



First Annual Report

First Green Resilience Bond (FEFA 23V)

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1. General Description of FIRA and Its Green Bond Strategy

The Institutional Trust Funds for Agriculture (FIRA) were established in 1954 by the Federal Government of Mexico as a second-tier development financial institution that offers credit and guarantees, training, technical assistance, and technology. As such, FIRA promotes the development of the agricultural, livestock, fishing, forestry, agro-industrial, and rural sectors in Mexico. FIRA is part of the Mexican financial system and consists of four trusts (FONDO, FEFA, FEGA, and FOPECA¹), which were created and integrated to fulfill its current structure. FONDO and FEFA are the bond issuers.

FIRA's mission is to foster the consolidation of an inclusive, sustainable, and productive agricultural and rural sectors. In this context, FIRA's **Institutional Program 2020-2024** considers the Sustainable Development Goals (SDGs) and the 2030 Agenda, incorporating their principles and targets into **FIRA's Sustainability Strategy**². This strategy aims to contribute to the responsible and sustainable development of the agricultural, forestry, and fishing sectors, an objective for which national and international strategic partnerships have been established to provide better financial services under more attractive conditions and to offer technical assistance to Mexican producers.

FIRA recognizes that green bonds are instruments to channel resources toward projects that contribute to environmental improvement. In this regard, **FIRA's Green Bond Strategy** aims to engage our interested stakeholders in implementing solutions that positively impact the environment, as well as to foster widespread societal participation in addressing these solutions.

FIRA's Green Bond Strategy has been widely recognized as innovative and impactful. In April 2019, FIRA received the "Premio Bono MX Verde, Social y Sostenible" awarded by the Green Finance Council and the Mexican Stock Exchange³ for its first green bond issuance. In July 2020, FIRA was awarded the Green Award by ALIDE (Latin American Association of Development Financial Institutions).

¹ The four trusts are:

1. Guarantee and Promotion Fund for Agriculture, Livestock and Poultry (FONDO)
2. Special Fund for Agricultural Financing (FEFA)
3. Special Technical Assistance and Guarantee Fund for Agricultural Credits (FEGA)
4. Guarantee and Promotion Fund for Fishing Activities (FOPECA).

² FIRA established in its 2013 - 2018 and 2020 - 2024, Institutional Program a sustainable financing strategy through Objective 3 "Promote financing in areas of interest of public policy", strategy 3.1 "Promote credit with a regional development approach and with a sustainable approach".

³ Now Mexican Council of Sustainable Finance.



As part of this strategy, in April 2023, FIRA published a Sustainable Bond Framework⁴, which contributes to climate change adaptation, ecosystem and biodiversity conservation, gender equality, and financial inclusion, in addition to advancing the environmental and social objectives of Mexico's Sustainable Taxonomy (TSM)⁵.

FEFA has issued four green bonds, and on April 27, 2023, FEFA issued the First Green Resilience Bond (FEFA 23V) in Latin America to promote investment in productive projects that can enhance the resilience of producers and value chains in the agricultural sector and rural areas. It is worth mentioning that this issuance was developed under the Sustainable Bond Framework, which received a positive second opinion from Sustainalytics for complying with the Green Bond Principles of the International Capital Market Association (ICMA)⁶.

⁴ Available in: https://www.fira.gob.mx/Files/Marco_Referencia_Bono_Sostenible_es.pdf?abr

⁵ The Sustainable Taxonomy of Mexico can be consulted at: <https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published>

⁶ For more information about the Sustainalytics Second Opinion, we suggest consulting: https://www.fira.gob.mx/Files/spo_Bono_Sostenible_es.pdf

2. Adaptation and Resilience Taxonomy

In the scope of technical collaboration with the French Development Agency, *Carbon Trust* developed a **Climate Change Adaptation and Resilience Taxonomy** (taxonomy) for FIRA, which uses two criteria: geographic location and investment concepts (ICs).

