



# Value Added to Society Metodology - 2023

## Introduction

At Celsia we transcend the search for profitable, respectful and responsible growth, making decisions that consider the risks, opportunities and impacts of our operations and contributing to the permanence of our company over time. This drives us to give back to our surroundings, the environment and our stakeholders more than we take from them, because we are aware of our responsibility as agents of social transformation.

We transform the different types of capital used by our operations into value, including financial, human, intellectual, social and relational capital. Throughout this process, we generate negative and positive impacts, and to identify and measure them, we use **KPMG's True Value Methodology**, which monetizes the main positive and negative externalities associated with our operations.

## Impact valuation results

We have developed an impact assessment of ten of our main externalities of our business activity on 100% of our operations, two of which we consider material to our external stakeholders are detailed below:

# Material Issue 1 for External Stakeholders: Climate Change

**Output metric:**

**Type of impact:**

**External stakeholder(s)/impact area(s) evaluated:**

Tons of GHG emissions

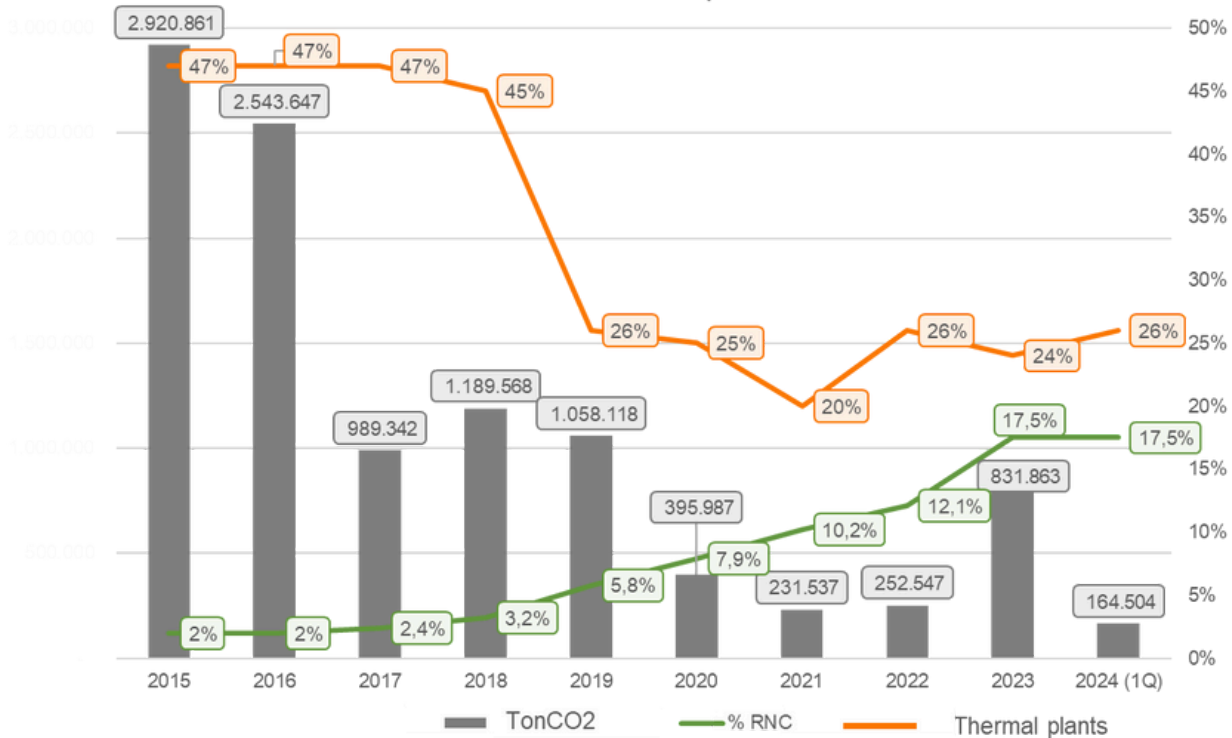
Positive Negative Both combined

Environment Society Consumers/end-users

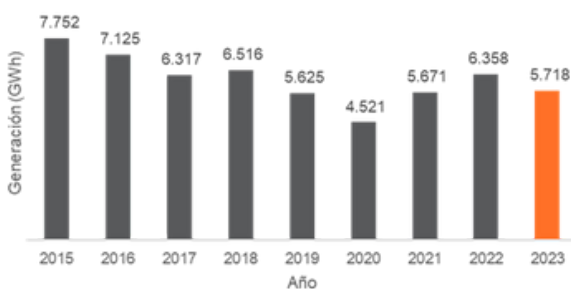
Supply chain

In 2023, Celsia emitted 831.961,2 metric Ton CO2 eq of GHG into the atmosphere. Our Scope 1 CO2 emissions are associated with the operation and maintenance of our assets, while total Scope 2 CO2 emissions are associated with the purchase of imported power from the grid and transmission and distribution losses

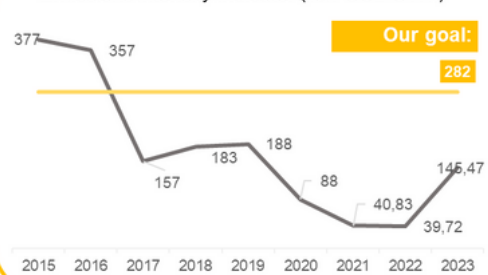
TonCO2 vs Installed capacity of RNC (Non-conventional renewables) and thermal plants



Real generation (GWh)



Emissions Intensity Indicator (Ton CO2/GWh)





Some of our commitments to face climate change are:

 **Goal:** By 2025, 25% of our installed capacity will come from non-conventional renewable sources (RNC)

 **2023 Performance:** target compliance by 2023: %RNC 14,7%

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 **Goal:** Reduce the intensity of GHG emissions associated with power generation by 25% by 2025 (base year 2015).

 **2023 Performance:** 61.84% reduction in emissions intensity

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## How we manage our impacts

