the Planned scenario, and the Best-case scenario.

Municipal Spatial Data Infrastructure (MSDI) Implementation in Amman, Jordan (2023-2024)

Client: World Bank

Location: Jordan

The project aimed to improve the Municipal Spatial Data Infrastructure (MSDI) in the Greater Amman Municipality (GAM). The project consisted of conducting an assessment of the current status in the areas of Data (type and quality of available datasets), Institutions (policies, regulations and practices for creating, managing, sharing and updating data), People (technical capacities, quantity of qualified persons, roles), and Systems (software and hardware). As a result for the Assessment, the project included the development of a Road Map to strengthen the management of spatial data to improve urban planning and public service delivery. Additionally, CAPSUS conducted capacity development workshops on Data Governance, Urban Planning Tools, Data Portals and Systems, Open Data Policies, and developed a capacity building strategy to

continue the human capacities within the GAM. As a result of this project, the GAM installed a Data Governance Committee to reform data policies within the Municipality, strengthen its urban observatory, integrated these efforts with the Amman Smart City Initiative and started the analysis of developing a geoportal to manage and share geospatial data.

Megalopolis Growth Projection (2023-2024)

Client: CAME

Location: México

CAPSUS conducted a thorough data gathering and modeling exercise using our in-house Urban Performance Tool. This tool relies on spatial and numerical data to create detailed urban growth scenarios, covering aspects such as the city's footprint, mobility infrastructure, amenities, water and energy consumption, energy generation, and climate hazards. Urban Performance was used to model a "business as usual" growth scenario for both the entire Mexican Megalopolis and six individual metropolitan areas. After completing the modeling, CAPSUS assessed the environmental, economic, and social impacts associated with development trends in the Megalopolis through 2050. Additionally, by developing infographics, an informative website, and a comprehensive report and database, CAPSUS contributed to building a knowledge based on current urban growth trends and their social, environmental, and economic implications, which can be disseminated throughout the region.

Sustainable Territorial Development in Mozambique: Key Challenges and Opportunities (2023-2024)

Client: World Bank

Location: Mozambique

The project aimed at identifying key challenges and opportunities for sustainable territorial development in Mozambique. The first objective was to identify and visualize relevant spatial and numerical data on Mozambique's territorial characteristics, development challenges and opportunities. A comprehensive analysis was conducted on Mozambique's demographic, urban, and economic indicators, focusing on historical trends and future projections for built-up areas, population growth, and vulnerabilities. Finally, recommendations

for sustainable territorial and economic development were developed, including the identification of data gaps. The assessment was carried out at three different scales—national, regional, and city—and included a detailed focus on specific cities. It considered the baseline conditions of the indicators and projected trends for each factor over the next 30 years.

Assistance to Develop Technical Reports for Social Infrastructure Projects (2023-2024)

Client: GIZ Banobras

Location: Mexico

This project centered on the development and design of a web application for integrating technical portfolios into water infrastructure. The application serves as a methodological guide for municipal technical personnel in Mexico, assisting in the maintenance and upgrading of existing water infrastructure and the creation of new projects. The platform allows to consult methodologies about field studies prior to project execution and enables progress tracking. The project covers research on the methods and requirements for implementing such projects, incorporating field visits to low-resource municipalities in Mexico to better understand their institutional needs. Additionally, the project included the design of capacity-building sessions for stakeholders.

Development of a Green Mortgage Product for a Leading Global Financial Institution (2023-2024)

Client: Global Financial Institution

Location: Mexico

The project was developed in partnership with the German Passivhaus Institute (PHI) and GOPA. It consisted of 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.

Supporting Climate Smart Urbanization in South Asia Region (2023-2024)

Client: World Bank

Location: India

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.

Climate-Smart Scenarios for Green & Energy-Efficient Housing in the Maldives (2023-2024)**Client:** World Bank**Location:** Greater Male, Addu, and Fuvahmulah, Maldives

The project supports the Government of Maldives in 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 of the cities that prioritizes affordable housing investments with low GHG emissions and resilience 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.

Identifying the Optimal Construction and Demolition Waste Disposal Site in Quintana Roo (2023)**Client:** Exinsa**Location:** Mexico

The main objective of this project was to perform a diagnosis of the Benito Juárez municipality that serves as a guide and

a support tool for the client to start developing a construction and demolition waste final disposal site according to the normative, biophysical and socioeconomic conditions of the municipality. It suggests the best locations in the municipality as well as waste management best practices and construction and demolition waste generation trends.

