

# Responsible Mining

## Role of the Philippine Mineral Industry in Balancing Economic Progress and Sustainability.

Norlex B. Adsuara  
Performance and Sustainability  
[www.hmdcph.com](http://www.hmdcph.com)



**Helix  
Mining and  
Development  
Corporation**

We are all **ACHIEVERS!**

the 70th ANMSEC is the testimony on how we were able to cope up..



70th Annual Mine Safety and Environment Conference

"Endurance and Innovation for Sustainability"

- with the challenges to deliver our commitments.

- proven that the mineral industry is not a "DESTROYER" but a partner in mitigating the effects of global warming.

# MINERALS INDUSTRY SYMPOSIUM 2024

November 21 | CAP Camp John Hay, Baguio City

- I would like to take this opportunity to introduce and rebrand our company, Helix Mining and Development Corporation



Helix  
Mining and  
Development  
Corporation

Who **WE** are!

# We provide key ingredients for the cement manufacturing.

## La Union, Bulacan, Lugait and Davao



# Limestone

An important ingredient in manufacture of cement, limestone is a sedimentary rock mainly composed of calcium carbonate ( $\text{CaCO}_3$ ). It is formed through accumulation and compression of carbonate-rich organic debris including shells and corals in marine environments that hardened over time into limestone deposits.

**RAW MIX CORRECTIVE TO  
INCREASE STRENGTH AND TO  
REDUCE CO2 FOOTPRINT**



# Shale



**Quarry Site**  
Bulacan, La Union, Davao, Lugait

# Silica in Ayungon Negros, Oriental

widely used in glass manufacturing, water treatment, paints and coatings industry, as well as electronics industry.



>90%  
SiO<sub>2</sub>

**VITAL COMPONENT FOR  
FIBERBOARD  
MANUFACTURING**



# Basalt in Angono, Rizal

As a sustainable resource, basalt aggregates also support eco-friendly construction practices, making them a popular choice for modern infrastructure projects.

**HIGHLY DURABLE  
CONSTRUCTION MATERIAL  
RESISTANT TO HEAT,  
WEAR, WEATHER, AND  
ACID**



**15,000 - 23000**  
psi compressive strength

**S1, S3, 3/8",  
3/4", G1, G2**  
sizes



# Pozzolan

## Cement Filler for Greener Production

By incorporating pozzolan into construction materials, manufacturers can lower carbon emissions, decrease energy consumption, and promote eco-friendly building practices, making it a key ingredient for greener production in the construction industry.



Quarry Site  
La Union, Lugait, and Davao



**> 70%**  
Pozzolanic Activity Index  
(PAI)



**< 25mm**  
sizes



We produce raw materials not only for the construction industries  
Animal feeds, fertilizers, pulp and paper industries, foundries, soil stabilizers & etc.



Beyond our mining operations,

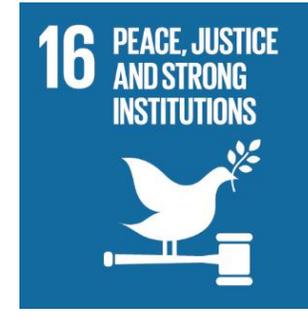
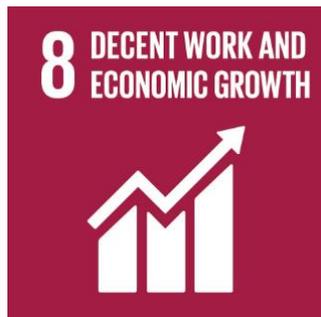
We are committed to fostering the long-term success of the communities in which we operate by prioritizing

