



DESERT
CONTROL

Making Earth Green Again

– from sand to soil in 7 hours



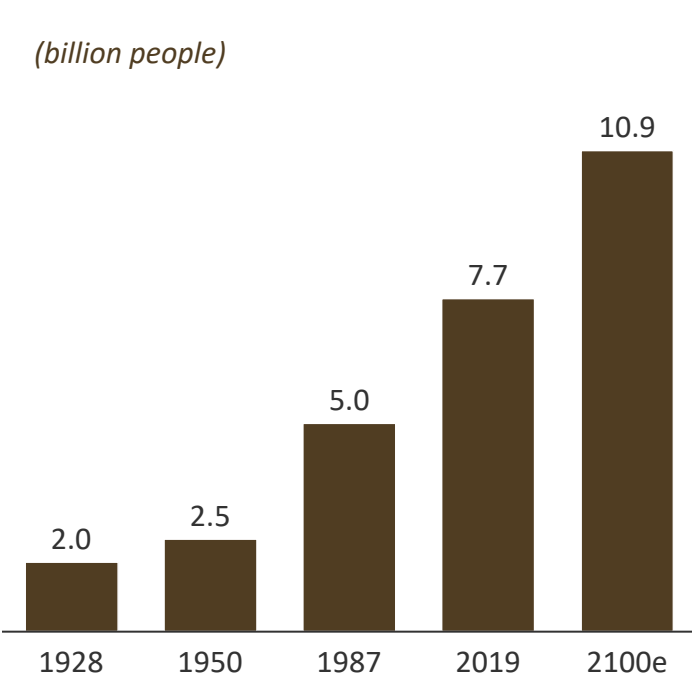
Company Presentation

POPULATION GROWTH DRIVING INCREASED DEMAND FOR FOOD AND WATER

WATER DEMAND EXPECTED TO EXCEED RELIABLE WATER SUPPLY BY 40% IN 2030

INCREASING POPULATION...

(billion people)

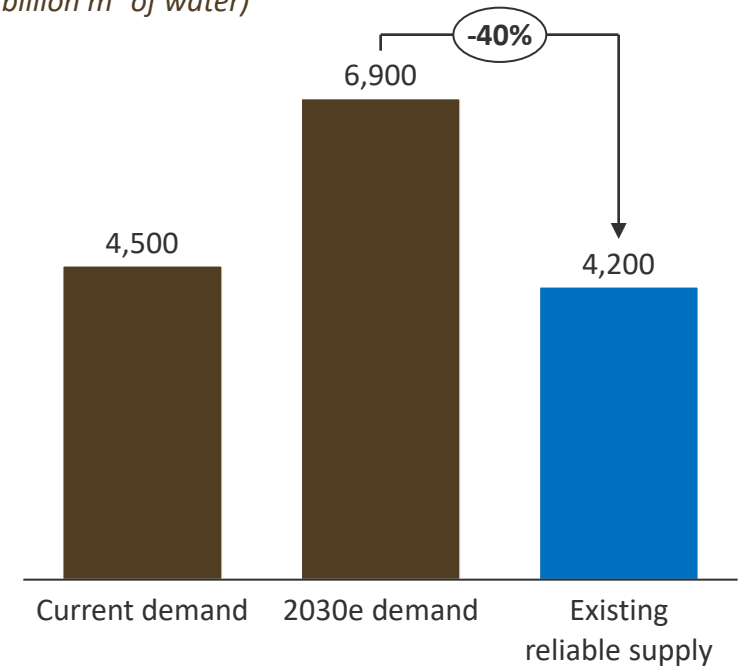


...NEEDS MORE FOOD AND WATER...

Food production required to increase by **60-70%** by 2050 and water demand estimated to increase by **50%** to feed the growing population

...WATER SHORTAGE EXPECTED TO BE SUBSTANTIAL

(billion m² of water)



By 2025, 1.8 billion people will experience absolute water scarcity, and 2/3 of the world will be living under water-stressed conditions