<b>Operations</b>	<ul style="list-style-type: none"> <li>• Increase energy generation with renewable sources.</li> <li>• Reduce transmission and distribution system losses</li> <li>• Use reduction and avoided emissions certificates generated by clean energy projects (hydro, solar and wind) to continue our commitment to be carbon neutral.</li> <li>• Improve the operational efficiency of assets to manage and control noise and other atmospheric emissions.</li> <li>• Implement a plan to create awareness among all stakeholders, communicating through internal and external channels the management and results in this area</li> </ul>
<b>Products/Services</b>	<ul style="list-style-type: none"> <li>• Offer an energy efficiency portfolio</li> <li>• Infrastructure for sustainable mobility</li> <li>• Carry out preventive and effective actions to ensure the quality and continuity of energy service in the face of the effects generated by phenomena such as La Niña or the corresponding phenomenon</li> <li>• Provide energy advice and products to control or reduce energy consumption</li> </ul>
<b>Supply Chain</b>	<ul style="list-style-type: none"> <li>• Select suppliers with sustainable practices</li> <li>• Promote best practices and implementation of circular economy initiatives, to work together.</li> <li>• Identify environmentally critical suppliers within the supply chain and train them on ESG issues (climate change and carbon footprint) to raise awareness of the changes that are impacting the natural and business ecosystem.</li> <li>• Reduce imports of materials and encourage the development of local trade.</li> <li>• Encourage the reduction of their carbon footprint.</li> </ul>
<b>Society/Consumers/end-users</b>	<ul style="list-style-type: none"> <li>• Emergence of opportunities for renewable energy sales, energy efficiency services, and demand-side management.</li> <li>• Extreme weather events, damaged infrastructure, and the transition to renewable energy can lead to higher electricity rates for consumers.</li> <li>• Power outages due to weather events or infrastructure damage can affect productivity, commerce and people's quality of life.</li> <li>• Heat waves, air pollution, and poor water quality can affect public health, especially vulnerable groups such as the elderly, children, and people with illnesses.</li> <li>• Encourage consumers to adopt energy efficiency measures.</li> <li>• Develop innovative new products and services, such as demand-side management and demand response, to help customers optimize their energy consumption.</li> <li>• In some communities, climate change may generate new tourism opportunities, such as the development of activities related to ecotourism or adventure tourism. As allies, we support the development of these initiatives, creating jobs and boosting the local economy.</li> </ul>