# Ecological Sustainability, Social Responsibility and Cultural Preservation. *Perfectly aligned with*

# THE 17



## SUSTAINABLE DEVELOPMENT GOALS



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



15 LIFE  
ON LAND

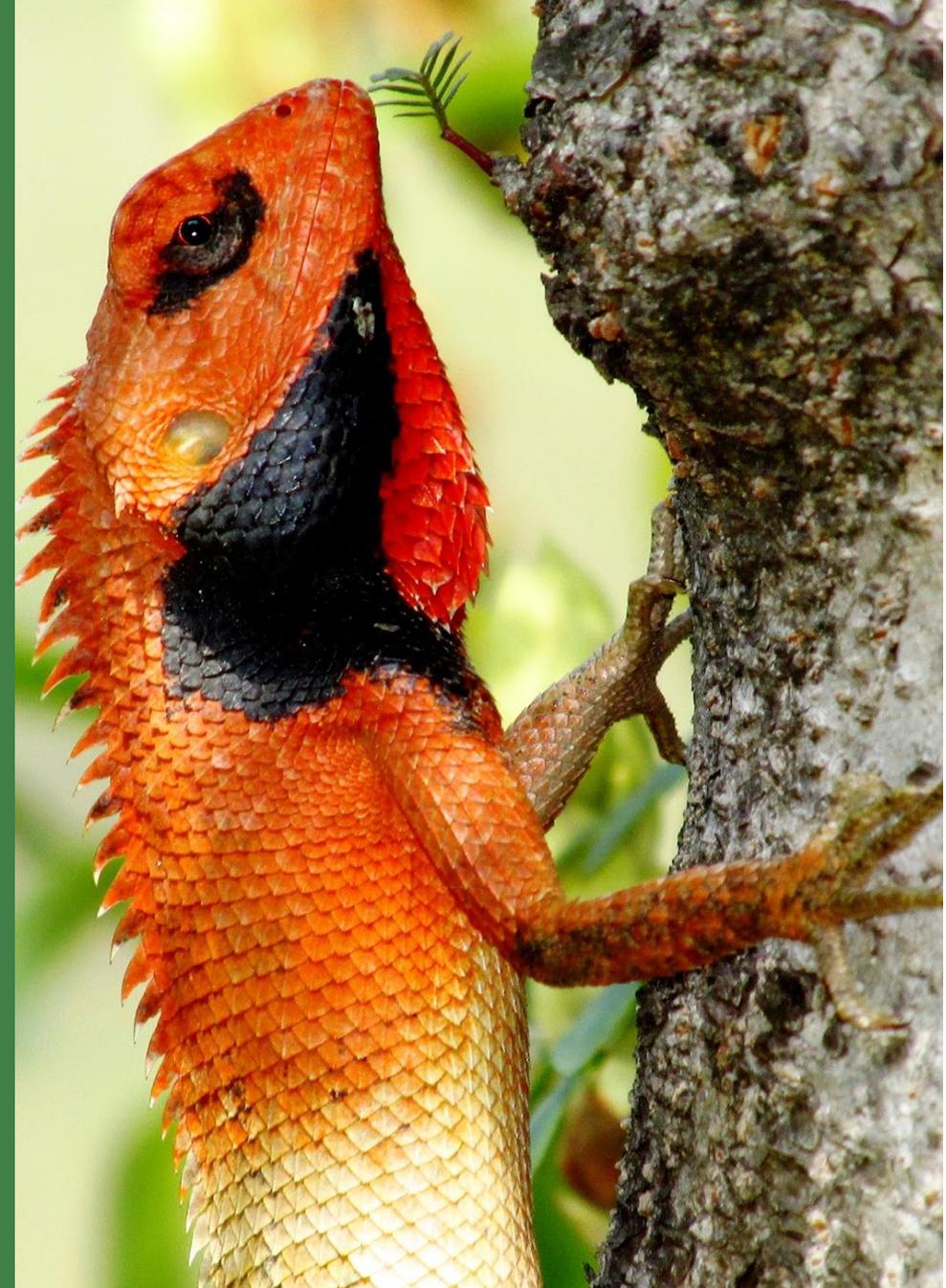


13 CLIMATE  
ACTION



Our **Strength** lies  
in paving the  
**FOUNDATION**  
for the

Through the  
Biodiversity  
Indicator and  
Reporting  
System  
(BIRS)



# Envi Initiatives

Our envi activities support 7 out of the 17 United Nations Sustainability Goals (UN SDG)



- We continually assess our biodiversity through **flora and fauna inventory** and habitat assessments through the Biodiversity Indicator Reporting System (BIRS) as our commitment to environmental sustainability in areas impacted by our operations.



Top, left to right: *Turnix suscitator*, *Megalurus palustris*, *Pycnonotus goiavier*  
 2<sup>nd</sup> Row, left to right: *Chalcophaps indica*, *Phapitreron leucotis*, *Cyornis rufigaster*  
 3<sup>rd</sup> Row, left to right: *Oriolus chinensis*, *Artamus leucorhynchus*, *Lalage nigra*  
 4<sup>th</sup> Row, left to right: *Halcyon chloris*, *Halcyon smyrnensis*, *Actenoides lindsayi*  
 Bottom: left to right: *Copsychus saularis*, *Caprimulgus manillensis*, *Otus megalotis*