United Nations
Convention to Combat
Desertification

UNITED NATIONS HAS DECLARED DESERTIFICATION AND LAND DEGRADATION THE GREATEST ENVIRONMENTAL CHALLENGE OF OUR TIME

110

Countries exposed to desertification and land degradation

1.3Bn

People trapped on degrading agricultural land

12m

hectares productive land becomes barren every year

20%

Of Earths drylands degraded

52%

Of agricultural land affected by soil degradation

<60 years

Farming left at current degradation rate

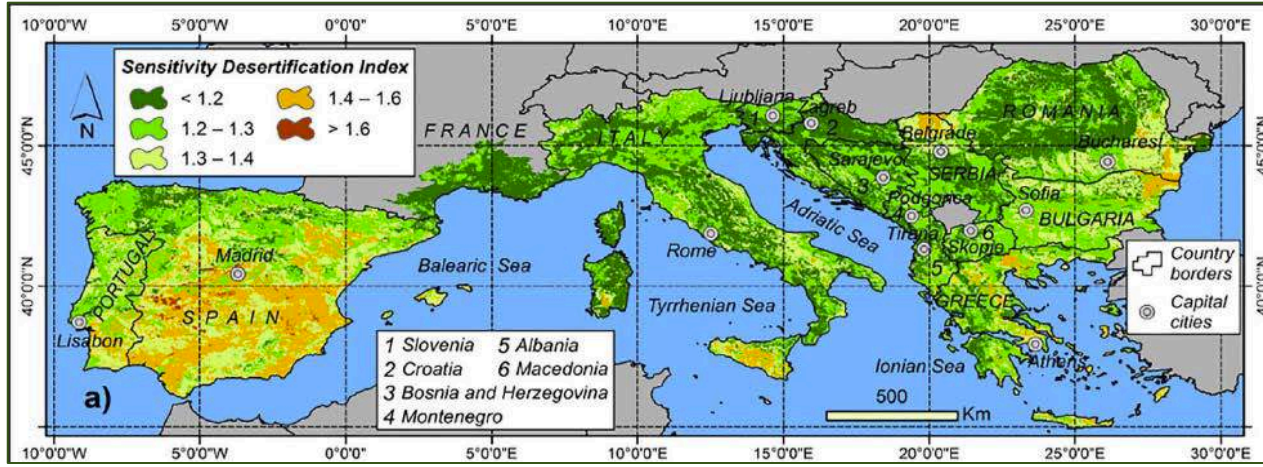
\$490Bn

annual cost world-wide

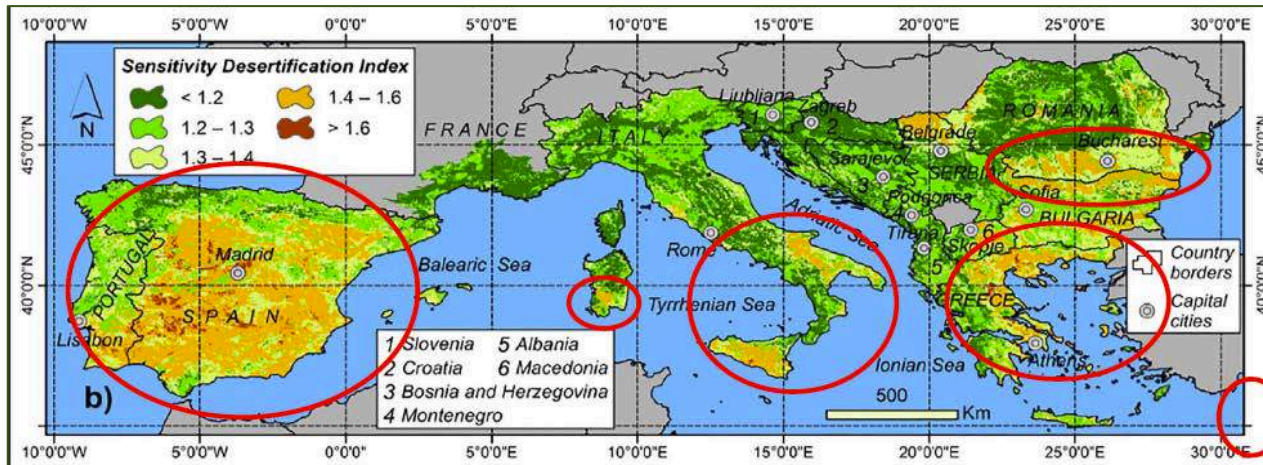


PROBLEM – IMPACT WAY BEYOND THE “TRADITIONAL DESERTS”