This taxonomy considers the 1,448 municipalities catalogued as vulnerable to climate change in the National Atlas of Climate Change Vulnerability (ANVCC)⁷, published by the National Institute of Ecology and Climate Change (INECC). Additionally, it recognizes 89 investment concepts (ICs) which, when applied to municipalities with climate vulnerability, are considered to contribute to enhancing adaptation and resilience to climate change.

The ANVCC prioritizes these 1,448 municipalities vulnerable to climate change⁸, which have been incorporated into the formulation of the Nationally Determined Contributions (NDCs). It is important to note that the ANVCC analyzes specific climate-related vulnerabilities within a national context by integrating exposure, sensitivity, and adaptive capacity components⁹. In this sense, the prioritization levels of the municipalities are as follows:

- **First level:** 1,448 municipalities.
- **Second level:** 273 municipalities.
- **Third level:** 83 municipalities.

This prioritization is based on the analysis of the following vulnerabilities identified in the ANVCC¹⁰:

1. Vulnerability of human settlements to flooding
2. Vulnerability of human settlements to landslides
3. Vulnerability of the population to increased potential distribution of dengue
4. Vulnerability of forage production to water stress
5. Vulnerability of livestock production to water stress
6. Vulnerability of livestock production to flooding

⁷ For more information about the National Atlas of Vulnerability to Climate Change, it is suggested to consult: <https://atlasvulnerabilidad.inecc.gob.mx/>

⁸ The list of the 1,448 municipalities vulnerable to climate change can be consulted at: https://atlasvulnerabilidad.inecc.gob.mx/conten_intro/Mpos_Vulnerables_priorizacion_ANVCC.pdf

⁹ According to the Conceptual Framework of the National Atlas of Vulnerability to Climate Change of the INECC, it is understood as:

- Exposure: It is the character, magnitude and speed of change and variation of the climate that affects a system.
- Sensitivity: It is the degree to which a system is affected by climate variability and climate change due to the characteristics that define it.
- Adaptive capacity: Refers to the human and institutional resources that allow for triggering adaptation processes to a specific climate problem.

¹⁰ For more information about the analysis of the vulnerabilities identified in the ANVCC, it is suggested to consult: <https://atlasvulnerabilidad.inecc.gob.mx/>

Regarding the first-level municipalities, i.e., the 1,448 municipalities, they present very high and high current vulnerability for at least one of the six specific vulnerabilities. Of this total, there is a projected increase in vulnerability in the future for at least one of the vulnerabilities. It is worth mentioning that this level collectively includes the 273 second-level municipalities and the 83 third-level municipalities.

Meanwhile, the 273 second-level municipalities exhibit three vulnerabilities at a very high or high degree, and two or more of these show an increase in future vulnerability.

Finally, third-level municipalities, the 83 municipalities, present four or more vulnerabilities in the very high or high category, with two or more showing increased future vulnerability. Given the large number of municipalities exposed to climate risks, adaptation to climate change is considered a priority due to the country's high vulnerability. The INECC identified the following approaches to consider in the climate change adaptation process:

- Ecosystem-Based Adaptation (AbE)¹¹
- Community-Based Adaptation (AbC)¹²
- Disaster Risk Reduction-Based Adaptation (AbRRD)¹³

Subsequently, with funding from the *Global Green Growth Institute* (GGGI), FIRA's adaptation and resilience taxonomy has been analyzed and supported in a study by Ecovalores consultancy. This multi-criteria analysis concluded that the ICs of the Taxonomy contribute to climate resilience, either by reducing risk exposure or by increasing adaptive capacity in the agricultural, forestry, fishing, food, and rural sectors.