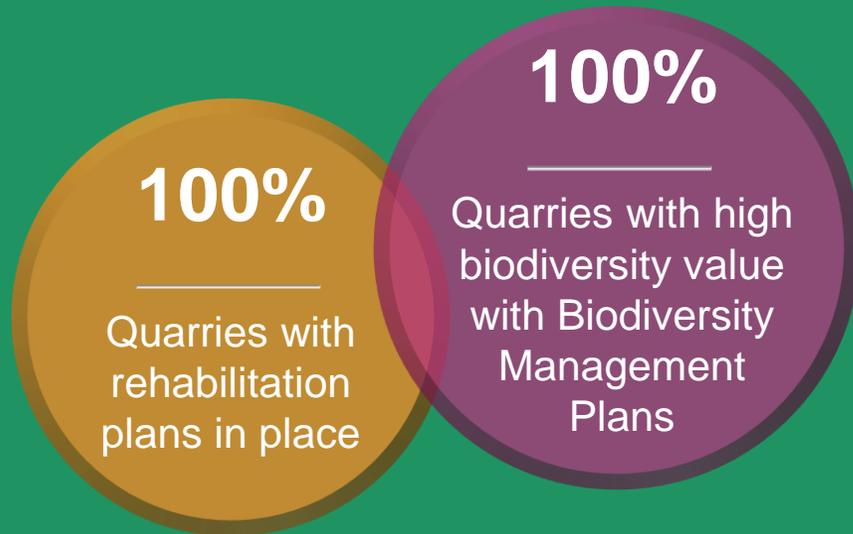
Top, left to right: *Kaloula pulchra*, *Hylarana erythraea*, *Bronchocoela cristatellus*  
 Bottom, left to right: *Gecko gekko*, *Eutropis multifasciata*, *Dendrelaphis pictus*



Top, left to right: *Suncus murinus*, *Rattus tanezumi*, *Ptenochirus jagori*  
 Bottom, left to right: *Cynopterus brachyotis*, *Roussettus amplexicaudatus*, *Eonycteris spelaea*

# Group's Biodiversity 2030 Commitments

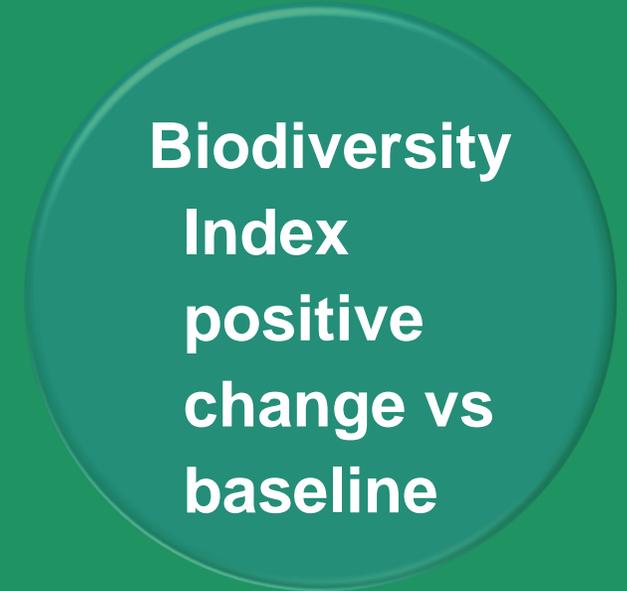
## Measurable positive impacts on Biodiversity



**MILESTONES 2022**  
**REACHED**



**MILESTONE 2024**  
**ON TRACK**



**COMMITMENT 2030**

<sup>1</sup> Biodiversity Indicator and Reporting System developed by International Union for Conservation of Nature (IUCN)

# Transformative Progressive Rehabilitation

By changing the way we are rehabilitating, we are enhancing the biodiversity



## TRADITIONAL REHABILITATION

Mainly restores monoculture forests

Site Biodiversity index\* ~ 3.5

vs.



## TRANSFORMATIVE REHABILITATION

Encompasses natural processes, endemic  
species and wider landscape habitats

Site Biodiversity index\* ~ 5.0

# Water Resources are getting SCARCE!

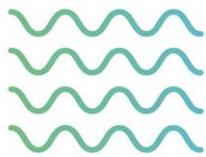
Implementing initiatives (i.e. water balance) in our operations and beyond the fence

## OWN OPERATIONS



### Improve water use efficiency and reduce pollution

Optimize water use and implement strict standards to ensure discharge of high-quality treated water



### Shift to non-freshwater withdrawal

Replace freshwater with sea or treated wastewater



### Maximize rainwater harvesting

Use harvested rainwater to meet site water requirements



### Access to WASH

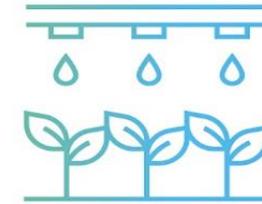
Provide water, sanitation and hygiene for all employees and contractors (WASH pledge)

## BEYOND SITE BOUNDARIES\*



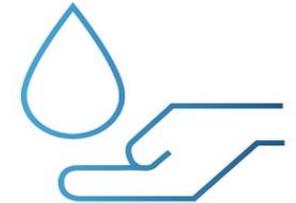
### Watershed protection and restoration