2008



2017



59% of territory with a higher or medium sensitivity to desertification



74% of territory at risk of desertification



+50% of mainland at risk of desertification

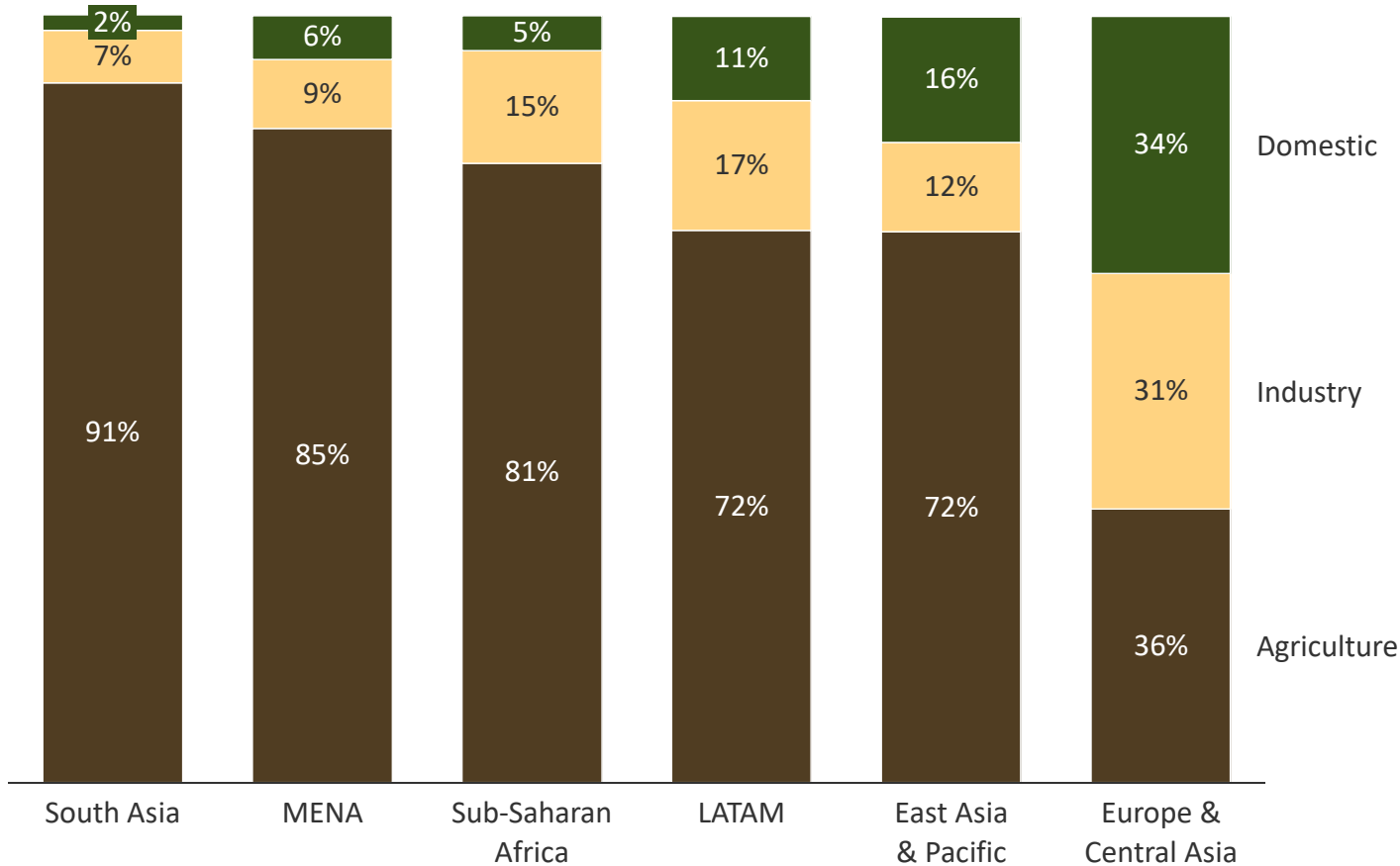


99% of territory vulnerable to desertification

70% OF FRESHWATER IN THE WORLD IS USED FOR AGRICULTURE

CURRENT APPROACHES IN AGRICULTURE YIELD LOW WATER EFFICIENCY GAINS

SHARE OF FRESHWATER WITHDRAWALS BY SECTOR (%)



- The shortfall between demand and supply of water is estimated to be 40% by 2030
- Approx. 1/3 of the population will live in areas where the deficit is >50%
- The agriculture industry represents the single largest consumer of water in the world, accounting for ~70% of water withdrawals
 - Water challenges are therefore closely tied to food provisions and trade