The analysis considered the following criteria:

1. Reduction and/or mitigation of damage from bio-physical impacts of extreme climate events (e.g., extreme rainfall, extremely high temperatures, strong winds). This helps decrease sector vulnerability.
2. Reduction of the risk of pests and diseases related to climate change in the agricultural, forestry, fishing, and food sectors.
3. Improvement in efficient water management / comprehensive management to avoid water stress.
4. Improvement in soil quality and health in the agricultural and forestry sectors.
5. Promotion of diversification and/or rotation of products and/or crops.
6. Improvement in productivity in the agricultural, forestry, fishing, food, and rural sectors / more resources to cope with the effects of climate change.
7. Promotion of community participation / improvement in climate risk management.

¹¹ It refers to the use of biodiversity and ecosystem services, as part of a broader adaptation strategy, to help people adapt to the adverse effects of climate change (IUCN, 2012), cited in INEC 2020.

¹² Its primary objective is to improve the capacity of local communities to adapt to climate change. It requires a comprehensive approach that combines traditional knowledge with innovative strategies, which not only seek to reduce current vulnerabilities, but also increase the adaptive capacity of people to face new and dynamic challenges. (CARE, 2010), cited in INEC 2020.

¹³ It focuses on disaster risk management related to climate variability, extreme events and preparation for risks related to climate change (based on ADCP, 2013), cited in INECC 2020.

To summarize, the main results of the analysis were the following:

- A.** Over 90% of the ICs contribute to resilience through productivity (Criterion 6), as well as by reducing damage and decreasing vulnerability (Criterion 1).
- B.** More than half of the ICs contribute to at least two evaluation criteria.
- C.** It is estimated that in 97% of the ICs the increased productivity effect will be observed.
- D.** 52% of ICs are associated with Criterion 1 (mitigation of damage and bio-physical impacts), 72.7% with Criterion 6 (improvement in productivity), 7.9% with Criterion 3 (efficient water management), and 2.7% with Criterion 2 (reduction of pests and diseases).
- E.** 25% of the ICs influence 1 to 2 criteria.
- F.** 49% of the ICs influence 3 to 4 criteria.
- G.** 26% of the ICs influence 5 to 7 criteria.

Additionally, in collaboration with the Inter-American Development Bank (IDB) and *Willys Towers Watson* (WTW) consultancy, FIRA participated in a project aimed at identifying physical climate risks in its portfolio using the HeatMapR® tool¹⁴. Within this pilot project, a study was conducted considering the following climate scenarios from the Intergovernmental Panel on Climate Change (IPCC): under the "low emissions" scenario (RCP 2.6¹⁵) and the "high emissions" scenario (RCP 8.5), with time horizons of: a) current conditions, b) near future centered in 2030, and c) distant future centered in 2050.

Among the key results of the study are:¹⁶

- 1.** The distribution of risk in FIRA's portfolio is categorized as 16% medium-high risk and 7% high risk in the future, especially under the high emissions scenario. Currently, only 1% of the sector served by FIRA is classified as high risk, and 10% as medium-high risk. However, under the RCP 8.5 scenario, the percentage of investments with high and medium-high risk would reach 21% by 2050.
- 2.** Currently, the relative percentage of investments exposed to medium-high and high-risk levels by value chain are as follows: cotton (38%), sorghum (22%), wheat (19%), tomato (17%), chili (16%), potato (16%), and beans (14%). By 2050, under RCP 8.5, results suggest that cotton and sorghum will remain the two crops with the highest relative percentage of investments exposed to medium-high and high-risk levels, with tomatoes potentially becoming the third.

¹⁴ HeatMapR® is a tool that assesses the physical risk of each combination of sector or subsector and geography, mapping investments, projects, or client assets in advance.

¹⁵ According to the IPCC, Representative Concentration Pathways (RCPs) are scenarios that describe possible future changes in emissions and their concentrations over time. They allow for the establishment of trends and form the basis for projections of four different pathways of emissions, land use changes, and air pollution. The four pathways include a stringent mitigation scenario (RCP 2.6), two intermediate scenarios (RCP 6.0 and RCP 4.5), and one high-emission scenario (RCP 8.5).