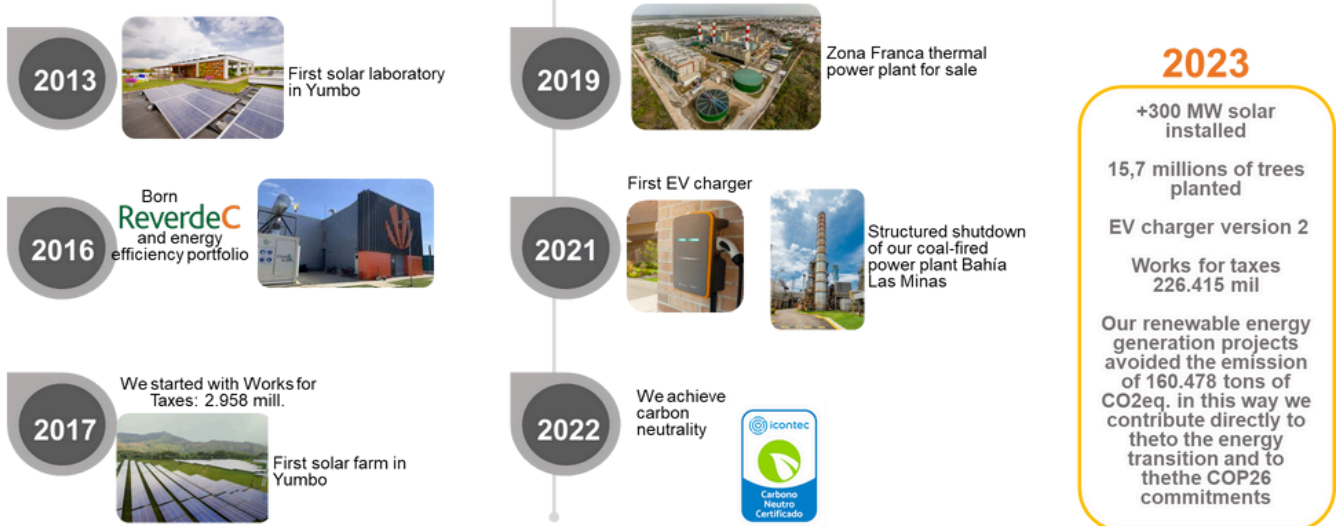
## Business case

# Climate change

## Growth and expansion: climate change strategy

Environmental, social and economic value creation.

**Works for taxes** for the development of 28 projects in the departments of Antioquia, Cauca, Sucre, Tolima and Valle del Cauca, benefiting close to 364.000 people in 55 municipalities of Colombia



## Energy efficiency:

*Electrification of industrial processes*



Serena del Mar Thermal District



Efficient lighting project - Sura



Thermal energy decarbonization project - Fund. Cardioinfantil



Solar roof San José de las Vegas



Compressed air as a service

- Thermal districts
- Steam and combustion system
- Efficient compressed air
- Climate control, air conditioning, and refrigeration
- Pumping system
- Efficient lighting
- Energy monitoring and management
- Regulatory consulting

## Decarbonization of mobility



Valle – Eje Cafetero  
EDC fast

Todo está conectado  
y todo lo conectamos con la energía que queremos



2019

2020

2021

2022

2023



Fleet 26 electric buses



Fleet 120 electric buses

Perdomo  
Yardload 183  
electric buses



## Future of the energy transition



Battery Energy Storage System

Energy storage-  
BESS



Off-Shore  
wind projects



And On-Shore

Ranking of the 34 economies that can produce hydrogen. Colombia 4th most competitively priced to produce green hydrogen



Exploring new avenues: Green hydrogen

## Impact Valuation

Our Impact Valuation process consists of multiplying Celsia's GHG emissions by a multiplier called the Social Cost of Carbon. This multiplication results in a monetized impact of GHG emissions:



Social cost of carbon reflects the cost of the impacts generated by GHG emissions over their lifetime for society and it considers changes in net agricultural productivity, human health, property damages from increased flood risk and value of ecosystem services due to climate change. However, estimates vary based on the discount rate, which determines the present value of future impacts of climate change. This multiplier is taken from a study conducted by the Environmental Protection Agency (EPA) (2013).