CCDR Palestine (2023)

Client: World Bank

Location: Palestine

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.

Green Credits for Energy Efficiency in Mexican Households (2023)

Client: GIZ / FIPATERM

Location: Mexico

CAPSUS worked with FIPATERM and GOPA to develop an on-line 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.

CCDR Tunisia (2023)

Client: World Bank

Location: Tunisia

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 op-

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.

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

Client: World Bank

Location: Indonesia

The main objective of this project is to develop a Collaborative Planning Tool that enables the rapid, easy, and digital collection of data at the community level. This tool will allow the government to gather real-time information on community needs, as well as evaluate and approve project proposals. The platform also facilitates coordination between different levels of government through an efficient data-sharing mechanism. Additionally, it features an integrated dashboard for data visualization and analytics, providing easily digestible information for convenient presentation. CollabData, developed by CAPSUS and UP Tech, serves as the baseline technology and can be accessed both through the web and mobile devices.

Low Carbon Central Asian Cities (2022-2023)

Client: World Bank

Location: Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan.

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 ac-

tions 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.

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

Client: World Bank

Location: Indonesia

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.

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

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 sup-

ported 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, promoting citizen participation 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 improving their life quality. The project included a capacity-building component for public servants from various cities in the metropolitan area, oriented toward the application of the methodology and the use of the tools.

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

Client: World Bank

Location: Phnom Penh Green City, Cambodia

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 were 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 was used to develop urban scenarios that were compared to identify the environmental, social, and economic tradeoffs of each urban growth trajectory path. The exercise facilitated city-level planning, policy, and investment choices. Knowledge sharing and capacity building were central pillars for this project to foster appropriation and replication of the methodological approach.

Developing Energy-efficient and Resilient Housing Scenarios for Secondary Cities in Mongolia (2022-2023)

Client: World Bank

Location: Mongolia

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 produced 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 support 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.

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

Client: World Bank

Location: Palembang, Musi Rawas, and Lubuklinggau, Indonesia

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).

Evaluation of the Effectiveness of the Diesel IEPS Accreditation Policy (2022-2023)

Client: French Development Agency (AFD)

Location: Mexico

This program aims to evaluate: (1) the effectiveness of the tax accreditation policy for the Special Tax on Products and Services (IEPS) in promoting the formalization of small businesses in the motor transport sector, (2) the economic concentration of accreditations within the sector, and (3) the environmental impacts resulting from the granting of IEPS tax accreditations for diesel. The project involved developing an Excel-based tool for estimating GHG emissions and costs. The evaluation results assisted the Ministry of Finance and Public Credit (SHCP) in defining fiscal policy alternatives for Mexico's trucking sector.

Urban Development Technical Assistance (2022-2023)

Client: World Bank

Location: Indonesia

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.

Training of Trainers for Climate Action in Ecuador (2022)

Client: GIZ

Location: Ecuador

CAPSUS designed and implemented a capacity development training course for a team of experts from various institutions in Ecuador. The objective was to equip them to assist local governments in identifying projects that would reduce GHG emissions and enhance community resilience. Additionally, the project aimed to develop stakeholders' ability to draft project proposals eligible for climate financing, both locally and internationally.

Mexican Monitoring of the Agenda 2030 (2022)**Client:** GIZ**Location:** Mexico

CAPSUS worked with the Mexican Ministry of Economic Development to develop a methodology and digital platform to monitor Mexico's progress toward the goals of Agenda 2030.

Analysis of the Status Quo of Mérida, Mexico (2022)**Client:** GIZ**Location:** Mexico

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 municipality's institutional capacities. Likewise, the team developed potential options for financing adaptation measures. The analysis integrated gender-perspective criteria and recognized the cultural diversity of vulnerable groups in the face of the effects of climate change.

Green Financing for Cargo Trucks (2022)**Client:** GIZ**Location:** Mexico

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

Economic Sustainability of Cargo Trucks (2022)

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

Location: Jalisco, Mexico

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 best practices for the sector’s sustainable development, with a particular focus on leveraging economies of scale.

Bulgaria Compact Cities ASA Urban Growth/shrinkage Scenario Exercise (2022)

Client: World Bank

Location: Vratsa and Sliven, Bulgaria

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 a 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 materials to foster dialogue with stakeholders.

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

Client: World Bank

Location: South Africa

The project supports the Government of the Republic of South Africa in identifying urbanization trends and potential 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: baseline spatial analytics and urban policy diagnostics; future scenario modeling for the medium to long term; and dissemination of the results.