In other words, the RCP 2.6 scenario represents reductions in global emissions aligned with the Paris Agreement to halve emissions and limit the temperature increase to below 2°C (with the goal of reaching 1°C). Meanwhile, RCP 8.5 represents the extreme scenario, where no reductions in emissions occur.

¹⁶ For more information about this collaboration, please refer to the publication: "Investing in Climate Resilience: From Physical Climate Risk Maps (Heatmapping) to Resilience Investment Opportunities: Examples from Development Banks Acting in Brazil and Mexico" at <https://publications.iadb.org/es/publications/spanish/viewer/Invirtiendo-en-resiliencia-climatica-de-mapas-de-riesgos-climaticos-fisicos-heatmapping-a-oportunidades-de-inversion-en-resiliencia-ejemplos-de-bancos-nacionales-de-desarrollo-que-actuan-en-Brasil-y-en-Mexico.pdf>.

3. Currently, the states of Sonora, Chihuahua, and Sinaloa have the highest exposure to physical risk. By 2050, under RCP 8.5, these states will continue to be the most affected.
4. The main climate threats identified are: 1) Drought, 2) Water stress, 3) Agricultural indices¹⁷ 4) Heatwaves

The study's results are intended to guide institutional initiatives related to the identification and management of climate risks, as well as adaptation and resilience to climate change. They call for directing financing towards investments that strengthen climate adaptation and promote resilience in agro-food chains.

The taxonomy identifies two different categories:

1. Absorption of extreme climate events
2. Adaptation to extreme climate events

Projects in the absorption of extreme climate events category aim to reduce or prevent the impacts of extreme climate events in municipalities vulnerable to climate change, according to INECC.¹⁸ The goal is to preserve and restore essential functions and structures in the agricultural, forestry, fishing, food, and rural sectors.

Projects in the adaptation to extreme climate events category focus on adjusting, modifying, or changing the characteristics of a productive system to better respond to climate disturbances and stress in the agricultural, forestry, fishing, food, and rural sectors, in municipalities vulnerable to climate change according to the INECC classification.

Since 2022, FIRA has had its Climate Change Adaptation and Resilience Taxonomy, which addressed the institutional need to identify investments aimed at contributing to adaptation and resilience in the agricultural sector. In March 2023, within the framework of the Sustainable Finance Mobilization Strategy, the Ministry of Finance and Public Credit published the Mexican Sustainable Taxonomy (TSM)¹⁹.

The TSM is a financial policy tool aimed at promoting investment in economic activities that help close socio-economic gaps and promote environmental protection. To this effect, it has three main objectives: 1) climate change, 2) gender equality, and 3) access to basic services related to sustainable cities.

In this context, it is important to note that the TSM considers both a mitigation and an adaptation approach to climate change. For the adaptation approach, it is of vital importance that the economic activities implement adaptation measures able to reduce the negative effects of climate change, improving resilience in their operations, and creating enabling conditions for other economic activities. Thus, FIRA's taxonomy is consistent with the TSM.

Finally, it is worth noting that the TSM outlines certain practices with an impact on climate change adaptation for the Agricultural and Animal Breeding and Exploitation sub-sectors, which FIRA already classifies as sustainable or contributing to climate change adaptation and resilience.

¹⁷ Agricultural indices are key indicators of crop growth, in livestock, fishing or forestry. For example, in agriculture the indicator: growing degree days (GDD) is important; Annex 2, referred to the publication: "Investing in Climate Resilience: From Physical Climate Risk Maps (Heatmapping) to Resilience Investment Opportunities: Examples from Development Banks Acting in Brazil and Mexico".

¹⁸ The list of the 1,448 municipalities vulnerable to climate change can be found at https://atlasvulnerabilidad.inecc.gob.mx/conten_intro/Mpos_Vulnerables_priorizacion_ANVCC.pdf.