After applying our impact valuation process based on **KPMG's True Value methodology**, the monetized impact of GHG emissions for 2023 was **USD -35.1 million**

## Topic relevance on external stakeholders

Over time, warmer temperatures are changing weather patterns and altering the balance of nature. This poses many risks to humans and all other life on earth. At Celsia, we recognize the impact our energy business has on climate change, making it one of the most relevant externalities for the company. Understanding the great challenge for our planet and for our company, at Celsia Climate Change is a strategic risk and our objective to confront it is to contribute to the transition to a low-carbon economy, being the pillars of growth in our climate strategy the generation of energy with low-emission renewable sources, the energy efficiency portfolio, infrastructure for sustainable mobility and carbon markets.

We are also committed to reducing our impact on climate change by designing and implementing effective mitigation, compensation and communication measures, with innovative solutions that contribute to strengthening our adaptive capacity and developing business opportunities and social value creation.

In addition, seeking to consolidate the identification of climate change risks and opportunities, we contribute through active participation in different governmental bodies, synergies, alliances and investment vehicles that allow us to achieve our climate change objectives and increase resilience of our operations.

Within the framework of our Sustainability Policy, we recognize the importance of having a respectful relationship with the environment in all our actions. That is why we continuously apply our Environmental Policy whose main purpose is to establish the guiding principles in environmental matters in all our operations, products and services, suppliers and contractors, due diligence processes and allies in the different countries where we have presence, promoting in its value chain, and in turn with its strategic allies and stakeholders, the rational, efficient and effective use of natural resources and environmental participation, so that the actions of all parties are aligned with the common good and the improvement of environmental performance, in addition to contributing to the mitigation and adaptation to climate change through the inclusion of non-conventional renewable energies in its generation matrix, developing products and services with low CO2 emissions, energy efficiency and sustainable mobility, and including climate change criteria in the analysis of investments.

Finally, it is important to mention that we also have a variable compensation system that promotes the achievement of the organization's strategic and corporate objectives. Depending on the level of each employee in the organization, two types of variable incentives can be applied: (i) short-term, and (ii) long-term. In the long term, we incorporate sustainability elements in incentives that represent at least 15% of the total. These include indicators related to climate change, in this case for Celsia the goal for 2025 is for 25% of our installed capacity to come from non-conventional renewable sources (RCN) and to grow this installed capacity by 3% per year until 2030. This reflects the criterion of adaptation as a relevant aspect in our Colombian energy matrix, given that it is vulnerable to climate change due to the extreme conditions of the Niño and Niña events. A more resilient matrix with non-conventional renewable energy sources is and has been a purpose at Celsia.

To know more about our change strategy, please visit the following link: <https://reporteintegrado2023.celsia.com/en/a-greener-planet/climate-change/>