Leasing for Modernizing Cargo Trucks (2022)

Client: GIZ

Location: Mexico City

The project consisted of an exploration of leasing in Mexico, identifying operational mechanisms, the experiences of financial institutions that offer it, and an implementation roadmap to incorporate it into NAFIN's portfolio of operations and services. Specifically: 1) Identify its legal nature, general operating principles, and accounting management scheme; 2) Identify experiences of three financial institutions that offer leasing, highlighting the challenges, benefits, asset management mechanism, and default treatment; 3) Identify a general roadmap on the possible incorporation of leasing into NAFIN's portfolio of operations and services.

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

Client: Inter-American Development Bank (IADB)

Location: Paraguay

Collaboration with the IADB to publish a Technical Note about the Social Communication and Participation Strategy, designed for 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 greater social participation in urban planning projects in the region.

Climate Change Development Report for the Hashemite Kingdom of Jordan (2022)

Client: World Bank

Location: Amman, Jordan

This project developed analytical insights for the Jordan Climate Change Development Report (CCDR), focusing on the urban, transport, and energy sectors of Amman, Jordan. The project assessed the potential for climate change adaptation and greenhouse gas emission reduction through urban planning and infrastructure improvements, with an emphasis on identifying co-benefits such as improved access to jobs, enhanced productivity, and positive health outcomes. Using Urban Performance as a base for urban growth modeling, the project analyzed different growth scenarios and their implications for policy making, incorporating existing government plans and considering the impacts of various public policies on the physical, fiscal, environmental, and social dimensions of Amman.

Publication of the Manual “Self-production of Adequate Housing in Mexico” (2021-2022)

Client: GIZ / CONAVI / INFONAVIT

Location: Mexico

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-income Mexican population, ensuring informed decision-making by families about building safe and functional houses. As a final product, the report was published and disseminated.

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

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 quan-

tifying 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 to identify a preferred integrated scenario that will lead to better and more equitable accessibility across the metropolitan area.

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

Client: World Bank

Location: Prishtina, Kosovo

The purpose of this project is to support the municipality of Prishtina in making decisions for a greener, low-carbon, and resilient development. CAPSUS analyzed current urban and development strategies and trajectories to identify investment projects at the city and neighborhood scales. 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.

Climate Change and Development in Cities in Egypt (2021-2022)

Client: World Bank

Location: Egyptian Cities

The objective of the project is to assess urban growth across 14 cities in Egypt, with a focus on identifying possible pathways for low-carbon, resilient urban development. In this assessment, instead of addressing sector-specific actions, efforts focused on integrated mitigation and adaptation. This project conducted sectoral assessments, split efforts, and missed the opportunity to identify synergies.

City Climate Action Plan Analysis (2021-2022)

Client: World Bank

Location: Latin America and the Caribbean

The overall objective of this project is to analyze 30 Climate Action Plans (CAPs) from cities in Latin America and the Caribbean to identify patterns that could guide the identification of ac-

tions in similarly endowed cities. The analysis helped categorize the actions identified in each city's CAP by sector, cost (if available), funding source, and timeline (short-, medium-, or long-term).

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

Client: World Bank

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

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 organizing workshops with local stakeholders (municipal authorities) to engage with beneficiaries, provide context and direction for local efforts and cooperation, and secure buy-in for target setting. A second component of the project is to build local capacity to use appropriate tools, templates, and international reporting standards for GHG inventories and assessments, scenario planning, and regular monitoring.

Development of a Green Mortgage (2021-2024)

Client: BBVA / GOPA / Passivehouse Institute

Location: Mexico

CAPSUS worked with GOPA, Passivhaus Institut, and BBVA to develop a green mortgage financial product that started with the design-thinking methodology. The project included developing a system that estimates a household's energy and water demand, and then estimates the GHG, energy, and water savings that passive and active measures can achieve. This information is used to determine whether a house is "green" and could qualify for a discounted "green mortgage". The new financial product promotes 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. The financial product and the system were rolled out in 2024. CAPSUS continues to improve and maintain the system, integrating it into BBVA platforms to ensure a seamless process from home valuation to the mortgage offer.

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

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.

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

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, and mitigate the lack of services. The project consisted of mapping national and international actors/institutions/mechanisms that offer climate financing to support the Commission's programs; prioritizing the identified alternatives; contacting the prioritized actors to facilitate collaboration; and generating roadmap sheets detailing the steps or processes to formalize the cooperation.