¹⁹ The Sustainable Taxonomy of Mexico can be consulted at: <https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published>.

3. General Overview of the Green Bond Issuance

FEFA issued the First Green Resilience Bond (FEFA 23V) as follows:

Table 1. Details of the First Green Resilience Bond

| | |
|-----------------------------|---|
| Issuer: | Fondo Especial para Financiamientos Agropecuarios ("FEFA") |
| Issuer Rating: | mxAAA by S&P / HR AAA by HR |
| Amount Issued (MXN): | 2.985 billion |
| Issuance Date: | April 27, 2023 |
| Maturity Date: | May 21, 2026 |
| Term: | 3.1 years |
| Details: | Public offering, primary and national; Variable rate of TIIE Funding + 30 basis points |
| Ticker symbol: | FEFA 23V |



4. Use of Financial Resources and Environmental Performance

During the first year, 100% of the bond resources were allocated, amounting to 2.985 billion pesos benefiting 2,285 producers. The resources were distributed across the two categories of the taxonomy, with 88% allocated to the category of absorption of extreme climate events, and the remaining 22% to the category of adaptation to extreme climate events.

The breakdown by category is as follows:

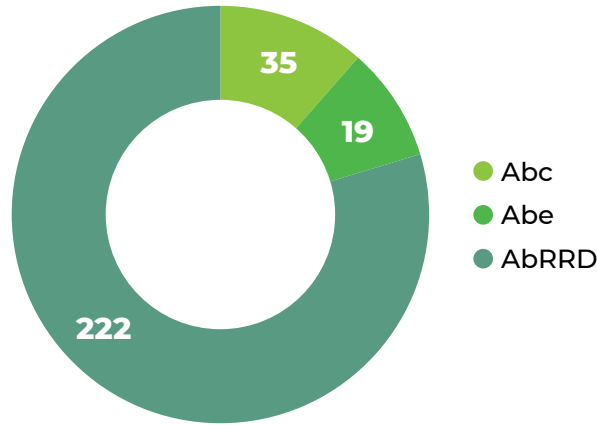
Table 2. Use of funds by category

| Category | Number of funded projects | Credit granted (MXN millions) | Number of beneficiaries |
|---------------------------------------|---------------------------|-------------------------------|-------------------------|
| Absorption of extreme climatic events | 206 | 2,625 | 238 |
| Adaptation to extreme climatic events | 70 | 360 | 2,047 |
| Total | 276 | 2,985 | 2,285 |



At the level of the different approaches to consider in the climate change adaptation process, 80% of the projects correspond to Disaster Risk Reduction-based Adaptation (AbRRD)²⁰, followed by projects focused on Community-based Adaptation (AbC)²¹ with 13% and 7% related to projects linked to Ecosystem-based Adaptation (AbE)²², as shown in Graph 1.

Graph 1. Distribution of funded projects by climate change adaptation approach



Regarding the distribution of financing, 80% was concentrated primarily in 7 states of the country, with Jalisco receiving 755 million pesos, accounting for 25% of the total financing, followed by the following states: Estado de México (16%), Guanajuato (13%), Durango (9%), Yucatán (8%), Veracruz and Chihuahua (4% each).

Regarding the distribution by number of financed projects, as shown in Graph 2, 81% was concentrated in 9 states. Jalisco led with 82 projects, representing 30% of the total projects, followed by Durango with 35 projects (13%), and Guanajuato with 31 projects (11%).

