

Water and Energy for Sustainable Development: Integrated solutions supporting regional cooperation, climate resilience and biodiversity.

Technical Session

MEXICO

MEXICAN SUGAR CHAMBER

March 23, 2023

UNALA
Unión de Azucareros
Latinoamericanos

União do Açúcar Latino-americano -UNALA-



AÑOS
1943-2023



CÁMARA NACIONAL DE LAS INDUSTRIAS
AZUCARERA Y ALCOHOLERA



**United
Nations**

Peace, dignity and equality
on a healthy planet



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UNALA
Unión de Azucareros
Latinoamericanos
União do Açúcar Latino-americano –UNALA–



UNALA

Is a private non-profit organization that brings together the agro-industrial sector of sugar cane and sugar beet in Latin America.

Water & Energy

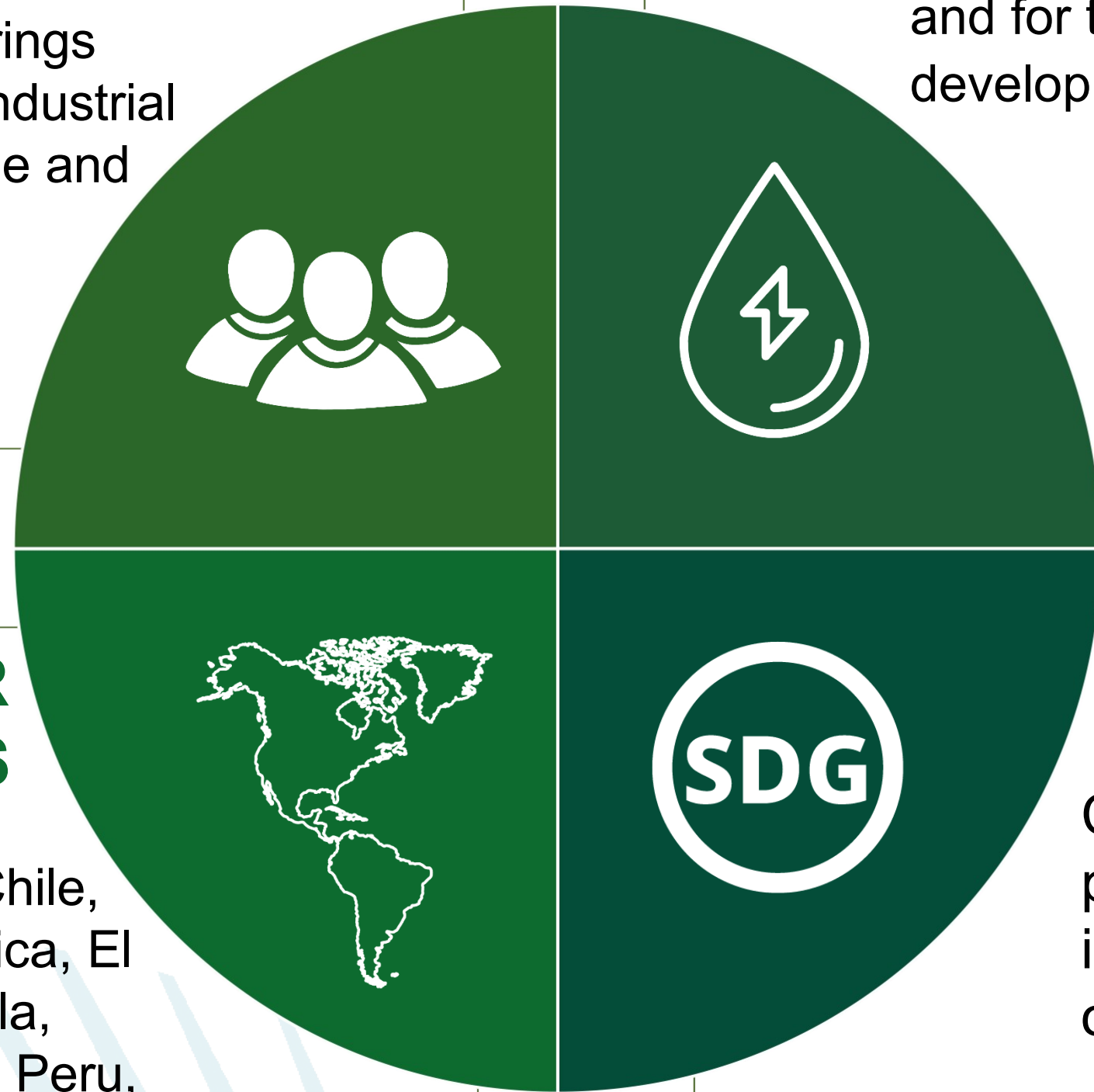
Are basic elements of our work and for the sustainable development of our countries.