Community Water Governance Strengthening Strategy (2021)

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

Location: Quintana Roo, Mexico

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 using a digital platform to systematize the results. Collecting information from the communities ensured that the strategy was aligned with the region's reality. This strategy involved the installation of water efficiency technologies by the 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.

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

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

Digital tools for a Sustainable Future in the urban area of Georgetown City in Guyana (2021)

Client: University of Guyana

Location: Georgetown, Guyana

This project aimed to enhance climate resilience in Georgetown City, with a focus on flood-hazard mitigation. By strategically employing "Suitability" and "Urban Performance" Ur-

ban Planning Tools developed by CAPSUS, the initiative supported evidence-based decision-making processes to guide sustainable urban development. Key activities included a comprehensive assessment of the potential social and economic impacts of flood hazards on the population, built-up areas, critical amenities, and urban infrastructure. The project also raised awareness among key stakeholders about the value of digital tools and spatial insights for prioritizing interventions, reducing vulnerability, and fostering long-term resilience to climate risks.

Performance Evaluation of Grantees in Mexico (2021)

Client: Children Investment Fund Foundation / C230 / RICARDO

Location: Mexico

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.

Environmental, Social, and Risk Assessments for a Cogeneration Plant (2021-2024)

Client: Igasamex

Location: Querétaro, Mexico

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. Part of CAPSUS' role was related to the evaluation of the environmental and social impacts from the plant and how to avoid or mitigate them.

‘ETS in Mexico’ E-learning Course, Mexico Partnership for Market Readiness (PMR Mexico) (2021)

Client: World Bank

Location: Mexico

The project was carried out in close coordination with the PMR Mexico team and the Emissions Trading System (ETS) team at SEMARNAT. Its objective was to develop an online course to build capacity around the Emissions Trading System in Mexico, using materials previously developed by the Market Readiness Program in Mexico (PMR Mexico). The project involved reviewing and adapting existing materials to identify areas for improvement and include technical enhancements, developing complementary materials to enrich the learning experience, and designing and configuring the online platform to host the course content and facilitate user interaction.

Environmental Impact Assessment of the Vaso El Cristo (2021)

Client: Water Commission of the State of Mexico (CAEM)

Location: Estado de México, Mexico

The project supports the Water Commission of the State of Mexico in complying with the guidelines established by federal environmental legislation for the development of the Project for the rehabilitation of the Vaso El Cristo and the development of new public spaces. The work includes establishing an environmental management and rehabilitation strategy for the area, ensuring a positive impact on both the environment and society.

Technical Assistance for Environmental Policy Design and Implementation (2021-2024)

Client: Environmental Commission of the Megalopolis (CAME)

Location: Mexico City, Mexico

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 evaluation and monitoring of projects financed by the “1490 Environmental Trust Fund”. The support is given in the areas of urban mobility, freight transportation, air quality, cli-

mate change, legal, data analysis, emission testing (transport sector), emission inventories, environmental policy making, dissemination and capacity development.

Climate Resilient Cities (2021)

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

Location: Mexico

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.

Demonstration Project Development (2021)

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

Location: Mexico

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).

Sustainable Infrastructure Plan for Zacatecas (2021)

Client: Government of Zacatecas

Location: Zacatecas, Mexico

The project developed 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.

Chapultepec Master Plan (2021)

Client: Mexico City Government

Location: Mexico City, Mexico

Together with ORU and a group of Mexican architects, CAPSUS developed the new Master Plan for Mexico City's main city park. The plan had social and environmental objectives to revitalize Chapultepec Park and serve as a nature-based solution to mitigate the effects of climate change in the city.

Promotion of Sustainable Housing Solutions for Low-income Families in Mexico (2020-2021)

Client: World Bank

Location: Mexico

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 into the construction and improvement of low-income housing, including bioclimatic design, sustainable construction materials, and ecotechnologies, to reduce families' energy consumption and increase housing energy efficiency. The work also focuses on the redesign of housing sustainability manuals and on scenario development for regionalized passive solutions to achieve energy-efficient, comfortable housing for low-income households.

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

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 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.

Training Portal for Freight Transport Companies (2020-2021)

Client: GIZ

Location: México

A training portal for freight transport companies was developed and implemented to consolidate existing educational offerings, as part of the Sustainable Transport Program led by SEMARNAT and GIZ. The project included an assessment of available training programs, identification of needs and gaps, interviews with key stakeholders, and the launch of the portal (<https://www.educat.com.mx>).

Household Appliance Replacement Program (2020)

Client: World Bank

Location: Buenos Aires, Argentina

The project conducted a baseline study of household appliance consumption patterns 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 gathered data, an appliance replacement program was developed to increase the energy efficiency of appliances, improve the quality of life for inhabitants, and lower households' electricity costs.