Revitalize degraded wetlands, recharge of groundwater and promote reforestation to improve water flow back to basins



### Water for productive use

Promote water-efficient irrigation and agriculture practices to help relieve water stress in watersheds

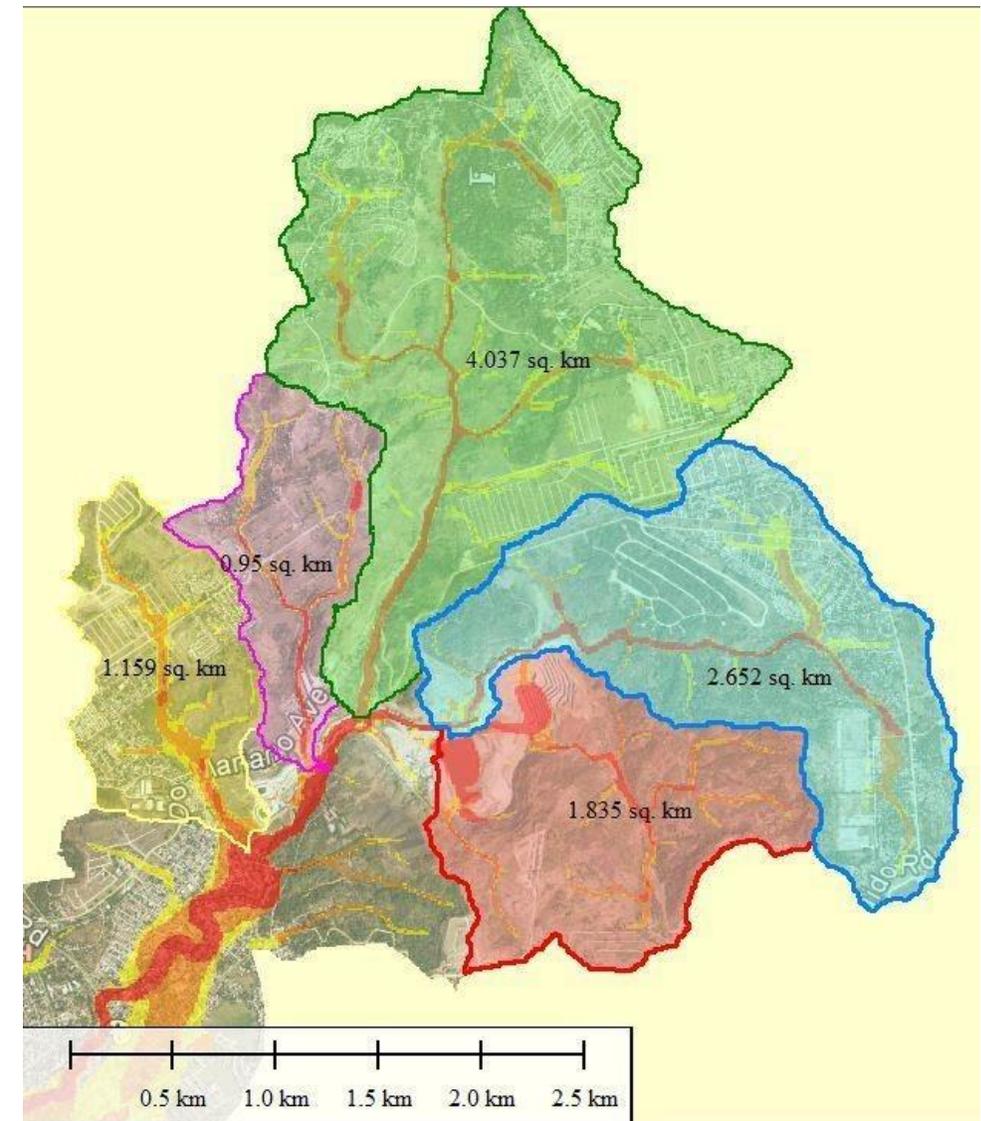
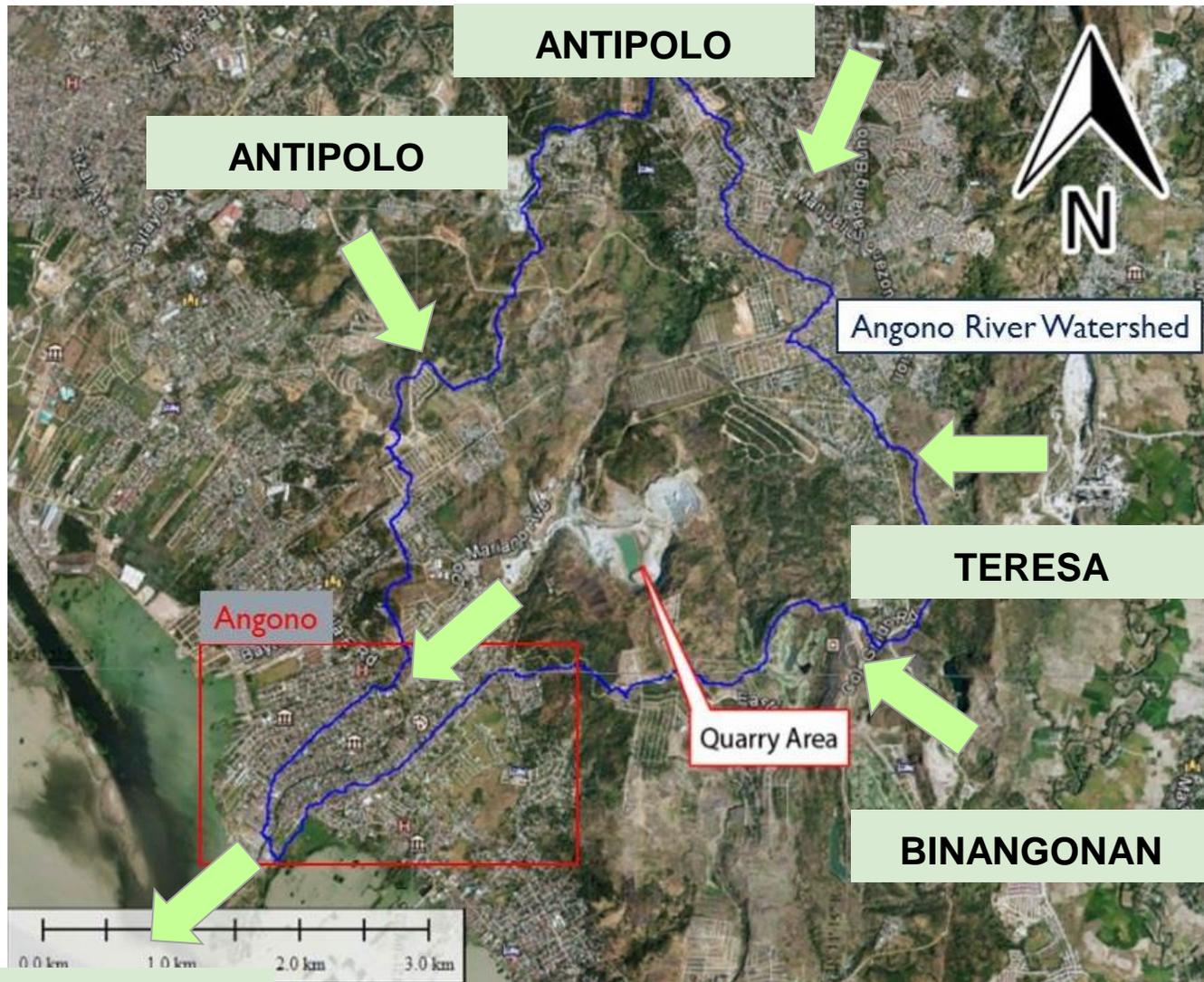