12 MEMBER COUNTRIES

Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Mexico, Nicaragua, Peru, Dominican Republic, and Panamá.

2030 AGENDA

Committed to promote the implementation of the objectives.



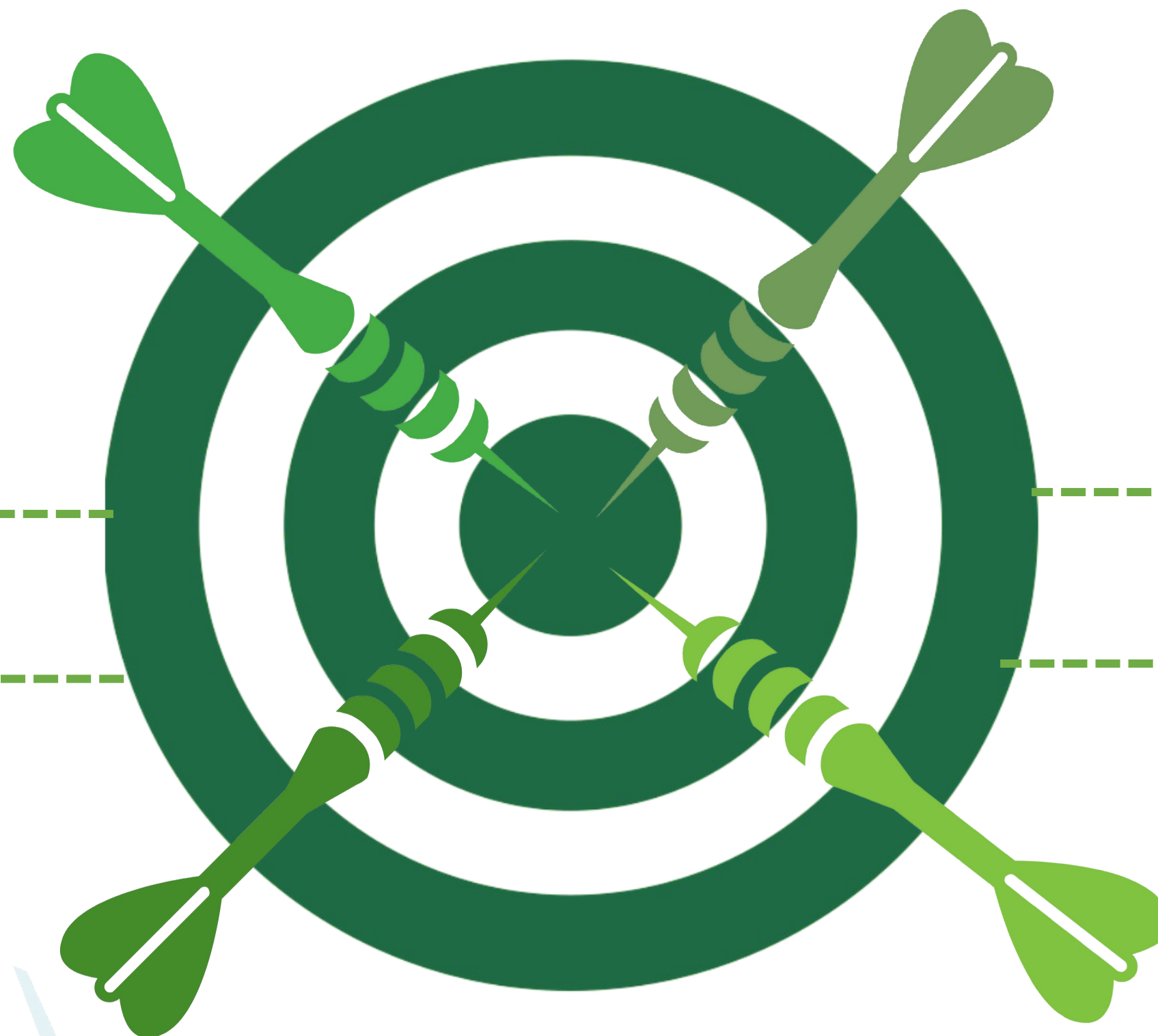
MAIN PURPOSES

Facilitate the space for dialogue to **promote communication**, the development of activities that **benefit our countries**.

Represent the Latin American sugar sector before regional or multilateral organizations.

Promote the exchange of information and the development of **research and technology** for the benefit of the sector

Promote actions, programs **and strategies aimed to the sustainable development** of the Latin American sugar industry.