1. Water 2030 Global Water Supply and Demand model; agricultural production based on IFPRI IMPACT-WATER base case

DESERT CONTROL'S LNC TREATMENT IS PART OF THE SOLUTION

ENRICHES THE FERTILITY CAPABILITY IN DESERT SAND – LOWER WATER USAGE AND IMPROVED SOIL HEALTH

1. **UNIQUE FORMULATION PROCESS**

Clay is processed into a liquid compound

2. **SPRAY ON**

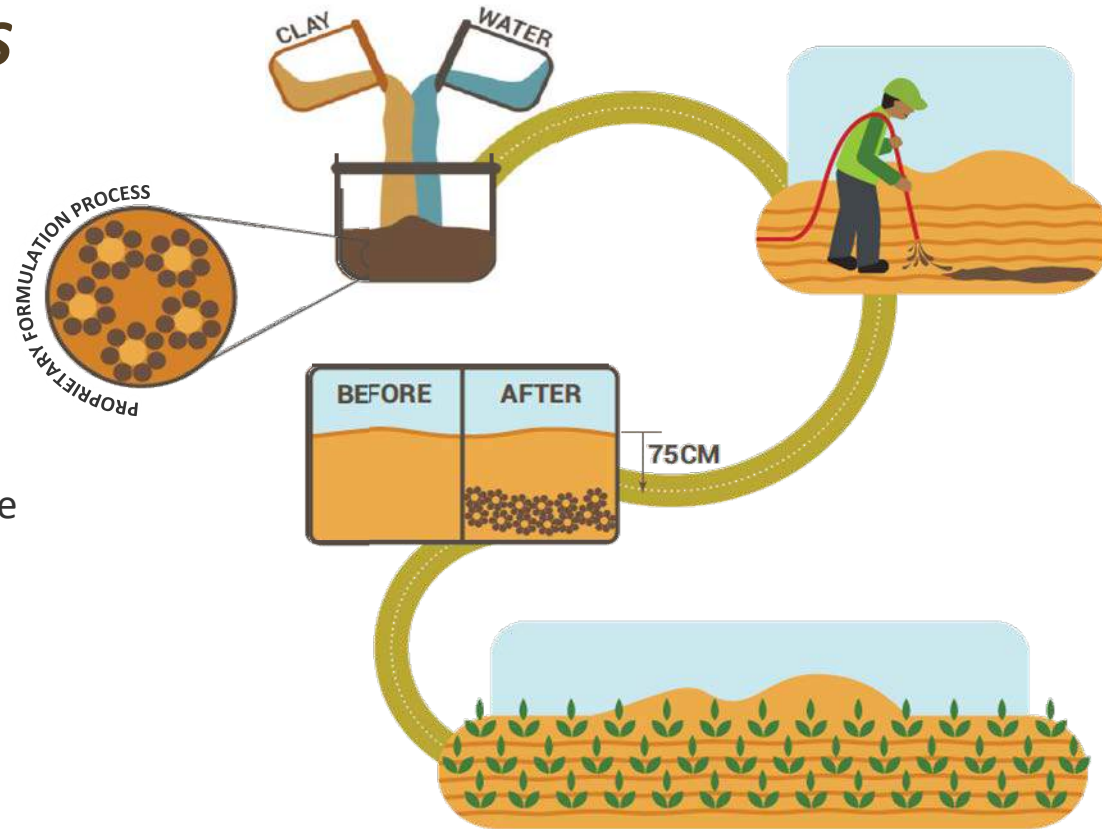
Applied directly to sand or arid soil

3. **EFFECT**

Forms a soil structure that retains water like a sponge

4. **RESULT**

- 20-50% water and fertilizer savings
- Increased crop yields and carbon uptake



PATENTED PROCESS BASED ON 12 YEARS RESEARCH

LIQUID NATURAL CLAY («LNC»)