Mexico City's Air Quality Program 2021-2030 (ProAire ZMVM 2021-2030) (2020)

Client: Mexico City Ministry of the Environment (SEDEMA)

Location: Mexico City, Mexico

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 at the ZMVM, which included analysis of the emissions inventory results, 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 emissions of local air pollutants, reverse deterioration trends, protect public health, and strengthen monitoring activities. The public policy strategies and measures included in the Program were evaluated and prioritized based on emissions reductions and implementation costs.

Location Suitability of Subsidized Housing in Indonesia (2020)

Client: World Bank

Location: Indonesia

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.

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

Client: World Bank

Location: Worldwide

A manual developed by the World Bank 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.

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

Client: Inter-American Development Bank (IADB)

Location: Asuncion, Paraguay

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.

Urban Growth Scenarios to Evaluate the Benefits of Urban Densification Strategies in León, Guanajuato (2019-2020)

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

Location: León, Guanajuato, Mexico

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.

Urban Planning Tools as Agents of Change: Collaborative Spatial Data for Sustainable Urban Development in Indonesia (2019-2020)

Client: World Bank and the National Government of Indonesia

Location: Indonesia

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 to support various agencies and six cities in Indonesia to improve the process of evaluating and approving their urban master plans.

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.

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).

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

An exploratory research of components that make up a house was carried out for eco-materials, eco-technologies, and bio-climatic 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.

Climate Smart Urbanization in Mongolia (2019-2020)

Client: World Bank, National Government of Mongolia, Cities of Ulaanbaatar, Darkhan, and Erdenet

Location: Ulaanbaatar, Darkhan and Erdenet, Mongolia

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.

Communication Strategy and Capacity Building for Municipal Spatial Data Infrastructure (2019-2020)

Client: City Planning Labs - World Bank

Location: Indonesia

Development of an internal communication, dissemination

and knowledge exchange strategy for City Planning Labs (CPL), which is a World Bank technical assistance initiative. CAPSUS assistance consisted in organizing workshops and working groups to improve local capacities in data management.

Air Quality Forecast (2019)

Client: Ministry of the Environment of the Government of the State of Mexico

Location: State of Mexico, Mexico

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.

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

Client: NetaCero

Location: Mexico City, Mexico

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.

Climate Investment Fund (2019)

Client: C230

Location: Mexico City, Mexico

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.

Urban Sustainability Training (2019)

Client: Instituto Tecnológico de Estudios Superiores de Monterrey (ITESM)

Location: State of Mexico, Mexico

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.

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

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.

Optimization of Emergency Service Location (2019)

Client: City of San Diego

Location: San Diego, California, USA

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.

Environmental and Social Studies (2018)

Client: Las Garzas Solar Park

Location: Durango, Mexico

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

Facilitation Package for Emission Reduction Scenarios – Climate Action Planning in Latin America (2018)

Client: C40 Cities

Location: Latin America

CAPSUS supported C40 Cities in strengthening climate action planning in Latin America by developing a facilitation package for GHG emission reduction scenarios, based on lessons learned from nine cities participating in the CAP LATAM program. The work included surveys and interviews with local teams, the production of a report on best practices and recommendations, and the creation of a handbook and facilitation tools (glossaries, forms, templates, and workshop materials) to guide other cities in designing their own emissions reduction scenarios.

Financing Energy for Low-Carbon Investment - Cities Advisory Facility (FELICITY) (2018)

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

Location: Mexico

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 landfills, 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.

Scenarios for the Resilience Strategy for Colima (2018)

Client: AECOM and the Resilience Office for Colima of the Rockefeller Foundation

Location: Colima, Mexico

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.

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

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.

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

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.

State Development Plan of Yucatán (2018)

Client: A911 and the Government of the State of Yucatán.

Location: Yucatan, Mexico

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.

Urban Planning Tool for the Reduction of Emissions of Air Pollutants (2018)

Client: Mexico City Ministry of the Environment (SEDEMA)

Location: Mexico City, Mexico

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.

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

Client: GESTAB / CALTIA

Location: Mexico City and the State of Mexico, Mexico

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, labora-

tory 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.

Review of the Mexico City Climate Action Plan (2018)

Client: C40

Location: Mexico City, Mexico

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.

Tool to Locate Areas Ideal for Social Housing (2017-2018)

Client: National Housing Commission of Mexico (CONAVI)

Location: Mexico

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.