WHAT OUR SECTOR REPRESENT

WORLD
SUGAR
PRODUCTI
ON



34%
32%

WORLD
ETHANOL
PRODUC
TION



JOBS
PRODUCED



+6.4
million

ENERGY
COGENERATION

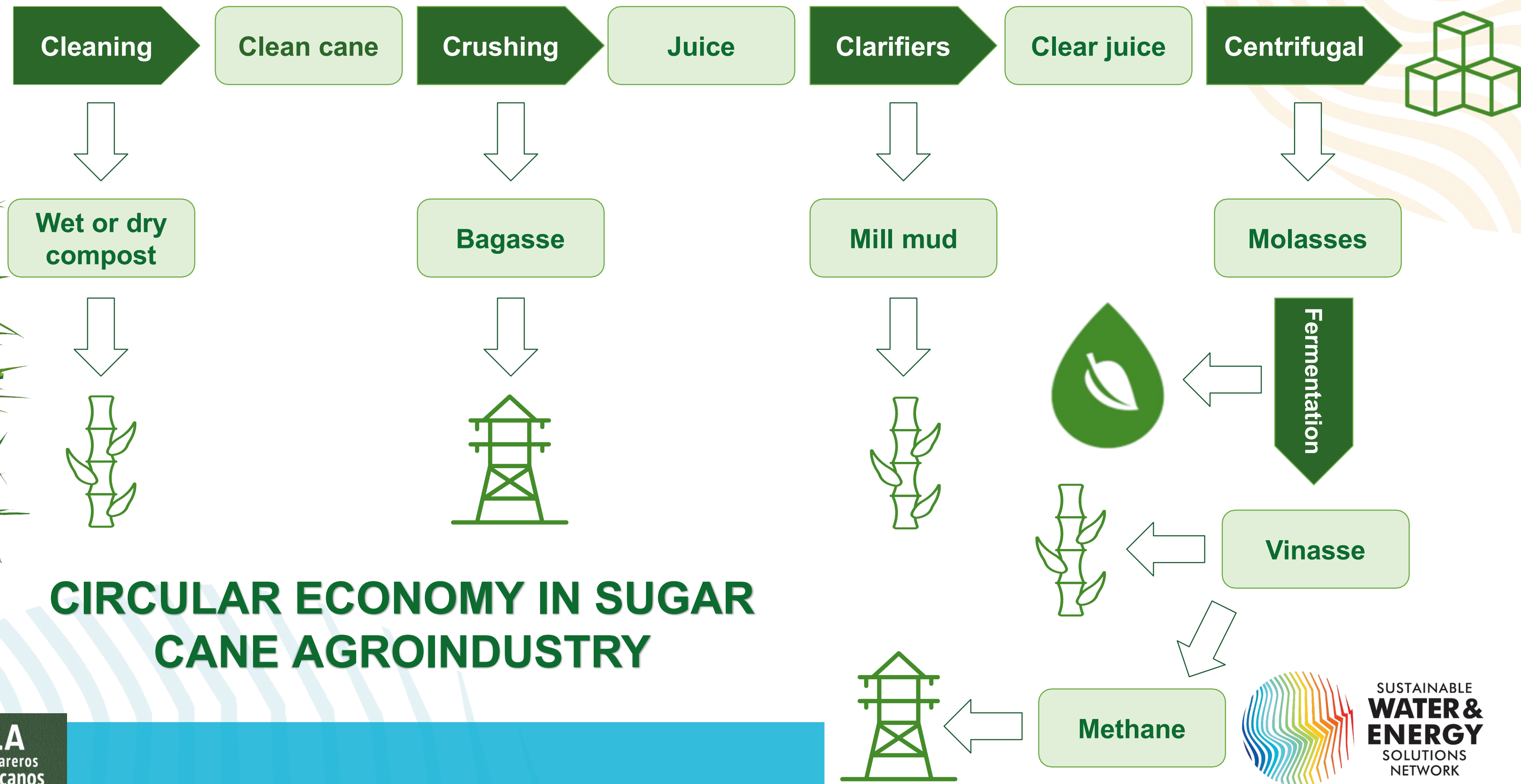


SECOND
SOURCE IN
ENERGY
MATRIX IN
BRAZIL &
GUATEMALA

EFFICIENCY IN
WATER USE



USE OF
EFFICIENT
IRRIGATION
SYSTEMS



CIRCULAR ECONOMY IN SUGAR CANE AGROINDUSTRY



MEXICO

MEXICAN SUGAR CHAMBER



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MEXICAN SUGAR CHAMBER (MSC)

The Mexican Sugar Chamber represents the businesspeople that transform cane into sugar in Mexico, before the Government, the Labor Union, Cane Grower Organizations, and abroad.

We also work to communicate accurate science regarding sugar, which if consumed in moderation and with exercise, is a healthy food ingredient.



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Mexican Sugar Industry – Direct Jobs

More than 495 thousand direct jobs

- **42,605 Factory Workers**
- **185,000 Cane Growers**
- ✓ **153,711 Laborers**
- ✓ **69,971 Cutters**
- ✓ **31,318 Transporters of cane**



49 Mills in 15 Mexican states and 267 rural municipalities, where more than 12 million people live



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IMPORTANCE OF THE MEXICAN SUGAR AGROINDUSTRY

The National Sugarcane Agroindustry generates indirect **benefits for more than 2.4 million people.**

It also, represents:
2.9% of the Manufacturing GDP;
13.5% of the Agricultural GDP;
13.6% of the Food Industry GDP.



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MEXICAN SUGAR CHAMBER (MSC)