PREMISE

Clay-rich soil retains water effectively and has high resilience to droughts



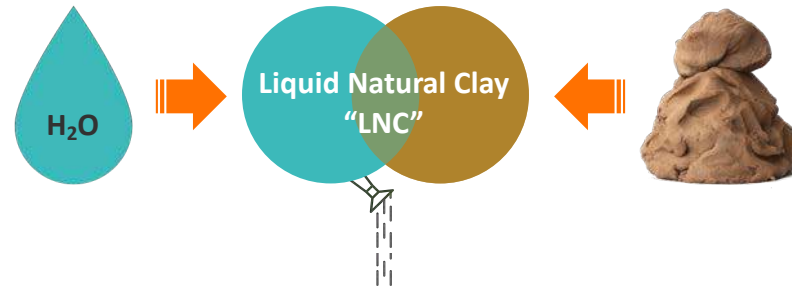
Working clay into the soil, however, is challenging



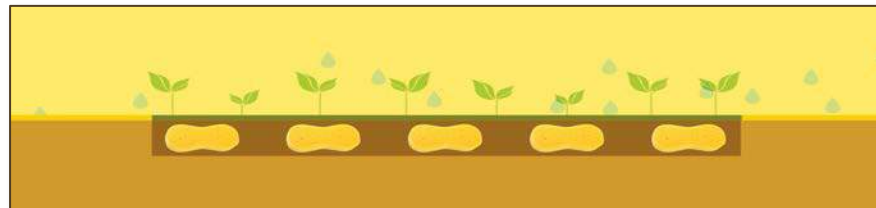
Up to 100 kg of clay needed per m²

DESERT CONTROL'S PATENTED LNC PROCESS

Natural clay is turned into a liquid nearly as thin as water



Liquid is applied onto the surface, and percolates down to form a soil structure that retains water like a sponge

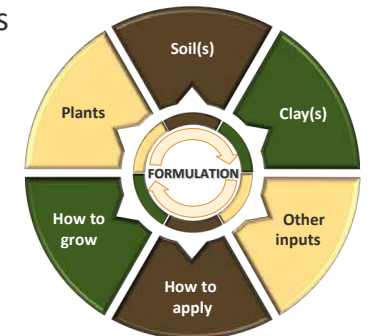


KNOWLEDGE BASED STRATEGY

- Each clay type has unique properties
- Different soils require custom liquid compositions
- Plants have different preferences

LNC is made scalable:

- Automation
- Formulation
- Data Analytics
- AI & Machine Learning



Unique nano-technology reduces the clay consumption from 100 kg to less than 1 kg per m²

PROVEN, VALIDATED AND PATENTED MULTI-YEAR FIELD TRIALS

EGYPT - BEFORE AND AFTER APPLICATION OF LNC



UAE, AL AIN AFTER APPLICATION OF LNC



SCIENTIFIC ACCREDITATION BY ICBA



 September 30, 2019

Key findings for the Liquid Nano Clay (LNC) product being tested in turf and Bermuda grass pilot field trials in a desert environment

It is very important to identify soil amendments that can enhance the soil properties in hot and dry conditions. Liquid Nano Clay (LNC) is one of the most promising solutions to improve the soil productivity and plant growth. Desert Control Company in collaboration with International Center for Biosaline Agriculture (ICBA) evaluated for the effectiveness of LNC product on turf and Bermuda grass used for landscape purposes compared to the "business as usual" cultivation model of golf course companies. The experiment was conducted at ICBA's research station, looking into the water and nutrient retention and biomass production in desert conditions after LNC treatments application for one year. The key findings after evaluation of the 10 Liquid Nano Clay (LNC) treatments, untreated plots included, on turf and Bermuda grass plots were the following:

Key findings:

- 1) Bermuda grass can tolerate a good grass candidate for the UAE summer climate compared to turf grass. Lower the better grass species could not survive the high temperatures during the hot summer season and finally died.
- 2) Bermuda grass treated with LNC could have water savings as high as 47% and 10% higher biomass production for certain maturities.
- 3) Topsoil salinity significantly decreased in the LNC treated plots. This outcome was observed and verified by soil sampling one month and four months after the LNC application (25% of February & 20% of May 2019).
- 4) LNC treatment significantly increased soil available P content of the surface soils compared to the untreated in which was highly consumed by the grasses for their development.
- 5) Soil analysis for the nutrient sampling (the LNC) showed that treatments 1, 2 & 3 LNC injected, 1.2 kg LNC injected & combined with fungi, 0.1 kg LNC sprayed with aeration - 2 applications, 1.2 kg LNC injected with aeration - 20 L/m² and 1.2 kg LNC injected with sodium bentonite significantly increased soil potassium available content compared to the control capacity in the upper soil layers (up to 30 cm).
- 6) Treatments 1, 2 & 3 LNC injected and 0.1 kg LNC sprayed with aeration were the ones that improved soil organic matter content especially at the second soil sampling.
- 7) Treatment (1, 2 kg LNC injected combined with fungi) was very effective in blocking the growth of Bermuda grass species and demonstrated double fresh biomass production (222.3 g/m²) compared to the one observed for ET based untreated plots (108.7 g/m²) with a total of water savings of 47%.
- 8) ET based irrigation schedules on LNC treated plots with reduced flow rates of water showed good results and could lead to confirmed water savings of over 30%.
- 9) During ET based irrigation of all plots the 1.2kg LNC sprayed application seemed to have the highest soil moisture levels (almost twice as high as reference field) with over 30% less water consumption without any compromise on grass growth by using LNC.
- 10) Different LNC treatments showed better results at specific growth stages and time periods.