### Water access and sanitation

Support communities with supply of potable water and installation of sanitation facilities to improve well-being of people and communities (WASH pledge)

# Angono, Rizal Geomorphology

Situated at a lower elevation than Antipolo, Angono receives run-off water from five tributaries.



# Angono, Rizal Geomorphology and HAI

Three of the five tributaries feeding the Angono River pass within the boundaries of the quarry



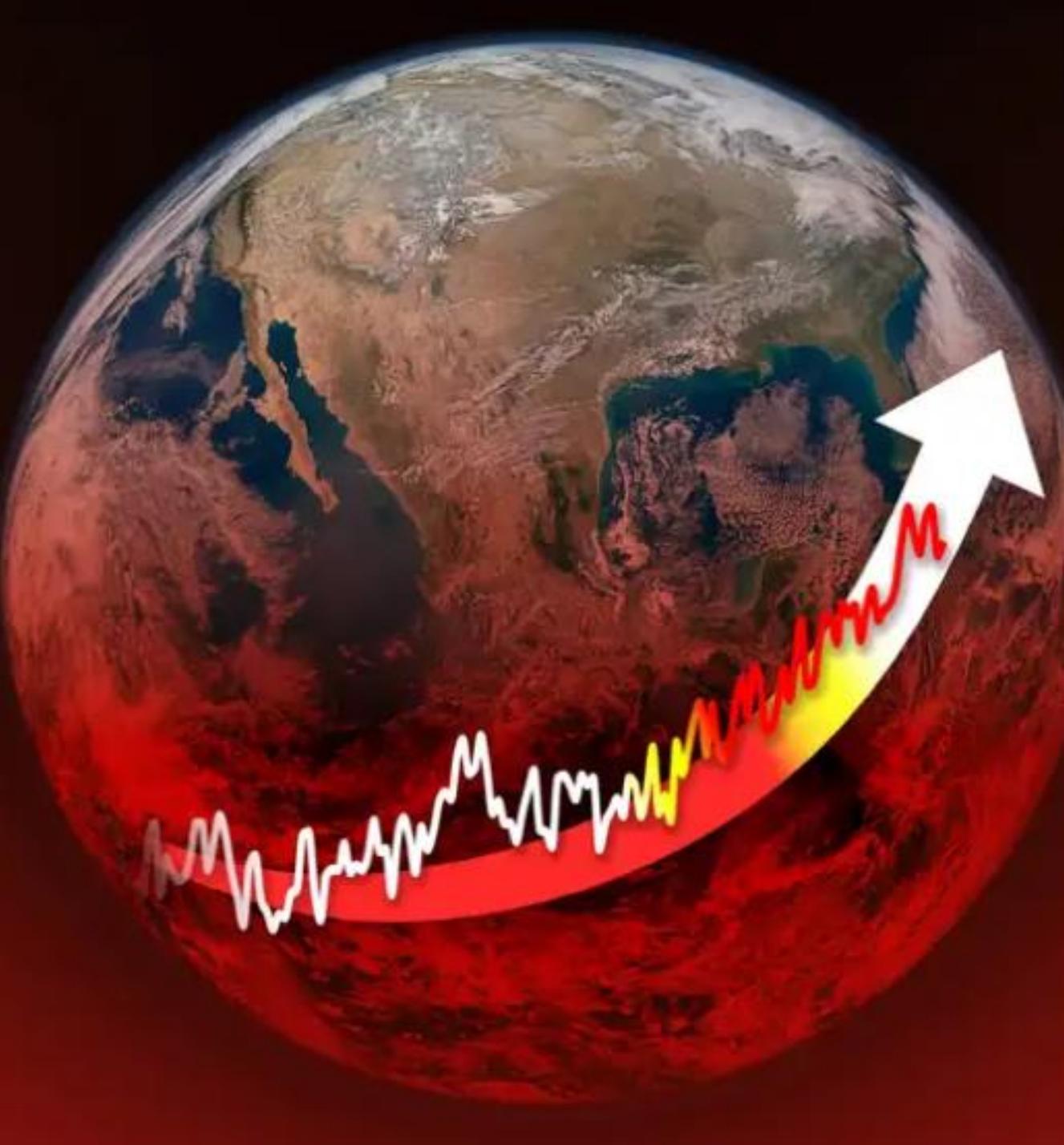
# Our pit absorbs surface runoff and bodies of water