# Material Issue 2 for External Stakeholders: Biodiversity

**Output metric:**

**Type of impact:**

**External stakeholder(s)/impact area(s) evaluated:**

Total hectares affected and rehabilitated

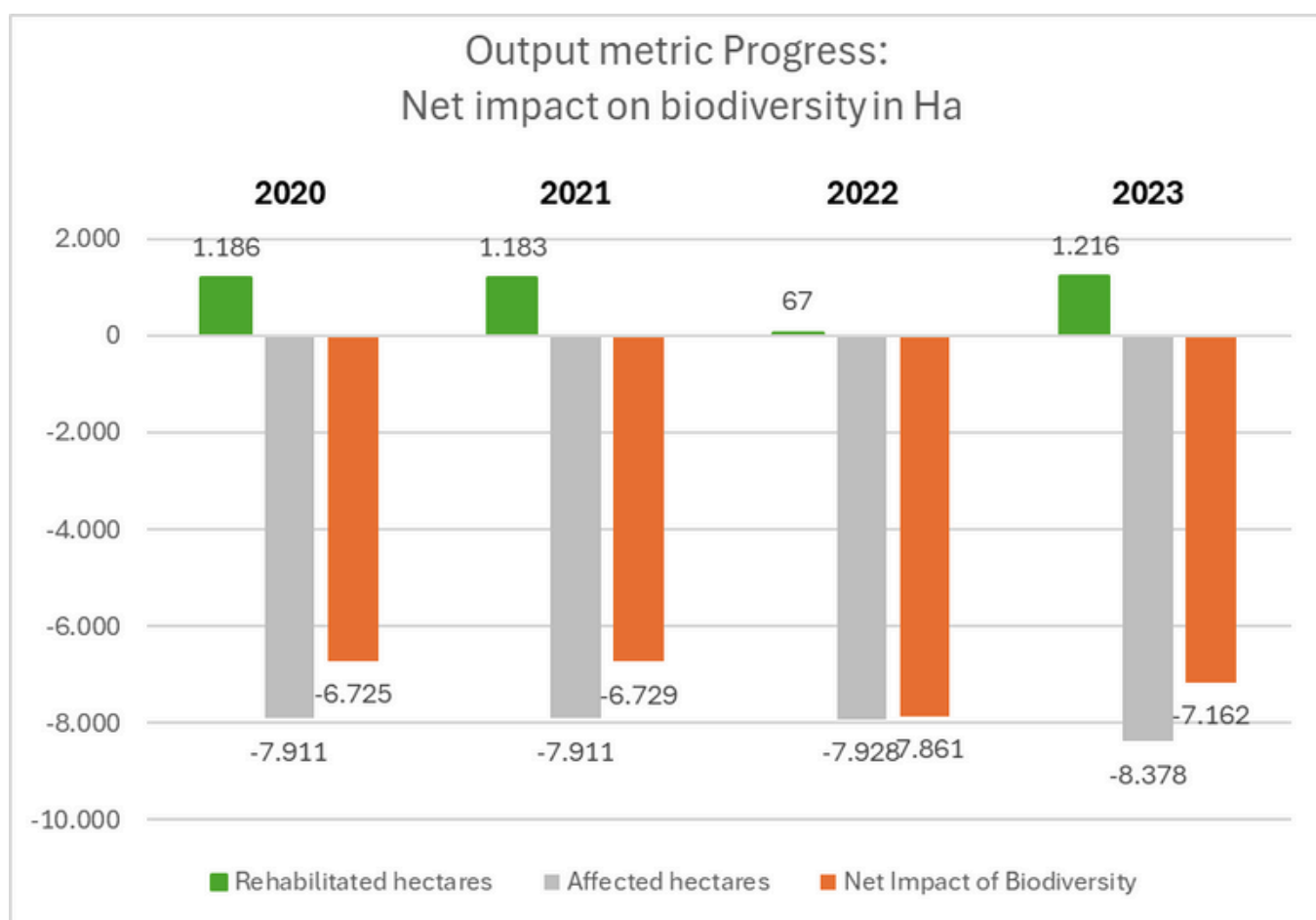
Positive Negative Both combined

Environment Society Consumers/end-users

Supply chain

Our operations and facilities impact biodiversity associated with changes in land use and ecosystem fragmentation, therefore, biodiversity is a material issue and forms part of our analysis of risks, dependencies and opportunities in adoption of the Taskforce on Nature related Financial Disclosures (TNFD) framework.

In 2023, Celsia's total hectares rehabilitated were 1,216 ha, while the total hectares affected were -8,378 ha. This result gives us a net impact on biodiversity, our performance metric for this assessment is equal to -7,162 Ha.





The following are the challenges we have set ourselves in the short and medium term in terms of biodiversity:

**Goal:** by 2025 Celsia will be a company with no net loss of biodiversity.

**2023 Performance:** target compliance by 2023: 86.6%

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**Goal:** between 2025 and 2030 Celsia will strive to be a company with a net positive impact on biodiversity.

**2023 Performance:** N/A the target set in the year 2023

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**Goal:** By 2030 Celsia commits to the ReverdeC Foundation to plant 50 million trees.

**2023 Performance:** by the end of 2023 we reached a cumulative total of 15,767,304 trees planted, equivalent to 7,296 hectares established in the departments where we are present.