It is vital for agriculture implemented in desert areas to adapt management practices, methodologies and ready products that contribute to fresh water savings and retain the soil moisture and nutrients in surface levels that will enhance crop growth and continuous development. LNC is such a product that its efficiency is evaluated for the first time in field trials following a systematic research study in desert climatic conditions.

Seta Tawadros 
 Director of Programs



 International Center for Biosaline Agriculture

Dr. Ahmed H. El-Naggar

 Soil Management Scientist

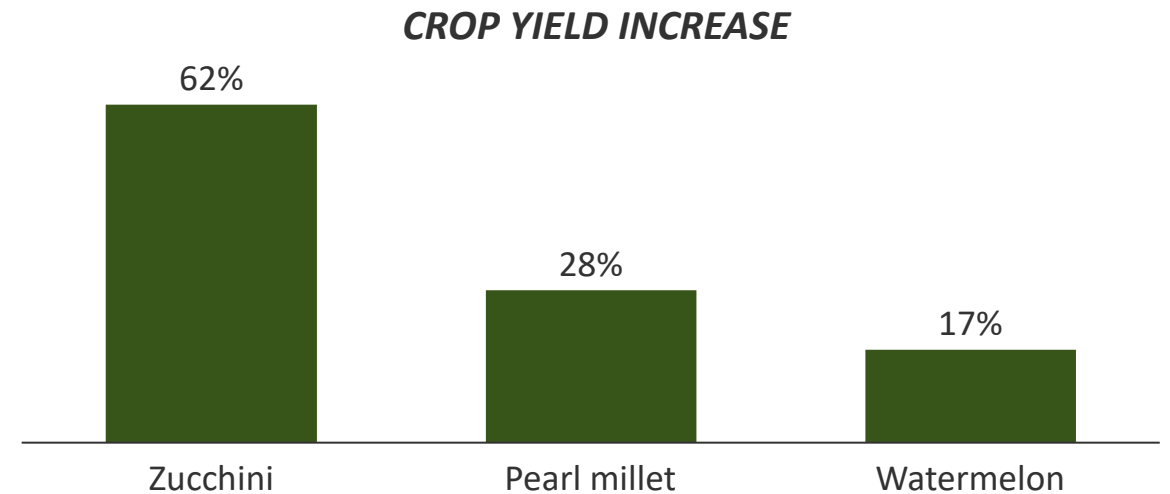
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THE RESULTS – UAE DESERT EXAMPLE



- ✓ *Less than 1kg of clay per m²*
- ✓ *Water and fertilizer savings (20-50%)*
- ✓ *Increased crop yields (17-62%)*
- ✓ *Improved soil, biodiversity, and carbon uptake*



UNIQUE PRODUCT OFFERING WITH NO DIRECT COMPETITOR

SUBSTITUTES AND OTHER METHODS FOR SOIL ENHANCEMENT ARE INTRUSIVE, TIME CONSUMING AND COSTLY

DESERT CONTROLS LNC PROCESS IS THE ONLY NON-INTRUSIVE SOIL ENHANCEMENT OPTION

INTRUSIVE
(mechanical/manual intervention)



Solid form soil amendment

VS.