The sugar industry in Mexico is regulated by the Law for the Sustainable Development of Sugar Cane since 2008. Sugar is the only product in Mexico to have its own Law. As the Law's name suggests, Sustainability is a very important component in Public Policies in the Sugar Industry

The Law establishes the Conadesuca as the main regulatory body. CONADESUCA is a National Committee formed by 5 Ministries (including the Ministries of Environment and Labor), two National Cane Grower Organizations and the MSC



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SUGAR INDUSTRY WITH A REGULATORY FRAMEWORK FOCUSED ON SUSTAINABILITY

- The Law for Sustainable Development of Sugarcane,
- **PRONAC 2021-2024** (Establishes the public policy objectives in the sugar cane agroindustry).

Other National Programs that mills must comply with, related to the sustainability of water:

- **Programa Nacional para el Uso, Conservación y Recuperación del Suelo y Aguas Agrícolas** (for protection and recovery of the soil and water in the agriculture).
- **Programa Nacional Hídrico** (for the sustainability of water).
- **Programa Especial de Cambio Climático** (for the mitigation of Climate Change)



SUGAR INDUSTRY WITH A REGULATORY FRAMEWORK FOCUSED ON SUSTAINABILITY

Some of the PRONAC 2021-2024, Sustainable Goals, are:

- ✓ Increase the productivity and competitiveness of sugarcane production and its industrialization in a sustainable manner.
- ✓ Strengthen the sustainability indicators of the sugarcane agro-industry by integrating social variables into the official System of Sustainability Indicators (SI-SUSTENTABILIDAD).