Demographic Trends (2018)

Client: World Bank

Location: Worldwide

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.

Metropolitan Profile Version 2 (2017-2018)

Client: World Bank and Korean Green Growth Trust Fund

Location: Mexico

The Metropolitan Profile Version 2 is a project funded by the Energy Sector Management Assistance Program through the World Bank 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.

Urban Growth Model and Sustainable Urban Expansion for the Hashemite Kingdom of Jordan (2017-2018)

Client: World Bank and Korean Green Growth Trust Fund

Location: Amman, Irbid, Zarqa, Russiefa, Mafrq, Jordan

Through modeling urban scenarios, the Jordanian national government and local authorities in Amman, Irbid, Russeifa, Zarqa and Mafrq 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.

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

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.

Industrial Energy Savings (2017)

Client: Silanes Laboratories & DIPAK

Location: State of Mexico, Mexico

Consulting services were provided to reduce energy consumption and energy costs. The service consisted of 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.

Public Consultation (2017)

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

Location: Quintana Roo, Mexico

The project consisted of 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.

Urban Growth Scenarios for Indonesia (2017)

Client: World Bank, Korean Green Growth Trust Fund, and National Government of Indonesia

Location: Denpasar and Semarang, Indonesia

The Urban Growth Scenarios for Indonesia were funded by the Korean Green Growth Trust Fund through the World Bank 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, cost-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.

Urban Growth Scenarios for Abidjan (2017)

Client: World Bank and Ivory Coast National Government

Location: Abidjan, Ivory Coast

The "Urban Growth Scenarios for Abidjan" project, funded by the Korean Green Growth Trust Fund via the World Bank, aimed to evaluate urban development possibilities and determine the most sustainable choices. Capsus, in partnership with BNETD, conducted this assessment for Abidjan. Urban growth scenarios served as a planning instrument to comprehend potential consequences arising from specific urban policies, including transportation and infrastructure investments, land use modifications, and housing strategies. This exercise

helped the city government identify the most cost-effective policies and investments and reach an internal consensus for implementing a sustainable path for the city.

Study About Construction Waste and Social Housing Waste in Mexico (2017)

Client: Infonavit

Location: Mexico

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.

Environmental Studies for Natural Gas Pipelines (2016-2025)

Client: IGASAMEX

Location: Mexico City, Mexico

Environmental studies were conducted to support compliance with federal environmental conditions related to the natural gas industry. These studies included the analysis of environmental impacts, risk profiles, effect that the actions or inactions of the company could have on people and communities, economic implications and budget estimations to avoid or compensate social, economic and environmental impacts.

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

The project consisted of 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-year local government program.

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

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.

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

Client: Ministry of Communications and Transport

Location: Mexico

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.

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

Client: PANEM Energy

Location: Tecate, Baja California, Mexico

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 of modeling emissions and proposing cost-effective options for pollution control.

Environmental Studies for a Wind Farm (2016-2017)

Client: ZUMA ENERGY

Location: Tamaulipas, Mexico

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.

Training for the Construction Code for Energy Efficiency (IECC) (2016)

Client: World Resource Institute – Mexico

Location: Mexico City, Mexico

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.

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

Client: ARA, CADU, DEREK, JAVIER, RUBA, SADASI, UNION, VINTE

Location: Mexico

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.

Research Agenda for Clean Energy and Energy Efficiency (2016)

Client: SENER, World Bank, and Inter-American Development Bank

Location: Campeche, Quintana Roo, Tabasco, Yucatan, Mex-

ico

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.

Environmental Feasibilities (2016)

Client: ZUMA Energy

Location: Mexico

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

Ecotechnologies for Social Housing (2016)

Client: INFONAVIT

Location: Mexico

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

Master Plan for a New National Tourism Center (2016)

Client: FONATUR (National Tourism Development Fund)

Location: Sinaloa, Mexico

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.

Tool for Calculating Water Consumption and Savings in Social Housing (2016)

Client: German Agency for International Cooperation (GIZ)

Location: Mexico

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.

Demographic Transition in Latin America (2016)

Client: Inter-American Development Bank (IDB)

Location: Latin America

Production of a 7-minute animated video “Disruptive Demographics in Latin America and the Caribbean: Shrinking and aging in sustainable cities” 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.

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

Client: Ministry of Territorial and Urban Development (SE-DATU)

Location: Merida, Yucatán, Mexico

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.

Commercial Energy Efficiency (2012)

Client: Devlyn

Location: Mexico City, Mexico

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.