NON-INTRUSIVE
(self-percolating into the soil)



Liquid soil amendment

Intrusive soil enhancement treatments are costly, time consuming and to a large extent less effective

LNC'S ADVANTAGES



Immense water savings: Up to 50%



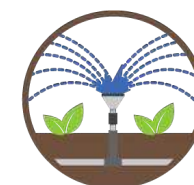
Possible to Spray or Inject



Uniform Application



Natural Product



Applied using existing systems



Can be applied on existing greenery



Returns of 2X – 3X per investment cycle



One application lasts up to 5 years

RECOGNIZED AS “ONE TO WATCH” IN VARIOUS CLIMATE-TECH COMPETITONS

AS WELL AS STRONG INTEREST FROM MEDIA



Katerva Awards 2020 Winner
(Referred to by Reuters as the Nobel Prize of Sustainability)



Cleantech Group
CleanTech Top-50 to watch innovations for 2021



Mastercard Lighthouse MASSIV
Winner of 2020 Program



GreenTech Challenge
2019 Winner
(BCG, KPMG, GTC)



World Economic Forum
(Top 100 Start-up Award 2019)



Start-up of the year, UAE
(Arabian Business Awards)



Global Innovator by Expo Live
(EXPO 2020)

>70 EDITORIAL COVERAGE IMPRESSIONS OVER LAST 2 YEAR



SingularityHub

SUPPORTED BY



An Expo 2020 Dubai Initiative



StavangerAftenblad



Climate-KIC



You Tube

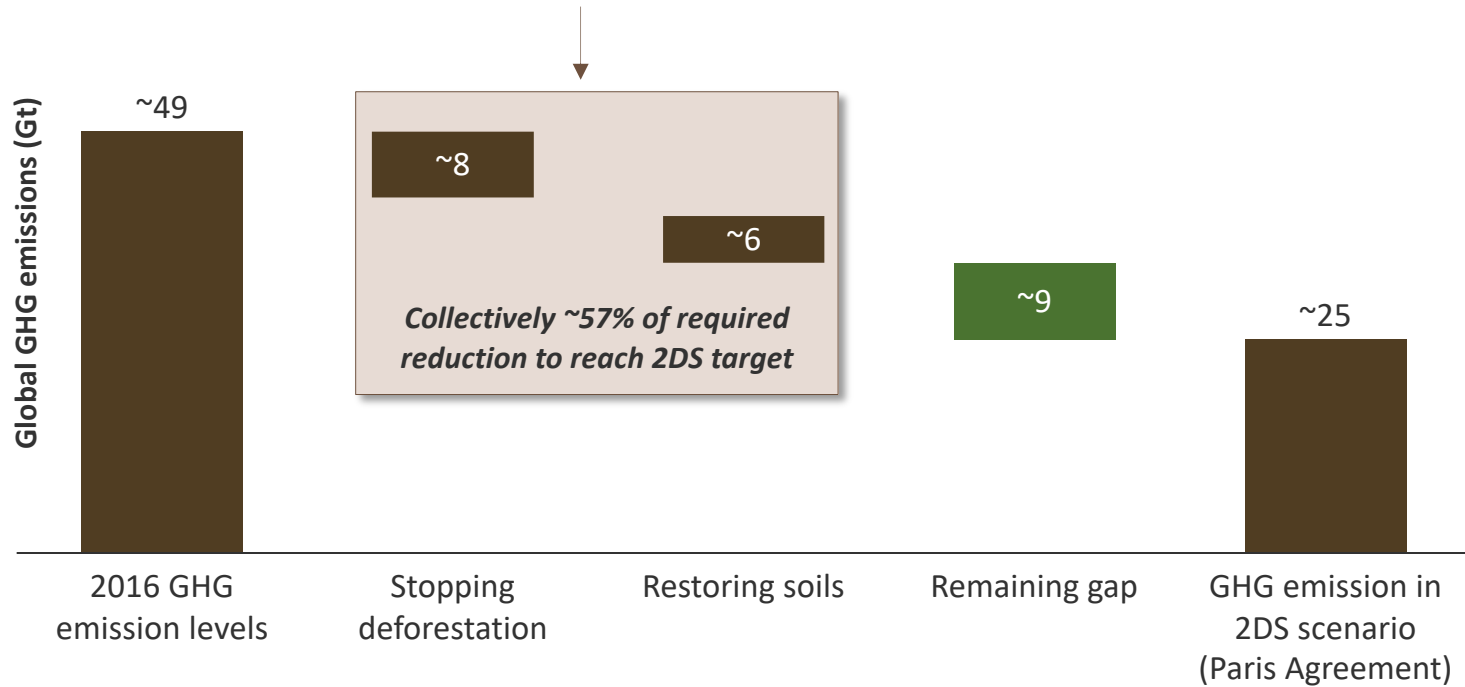


LinkedIn

LNC IS EXPECTED TO PLAY A VITAL ROLE IN SUSTAINABLE DEVELOPMENT

FROM BOTH A FINANCIAL AND AN ESG PERSPECTIVE

In a conservative estimate of \$20 /t this translates to **\$280Bn** of annual cost