Programa Nacional de la Agroindustria de la Caña de Azúcar

2021-2024 (PRONAC)



Para el logro de cada objetivo prioritario del PRONAC, se han establecido diversas estrategias prioritarias que permitirán el cumplimiento de las metas y parámetros del bienestar. Dentro de las estrategias prioritarias que se implementarán en el periodo 2022-2024 destacan las siguientes:

Objetivo prioritario 1

Estrategia prioritaria 1.2

Instrumentar estrategias de expansión o repliegue del azúcar de caña, así como sus coproductos, subproductos y derivados acordes a las tendencias de los mercados y las condiciones del país.



Objetivo prioritario 2

Estrategia prioritaria 2.1

Diversificar el aprovechamiento de la caña de azúcar a nivel nacional (producción de bioetanol y cogeneración) para aquellas áreas productoras que ya no tengan la opción de entregar esta materia prima para elaboración de azúcar.



Objetivo prioritario 3

Estrategia prioritaria 3.2

Promover el establecimiento del Centro de Investigación Científica y Tecnológica de la Caña de Azúcar (CICTCAN) como lo mandata la Ley de Desarrollo Sustentable de la Caña de Azúcar (LDSCA) para incrementar la productividad y la rentabilidad de la agroindustria de la caña de azúcar.

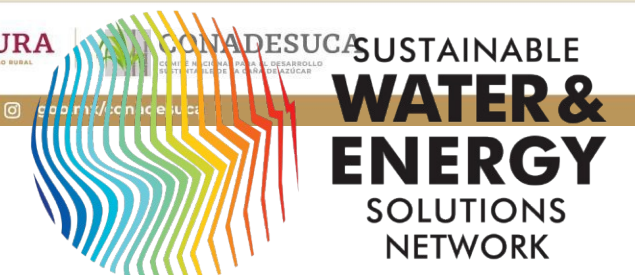


Objetivo prioritario 4

Estrategia prioritaria 4.2

Propiciar la coordinación de acciones y colaboración permanente con los distintos poderes, órganos de gobierno, organizaciones de productores, industriales e instituciones educativas y de investigación, que optimice y haga más eficiente el uso de los recursos naturales del sector de la agroindustria de la caña de azúcar.





SUGAR INDUSTRY WITH A REGULATORY FRAMEWORK FOCUSED ON SUSTAINABILITY

Sustainable Priority Strategies:

- ✓ Promote coordinated actions with the Secretary of Agriculture (SADER) and other Secretaries that contribute to the fulfillment of Mexico's international commitments, both in the United Nations Conference on Climate Change (COP 2015) and in the 2030 Agenda for Sustainable Development (2015) applicable to the sugarcane agribusiness sector.
- ✓ Promote actions tending to mitigate the impact of climate change.
- ✓ Promote strategies to improve the sustainability indicators of the sugarcane agroindustry.



VISION AND SUSTAINABILITY IN THE AGRICULTURAL SECTOR

✓ **Environmental management**

✓ **Production efficiency, at the lowest cost and with the lowest environmental impact**

✓ **Diversification**

✓ **Products made with the best practices**

✓ **R
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✓ **Generation of Renewable energy**