Water Recycling (2012)

Client: Papalote Children's Museum

Location: Mexico City, Mexico

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.

Wind Farms in Zacatecas (2011-2012)

Client: PRENEAL

Location: Zacatecas, Mexico

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

Wind Farms in Oaxaca (2011-2012)

Client: PRENEAL Mexico

Location: Oaxaca, Mexico

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.

Sustainable Local Development Guide (2011)

Client: Ministry of Social Development and the World Bank

Location: Mexico

CAPSUS was hired by the Mexican Ministry of Social Development and the World Bank 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.

Energy Savings in Public Lighting (2011)

Client: Huixquilucan Municipality, State of Mexico

Location: Huixquilucan, State of Mexico, Mexico

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.

Municipal Environmental Action Plan (2010)

Client: Huixquilucan Municipality, State of Mexico

Location: Huixquilucan, State of Mexico, Mexico

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

Water Savings (2010-2016)

Client: President Hotel Mexico City

Location: Mexico City, Mexico

A water-saving treatment plant was developed to treat and recycle water used by the hotel's laundry. The Project was self-financed.

Energy Efficiency (2010)

Client: +KOTA

Location: Mexico City, Mexico

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

Waste to Energy Consultancy (2010)

Client: GUASCOR Mexico

Location: Mexico City, Mexico

CAPSUS worked with the client to identify and implement bio-gas projects from solid and water waste.

Energy Efficiency in Public and Private Lighting (2010)

Client: Huixquilucan Municipality, State of Mexico

Location: Huixquilucan, Mexico

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.

Comprehensive Solid Waste Management (2010)

Client: Metepec Municipality

Location: Metepec, Mexico

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

Municipal Environmental Action Plan 2009-2012 (2010)

Client: Cuautitlán Izcalli Municipality, State of Mexico

Location: Cuautitlán Izcalli, Mexico

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

Comprehensive Solid Waste Management (2010)

Client: Metepec Municipality

Location: Metepec, Mexico

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

Environmental Social Responsibility (2009)

Client: Marsh Mexico

Location: Mexico City, Mexico

Corporate consulting on business practices and environmental responsibility and training courses.

Coordinators and Consultants Profile

Alexis Cervantes

Geographical Information Systems

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.

Ana Castro

Sustainable Development

@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 Izta-palapa 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.

Andrea González

Sustainable development
@capsus.mx

Sustainable Development Engineer with a Master of Science in Environmental Resource Management from Duke University's Nicholas School of the Environment, where she specialized in ecosystem science and conservation. With a 10-year technical background in energy efficiency, spatial analysis, and climate change, she has led urban GHG emission accounting projections and scenario modeling projects specifically designed to identify the environmental, social, and economic tradeoffs of different urban growth trajectories. Her international experience includes Cambodia, Central Asia, China, Ecuador, India, Indonesia, Kenya, Peru, and the evaluation of Climate Action Plans of Argentina, Brazil, Chile, Colombia, Honduras, and Jamaica.

Andrea Morales

Internationalist and public policy
@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).

Antares Velázquez

Information, digital and communication design

@capsus.mx

7 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.

Bardo Salgado

Design and urban development

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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.

César Flores

Environmental law

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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.

Daniela Evia

Education and social processes

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, Jordan, Palestine, and Paraguay.

Denisse Larracilla

Urban development and environmental design

@capsus.mx

Over 10 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. Back-

ground 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, Paraguay, Palestina, Jordan, and Uzbekistan.

Diana Marquez

Sustainable development
@capsus.mx

3 years of experience as an environmental engineer with a specialty in water bioremediation, implementing safety, industrial hygiene and environmental regulations in private companies. Her work in Mexico covers the cities of Querétaro, Monterrey, Puebla, Guanajuato and Mexico City. Diana also has experience in water treatment, water management, and hazardous waste control. Her experience includes field work and research in environmental matters.

Fátima Viquez

Sustainable Development
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Environmental Engineer by the Instituto Politécnico Nacional. Before joining 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, Tajikistan, Kyrgyzstan and Turkmenistan.

Fernanda Nájera

Sustainable development
@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.

Guillermo Velasco

Public policy, sustainable development
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.

Israel Huipio

Administration and finances

@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.

Jorge Márquez

Urban planning

@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.

Jorge Santacruz

Air Quality

@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.

Leticia Galindo

Administration

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.