Normal Capacity: 600 Olympic size swimming pool (dry months); FULL: 1,500

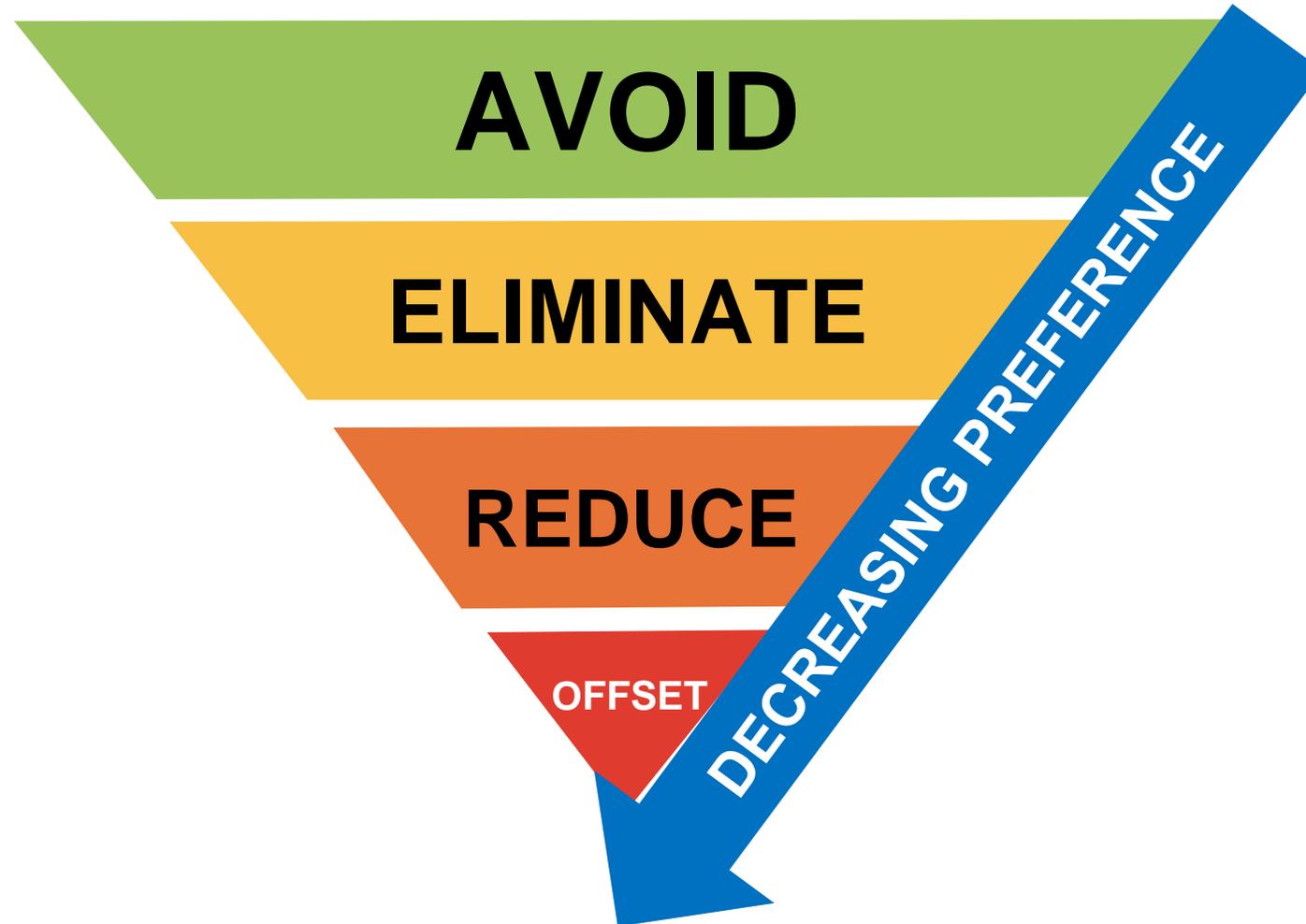
- No withdrawal from the natural sources
- Utilize for road spraying and in process cleaning
- process water recirculation



Capable of holding **three (3x) Carina's water intensity**