✓ **Reduction of:**

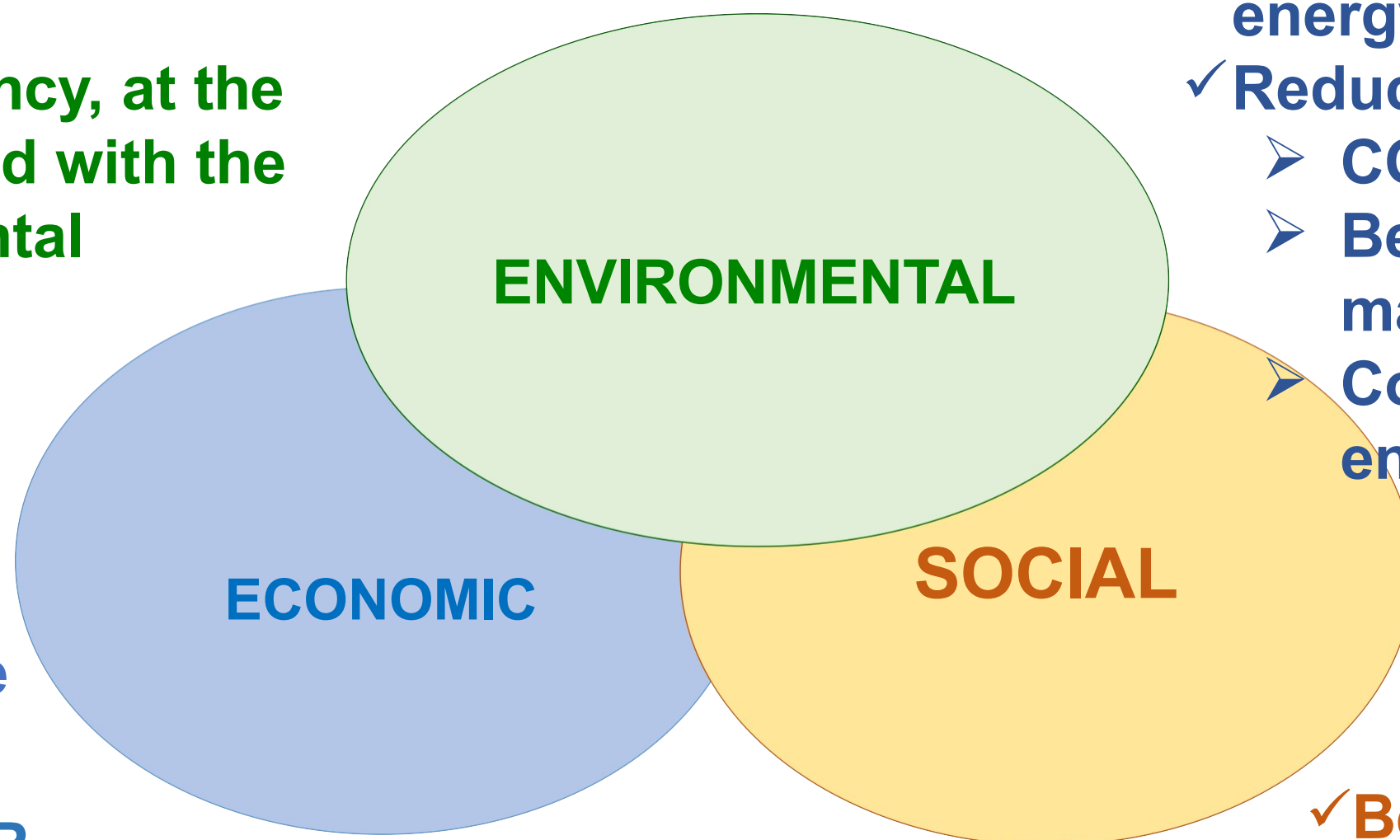
➤ **CO2 emissions.**

➤ **Better water management.**

➤ **Conservation of the environment.**

✓ **Safe and healthy conditions at labor.**

✓ **Best practices based on values and integration of communities.**



WATER IN MEXICAN SUGAR MILLS

The Sugar Mills operate between the months of November to June of each year, generating different organic effluents: **factory water, vinasse, and particulate matter, mainly.**

And in the case of those that have alcohol distilleries, **vinasse, with a significant organic load**, is a residual, that receives an special treatment according the environmental norms and laws.

Therefore, one of the main priorities for the mills' investments are the reduction use and treatment of water and the goal: optimization of its use for the sustainability.



MEXICAN SUGAR MILLS AND THEIR MITIGATION ACTIONS

The mills are already developing actions in terms of:

- ✓ Residual water treatment.
- ✓ Alternatives for reuse and reduction in water consumption.
- ✓ Elimination of solids and filter residuals in effluents and their reincorporation in compost.
- ✓ Reduction of ash emissions into the atmosphere.
- ✓ Elimination of vinasse discharges to rivers and aquifers.
- ✓ Analysis of water incorporation in sugarcane field irrigation.

MEXICAN SUGAR MILLS IN COMPLIANCE WITH ENVIRONMENTAL AND WATER REGULATIONS

The Sugar Mills are committed to improving the environment by seeking:

➤ **WORK**
on
wastewater
treatment and
efficient water
management.