Stopping deforestation, restoring forests and improving forestry practices could cost-effectively remove **7 billion** metric tons of carbon dioxide annually – equivalent to eliminating **1.5 billion** cars, more than all of the cars in the world today

ADDRESSING KEY UN SUSTAINABLE DEVELOPMENT GOALS



LNC IDENTIFIED AS A POTENTIAL IMPACT SOLUTION BY THE UNITED NATIONS

THE GREATEST CHALLENGE OF OUR TIME: THE GREAT GREEN WALL

RECEIVED OVER \$14 BILLION IN DONATIONS TO REGREEN THE SAHEL – WORLD BANK AMONG DONORS



RESTORE **100 MILLION HECTARES** OF DEGRADED LAND

SEQUESTER **250 MILLION TONNES** OF CARBON

CREATE **>10 MILLION GREEN JOBS** IN RURAL AREAS



FIRST BATCH-PRODUCTION PROTOTYPE CURRENTLY IN FIELD TESTING

FIELD TEST INITIATED IN Q1 2021 – COMMERCIAL SCALE UP EXPECTED IN H2 2021

FIELD TESTING INITIATED

LNC batch-production prototype



Field testing ahead of customer projects started in Q1 2021

OTHER PROTOTYPES UNDER DEVELOPMENT



Prototype technology for continuous ultra-high volume LNC production under development

Various prototypes for precision injection of LNC for landscaping application under development



DESERT CONTROL HAS A NUMBER OF ONGOING CUSTOMER PILOT PROJECTS

LANDSCAPING



AGRICULTURE



Other projects

Landscaping /Parks



VIP Gardens / Sports



Other projects



INITIAL MARKET ENTRY IN UNITED ARAB EMIRATES («UAE»)

FOLLOWED BY GEOGRAPHIC EXPANSION TO THE UNITED STATES AND OTHER KEY MARKETS



UAE – HIGHLY ATTRACTIVE MARKET FOR PRODUCT LAUNCH

Strategic location as a hub towards other MENA countries...

...and significant contributor to various ESG initiatives



Key rationale

- ✓ Desert Control is an EXPO 2020 Partner
- ✓ Significant developed opportunities for the landscaping and commercial greenery segment
- ✓ Strong demand driven growth in agriculture and food production (more than 38.000 farms)
- ✓ Huge initiatives related to Urban Development and other Government Impact Programs ramping up
- ✓ Large addressable market (incl. opportunities in neighboring countries)



US EXPANSION PLANNED IN 2022

Desert residents have been saving a lot of water. Farms and golf courses, not so much.



More: Regulators ordered Californians to use 25% less water. Desert golf courses cut back 8%.

Aquifer at Risk: Heavy pumping strains desert water supply

More: Regulators ordered Californians to use 25% less water. Desert golf courses cut back 8%.

But Sneed said the increasing amounts of water flowing into the replenishment ponds in La Quinta since 2009 have made a big difference in boosting aquifer levels in many areas and preventing the ground from sinking.

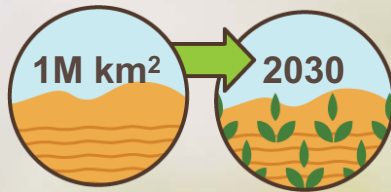
"Mostly, I don't bring good news to anybody. So, this is a nice case. This is the one study that I've worked on personally where the trends are improving," said Sneed, whose research has yet to be published. "I'm really very surprised, pleasantly surprised, that they have really turned it around."

Key rationale

- ✓ One of the largest agricultural producing countries in the world
- ✓ Significant water scarcity in key agriculture hot spots (e.g. California, Arizona, Florida)
- ✓ Increasing regulations related to water usage for landscaping

MAKING EARTH GREEN AGAIN

to foster the prosperity of life



Cultivate and green 100 Million Hectares of degraded land and desert by 2030



Contribute to sustainable social impact, immense water savings and balanced climate with carbon sequestering



Establish a social impact initiative throughout Sub Sahara by 2025 to reduce poverty and hunger