Lizeth Huerta

Air quality

lizeth.huerta@capsus.mx

More than 6 years of experience in projects related to air pollution, climate change and environmental health. She

has collaborated in the public, private and civil society sectors. Her work has contributed to the formulation of policies to improve air quality in cities and promote sustainable, low-carbon mobility. She is an environmental engineer from the Universidad Autónoma Metropolitana, who stands out for her solid technical knowledge, research abilities, collection and data analysis, teamwork skills and multidisciplinary approach. Her international experience includes Mexico, the United States, the United Kingdom and Costa Rica.

Louise David

Urban development and public policy

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.

Lucina Hernández

Public policy and sustainable mobility
@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.

Luis Enrique Juárez.

Sustainable urban development
@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".

Luis Villarreal

Geographic information systems
@capsus.mx

4 years of 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.

María Elena Camargo

Legal lawyer
@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.

Paul Cota

Public policy and regional development
@capsus.mx

Over 7 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.

Ricardo Cruz

Environmental law

@capsus.mx

With 6 years of experience in litigation, he has a strong focus on civil, commercial, administrative, legal protection, and legal law. He holds a Level B certification from Oxford Education and a diploma with certification to work as an expert in document examination and handwriting analysis. His main strengths lie in collaboration and teamwork. He has developed professionally in Mexico, specifically in the states of Guanajuato, Tlaxcala, Puebla, Oaxaca, Veracruz, Hidalgo, State of Mexico, Jalisco, and Michoacán.

Ricardo Ochoa.

Energy, housing and urban planning

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.

Rodrigo Negrete

Sustainable Development

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Over two years of experience, he specializes in applying technology and data analysis to develop innovative solutions for key challenges in urban sustainability and cli-

mate change. A graduate in Geophysical Engineering from the National Autonomous University of Mexico (UNAM), he holds a Master's degree in numerical modeling from its Earth Sciences Graduate Program. His key skills include analytical thinking, programming (mainly Python), code optimization, advanced geospatial information analysis alongside the implementation of Machine Learning models, and web development (Django). He has applied these capabilities in projects for water consumption estimation, greenhouse gas emissions calculation, and the analysis of urban density patterns to identify housing improvements. His professional experience spans international projects in Mexico, Indonesia, and the Maldives, where he has adapted solutions to specific contexts, collaborating effectively with multicultural and multidisciplinary teams.

Sara Montiel.

Air quality and environmental impact
sara.montiel@capsus.mx

More than 10 years of experience in air quality, environmental impact assessment, solid waste recycling, environmental education and conservation. She collaborated professionally in the Ministry of Environment and Natural Resources of the Mexican Federal Government, in the Municipal Government of Zapopan, Jalisco, Mexico and at the Technological University of León. She has experience in the private sector. Her work in Mexico covers the states of Jalisco, México, Quintana Roo, Guanajuato, and Mexico City.

Tania Ramírez

Environmental law
tania.ramirez@capsus.mx

With over a year of experience in the private sector, she has developed strong skills in analyzing and applying legal regulations at both national and international levels. A Law graduate from the Open and Distance University of Mexico (UNADM), her expertise is particularly focused on environmental law, where she has contributed to multidisciplinary projects that demand an in-depth understanding of regulatory frameworks. Nationally, she has worked on renewable energy initiatives, updates to economic and technical studies, development of web applications for managing social in-

infrastructure projects, and labor regulation analysis. She has also been involved in feasibility studies for construction waste management in Quintana Roo. Her international experience in the Maldives, where she contributed to the development of climate-smart scenarios for affordable housing, gives her a global perspective on environmental regulations and the ability to adapt to diverse cultural and legal contexts.

Víctor Sánchez

Air quality

@capsus.mx

With over 20 years of experience in the environmental field, specializing in air quality, environmental information management, emissions estimation, and modeling. Extensive experience in various programming languages, with a focus on modeling, database administration, and web design. Knowledge and experience in developing working teams and fostering meaningful relationships among collaborators. Additionally, he has the ability to generate adaptive strategies in response to changes, demonstrating versatility in various environments. His work with data and information has required establishing efficient communication flows with federal entities and other national and international institutions, mainly in the United States and Canada, generating information for dissemination, training, and decision-making.

Yeni Solis

Communication

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More than 15 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.

Amílcar González

Software development

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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.

Juan Manuel Gómez

Software development

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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. **Prado Sur** Prado Sur 274, Lomas de Chapultepec, Miguel Hidalgo, Mexico City, 11000 Tel. +52 (55) 44 31 29 27 **capsus.mx LLC** 5718 Westheimer Suite 1000 Houston, Texas 77057 Tel. +832 737 08 34 **www.capsus.us**