Graph 2. Geographical distribution of funded projects

Distribution of financing by prioritization of the most climate-vulnerable municipalities
(millions of pesos)



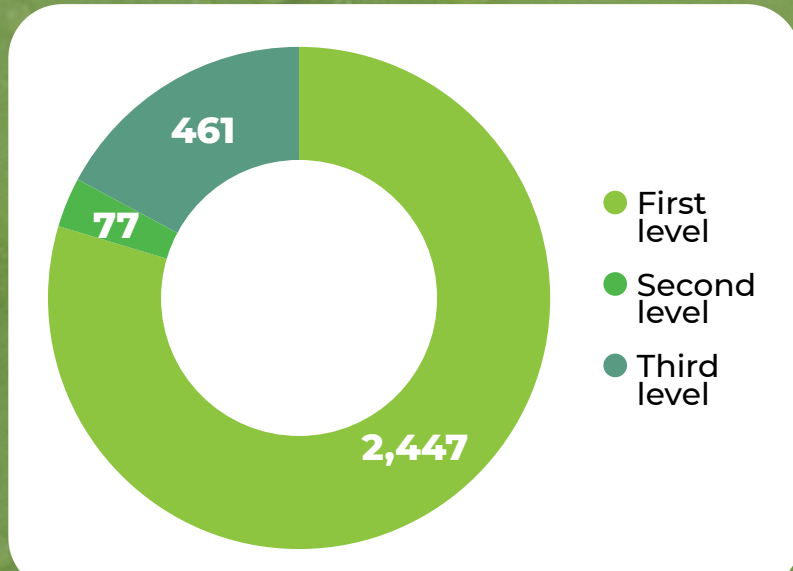
²⁰ It focuses on disaster risk management related to climate variability, extreme events and preparation for risks related to climate change (based on ADCP, 2013), cited in INECC 2020.

²¹ Its primary objective is to improve the capacity of local communities to adapt to climate change. It requires a comprehensive approach that combines traditional knowledge with innovative strategies, which not only seek to reduce current vulnerabilities, but also increase the adaptive capacity of people to face new and dynamic challenges. (CARE, 2010), cited in INEC 2020.

²² It refers to the use of biodiversity and ecosystem services, as part of a broader adaptation strategy, to help people adapt to the adverse effects of climate change (IUCN, 2012), cited in INEC 2020.

Finally, in the distribution of financing by prioritization of municipalities vulnerable to climate change, the financing for first-level municipalities stands out with 2,447 billion pesos, representing 82% of the total financing, followed by financing for third-level municipalities with 15%, and 3% for second-level municipalities.

Graph 3. Distribution of financing by prioritization of the most climate-vulnerable municipalities



5. Impact Report

According to the Sustainable Bonds Framework, this report includes resilience indicators for the eligible projects considered in the portfolio.

The following are impact indicators in the **"Absorption of Extreme Climate Events"** category:

- I. Amount of credit granted to increase the capacity for absorbing the impact of extreme climate events: 2.625 billion pesos
- II. Amount of credit to increase absorption capacity in municipalities at a vulnerability level of two and three, according to the INECC Climate Vulnerability Atlas classification: 537 million pesos
- III. Number of final beneficiaries with increased response and recovery capacity to extreme climate events: 238

Respectively, the impact indicators in the **"Adaptation to Extreme Climate Events"** category are:

- I. Amount of credit granted to increase the capacity for adaptation to the impact of extreme climate events: 360 million pesos
- II. Amount of credit to increase absorption capacity in municipalities at a vulnerability level of two and three, according to the INECC Climate Vulnerability Atlas classification: 1 million pesos
- III. Number of final beneficiaries with increased adaptation capacity in their productive systems to extreme climate events: 2,047



6. External Review

Sustainalytics, a global leader in ESG and corporate governance, has been selected to independently review the first annual compliance report of the Green Resilience Bond (FEFA23V) according to the Framework. Specifically:

1. Whether the projects comply with the use of financial resources and eligibility criteria described in the Framework.
2. Whether FEFA reported on the use of financial resources and performance indicators according to the eligibility criteria established in the Framework.

Sustainalytics has concluded that nothing has come to their attention that causes them to believe that, in all material respects, the Nominated Expenditures do not conform with the use of proceeds criteria and reporting commitments in the Framework.