## How we manage our impacts

<p><b>Operations</b></p>	<ul style="list-style-type: none"> <li>• Give greater viability to projects that have minimal impact on ecosystems, biodiversity and ecosystem services.</li> <li>• Characterize flora and fauna through field studies with experts; map actual and potential positive and negative impacts, and use tools such as early risk assessment, environmental impact assessments (EIAs), management plans and compensation to reduce, mitigate and manage them.</li> <li>• Enhance positive impacts by documenting biodiversity and publishing the results to generate knowledge.</li> <li>• Go beyond legal compliance by appropriating national and international standards and initiatives that guide our socio-environmental management, such as Performance Standard 6 (IFC), the Equator Principles, ISO 14001 standards and the TNFD framework.</li> </ul>
<p><b>Society/ Consumers/ end-users</b></p>	<ul style="list-style-type: none"> <li>• Ensure participation and constant dialogue with communities, as a key element in the preparation of socio-environmental studies, for a better understanding of ecosystem services in the environments of our assets and operations.</li> <li>• Positively impact on disclosure and knowledge, providing our stakeholders with biodiversity data that allow us to define conservation and sustainable use strategies, in direct relation to SDG 15 and COP 15, in the framework of global actions in favor of nature to 2030.</li> <li>• Plant native flora species and those in some degree of threat according to IUCN category, supporting the natural conformation of biological corridors for fauna in operating environments.</li> <li>• - Work hand in hand with external partners and allies to fulfill our biodiversity commitment, among them:             <ul style="list-style-type: none"> <li>◦ Government entities: Universidad EAN Bogotá, Universidad del Pacífico, Corporación Autónoma Regional del Valle del Cauca, Autoridad Nacional de Acuicultura y Pesca (AUNAP), Parque Nacional Natural Farallones de Cali.</li> <li>◦ Expert allies: Corporación Paisajes Rurales, Tekia, Fundación Bioconservancy, Open Forest Protocol, Terrasos, USAID - Páramos y Bosques Program, Chemilab, GAIA Ingeniería Ambiental, Kiweyu, Bioasesores de Colombia, Plyma, Podas y Jardines.</li> <li>◦ Communities and organizations: Fundación ReveredeC, Fundación Puntos VerdeS, Fundación Ríos Tuluá y Morales, Consejo Comunitario de Punta Soldado, Centro Nacional del Agua y la Biodiversidad de la ANDI.</li> </ul> </li> </ul>
<p><b>Supply Chain</b></p>	<ul style="list-style-type: none"> <li>• Avoid significant alterations to natural or critical habitats in primary purchases that are part of our sustainable sourcing process.</li> <li>• Establish a sustainable sourcing process in which all suppliers and companies linked to our company know and comply with applicable socio-environmental requirements, and must be committed to protecting the environment and mutually respectful relationships that generate social value, know and comply with applicable national regulations and other national standards and regulations, with emphasis on the prohibition of deforestation and the acquisition of wood from natural forests or protected species.</li> </ul>

## Business Case

### Biodiversity

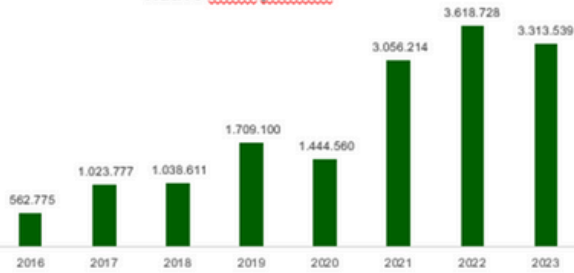
Through ReverdeC we bring ecological restoration projects to life. Every tree planted and every ecosystem restored is a step towards a healthier world..

**Environmental**, social and economic value creation.



ReverdeC is a voluntary ecological restoration initiative that was born in 2016 and today, transformed into the ReverdeC Foundation, **aims to plant 50 million trees by 2030.**

#### Native trees planted



**7.296 ha**

**15.7 mill**

**42** River basins

**100%** of LOCAL labor and suppliers.

#### Figures 2023

- 3.3 millions trees planted
- 1,105 hectares restored
- 11 river basins
- 8 community plantings
- 6 ecosystems
- 300 native species
- 308 local jobs (technical and social professionals, planters, nurserymen, transporters and logistical support).