We all know that the effects of climate change is Irreversible,  
It's not TOO late to implement change



# DECARBONIZING BUILDING



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



11 SUSTAINABLE CITIES  
AND COMMUNITIES



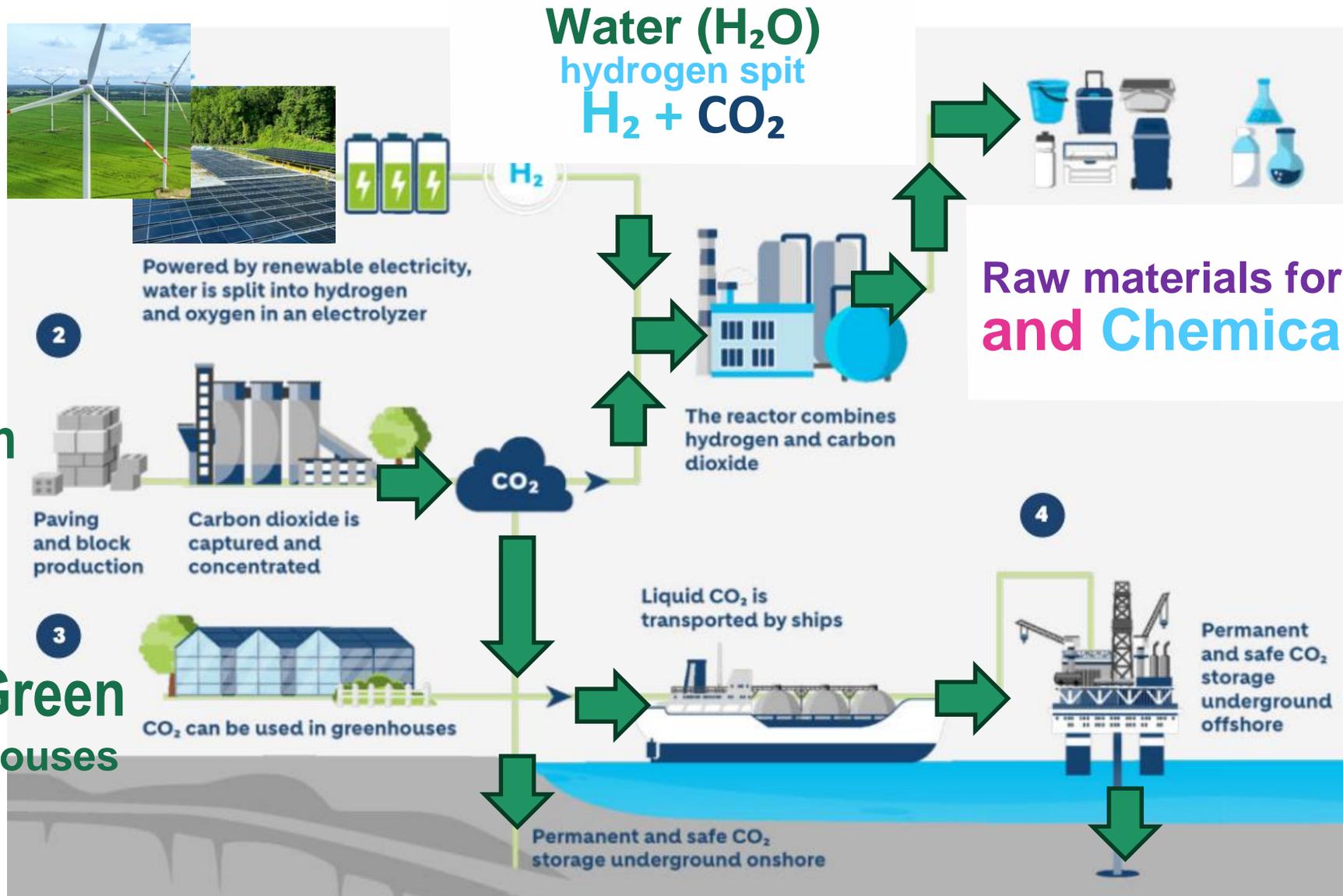
**BECOMING THE  
GLOBAL LEADER  
IN INNOVATIVE  
AND SUSTAINABLE  
BUILDING SOLUTIONS**