➤ **COMPLIANCE** with

regulations:

- NOM-001-SEMARNAT-2021 (WATER DISCHARGES)

➤ **ADOPTION OF
CLEAN INDUSTRY
DISTINCTIVE**



➤ **TREAT WASTE**

➤ **OPTIMIZE**
production processes,
with a vision
of environmental
sustainability.

➤ **GENERATE** clean and
renewable energy.

➤ **ADOPT** best
sustainable
production and
consumption
practices.



Some examples:



**GAM GROUP, CLEAN AND
SUSTAINABLE
PRODUCTION MODEL.**

**Sustainable production with
clean energy generation in the
factory and the reduction of
water consumption to the
maximum.**



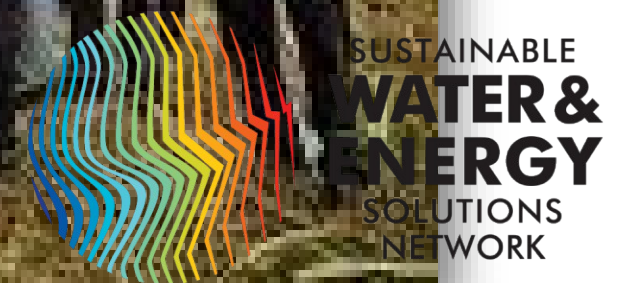
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Some examples:



SUGAR MILL TALA, CLEAN AND SUSTAINABLE PRODUCTION MODEL

The Tala sugar mill has a vision of comprehensive environmental management. Therefore, it has implemented investments to reduce its water consumption and is working to minimize its impact on the environment through the implementation of certifications.

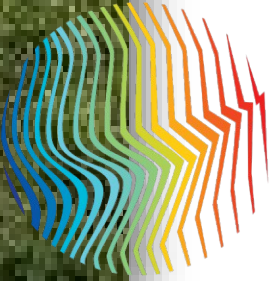


Some examples:



PIASA GROUP

With investments in solutions, modern energy systems, reduction in irrigation and consumption of water, PIASA GROUP is one of the leaders in the sustainable sugar production



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Some examples:



Grupo Azucarero del Trópico

Tropico combines an energy cogeneration plant, a distillery and a sugar mill. It maximizes the use of all of the components of sugarcane for different productive uses. It also has very important investments in the treatment of vinasses and other residues.



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SUGAR MILL EL MOLINO

This mill faces the limitation of being located in a urban center, it therefore has had a permanent commitment for many decades with the community and the environment in the city of Tepic.



They reuse all the water with a treatment plant and an system, including internal the derived from cane.

water

They make compost with the waste to biofertilize the soils.

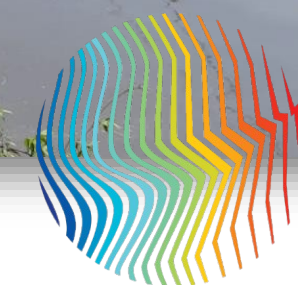


Some examples:



WASTEWATER TREATMENT DAMS AND OIL TRAPS, AT SUGAR MILL EI REFUGIO

With these technologies, the use of water resources is improved.



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SUGAR MILLS REDUCTION OF USE OF WATER FOR BENEFIT AND DISCHARGE IN SUGAR PRODUCTION. In CIASA SUGAR MILL

Through the recovery, classification correct and use of residual water, reduction in ~~river~~ ^{water} consumption has been achieved since 2007





The 48 Mexican sugar mills operate according to the mandates of the Law for Sustainable Development of Sugar Cane, and have many success stories in terms of the conservation of water and other natural resources.

The goal of the Mexican sugar agroindustry is to be sustainable, modern and with a vision of the future, implementing the latest technologies.

Finally, the sugar cane is a beautiful live plant which, every year, works as a CO2 sink, becoming an extraordinary provider of oxygen to the atmosphere.



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Thank you!

Isaac Caín Lascano

Mexican Sugar Chamber



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MÉXICO
SIN TRABAJO INFANTIL



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