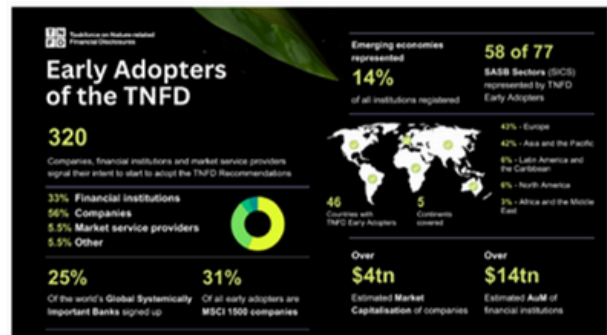
### Biodiversity

Our commitment is to continue developing conservation actions and actively caring for our biodiversity and ecosystems.

**Environmental**, social and economic value creation.

#### Highlights 2023

- ✓ Approval of **2030** targets that will generate net positive results on biodiversity
- ✓ We updated the socio-environmental procedure incorporating international standards for the management of biodiversity and ecosystem services; we have an application **guide for each stage of the life cycle**.
- ✓ We advanced in the dissemination of biodiversity studies in partnership with Sib Colombia and the Global Biodiversity Information System (GBIF).
- ✓ We published **60,000 biological data** contributing to the knowledge of the country's biological diversity, positioning us as the #9 company at the national level.
- ✓ We initiated the **adoption of the TNFD framework** for assets in operation and projects with our partner South Pole.
- ✓ We are **Early Adopter of the TNFD framework** in a public announcement during the World Economic Forum 2024. .
- ✓ We will have the first **biotic compensation in the Tropical Dry Forest Habitat Bank** with our partner Terrazos for the Celsia Valledupar solar farm.



## Impact Valuation

At Celsia we build projects and operate energy generation, transmission and distribution assets. Therefore, our impacts are associated with changes in land use and ecosystem fragmentation.

Our net impact on biodiversity is monetized according to the following equation:

The diagram illustrates the equation for monetizing net impact on biodiversity. It consists of three orange rectangular boxes connected by mathematical symbols. The first box on the left contains the text 'Celsia' net impact on biodiversity'. This is followed by a grey 'X' symbol representing multiplication. The second box in the middle contains the text 'Social cost of restoring biodiversity'. This is followed by a grey '=' symbol representing equality. The final box on the right contains the text 'Monetized net impact on biodiversity'.

Data required to calculate social cost of restoring biodiversity came from the Economics of Ecosystems & Biodiversity, climate issues update TEEB (2009), and it considers on its calculation the following ecosystems: Tropical forests, other forests, Woodland/shrubland, Grasslands, Inland wetlands, Lakes/rivers, Coral reefs, Coastal and Mangroves. In case of uncertainty on the type of ecosystems affected or rehabilitated, a conservative estimation was adopted by selecting the 'worst case scenario' (e.g., degradation of tropical forests, restoration of grasslands).

After applying our impact valuation process based on **KPMG's True Value methodology**, the monetized net impact on biodiversity for 2023 was USD -32.4 million.

## Topic relevance on external stakeholders

The impact on land use and ecosystem fragmentation is caused by our economic activity associated with the construction of new energy generation, transmission and distribution projects, which has an impact on local biodiversity. Thus, land conversion results in a negative externality, mediated by changes in biodiversity, which affects the environment and society, particularly the communities located near the project. Therefore, our management focuses on the implementation and monitoring of actions and the development of voluntary and mandatory initiatives to achieve the Net Positive Impact (NPI) target. The NPI is a target for project outcomes and assets where biodiversity impacts are offset by measures taken to avoid and reduce such effects, rehabilitate affected species/landscapes and offset any residual impacts. As part of our commitment, our company's 2030 target is to plant 50 million native trees through ecological restoration processes through the ReverdeC Foundation

Our commitment is an integral part of the Environmental Policy, which incorporates action guidelines based on the management of impacts on biodiversity from the principle of "mitigation hierarchy", giving priority to actions to prevent, reduce, mitigate and restore impacts, and managing the no net loss of biodiversity.

At Celsia, we go further, with the appropriation of international standards. In 2023, we joined the Taskforce on Nature related Financial Disclosures (TNFD) forum as part of the multidisciplinary advisory group organizations. At the same time, we made progress in the adoption of the framework for adequate disclosure and management of nature-related risks, dependencies and impacts.

To know more about our management and commitments to biodiversity care please visit the following link: <https://reporteintegrado2023.celsia.com/en/a-greener-planet/biodiversity/>