®Holcim



**AVOID** (hauling) —  
gradual phase out of  
internal combustion  
engines on load and haul  
fleets.

# CARBON CAPTURE, UTILIZATION AND STORAGE



# Some examples of recycled & low CO<sub>2</sub> concrete



"Tubohotel" by T3arc – Tepoztlán, México | Recycled Concrete

"SOS Children's Villages Lavezzorio Community Center" by Studio Gang Architects – Illinois, Chicago

Upcycle Studios  
Copenhagen, Denmark

"Hanil Visitors Center & Guest House" by BCHO Architects – Chungcheongbuk-do, South Korea

"Kunsthaus Zurich" by David Chipperfield  
Zurich, Sweden | Recycled Concrete



BUILDING CIRCULAR CITIES IN LATIN AMERICA



"SwimCity" Project by Belatchew Arkitekter – Stockholm

**SUSTAINABILITY AND URBANISM**  
A VITAL PERSPECTIVE

- Lower CO<sub>2</sub> with less clinker produced.
- Aggregates with 30% recycled concrete.

Our industry + the Government  
CLEAR cut policies on climate actions  
and LGU's should collectively act

on

Planet Earth's

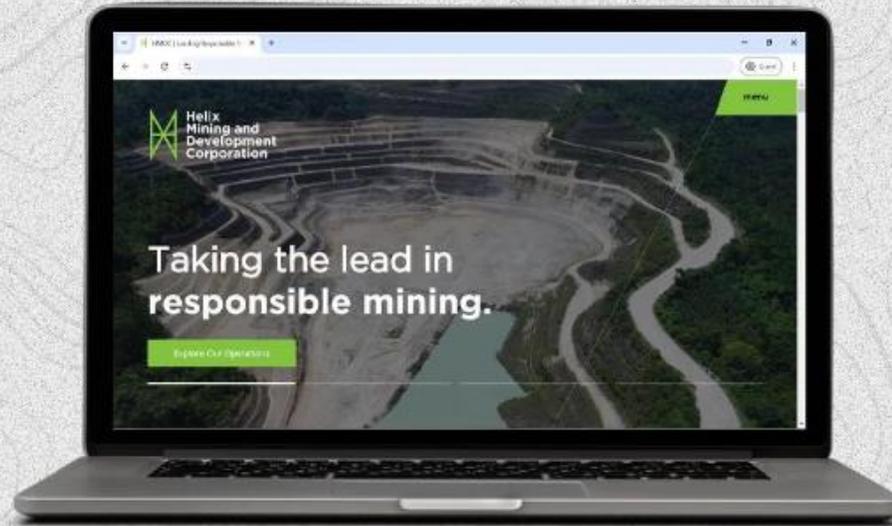
CARBONIZATION





OUR **OFFICIAL WEBSITE**  
IS NOW UP!

VISIT [HMDCPH.COM](http://HMDCPH.COM)



Visit  
**[hmdcph.com](http://hmdcph.com)**  
Like us on:



# References

---

- Holcim Sustainability Report 2023
- <sup>1</sup> Biodiversity Indicator and Reporting System developed by International Union for Conservation of Nature (IUCN)