**Contact: Craig Carlton Dremann, The Reveg Edge, P.O. Box 361,
Redwood City, CA 94064 - Email: craig@ecoseeds.com. Phone 650-325-7333**

Saudi Arabia adopts a California ecological restoration professional's proposal to establish the world's largest Ecological Restoration Preserves and plant billions of trees.

The Saudi Green Initiative project starts planting one million trees per week, for a total of 10 billion when completed. And then, expands project as "Middle East Green Initiative" and includes 24 countries from the UK to Morocco, the Middle East, Pakistan, India and China to plant 50 billion trees together.

It started with an idea to bring back the rain to one of the most parched regions of the world. Now, a massive ecological restoration tree-planting project was started in Saudi Arabia, and established 200 million hectares of Ecological Restoration Preserves, and 24 countries have joined the effort to plant 50 billion trees together.

Craig Carlton Dremann, owner of the Ecological Restoration business The Reveg Edge in Redwood City, California, had been replanting and restoring native grasslands in California since 1992. He also studied the world's rain cloud and weather patterns as a way of identifying how cooling the hot, barren deserts could possibly increase the annual rainfall and help green those areas.

Dremann saw the potential for helping to cool the planet and encourage less evaporation by revegetating areas on a large scale. From an ecological perspective, the problem of global warming has three basic components: the heat of the sun; hits and warms the ground; then, the CO2 and methane in the atmosphere trap that heat.

Soil and plant studies he did years before indicated the heat levels radiating off hot sand in California's Mojave Desert dropped 38 degrees Fahrenheit when insulated by native grass plants. Native grass cover less than a foot thick insulated the soil and was able to lower the surface temperature from 128 F to 90 F, which in turn keeps heat from being absorbed by the ground and then trapped by the CO2 and methane in the air.

By insulating the ground with a layer of native plants, there would be much less heat for the CO2 and methane to trap in the air, thereby turning off a major source of heat that is creating global warming, he proposed.

But he also looked to the sky for answers. Every morning when he opened his internet connection, his browser was set to the world satellite image of clouds at the University of Wisconsin website https://www.ssec.wisc.edu/data/comp/latest_cmoll.gif. Dremann watched the satellite views to try to understand how these shifts in on-the-ground temperatures might also influence moisture, heat and rainfall patterns.

He watched the satellite views of the India monsoon clouds as they moved across the Indian continent to produce rain and then moved westward. But something was happening to disrupt the rain pattern. Those rain clouds would disappear as they approached the Arabian Peninsula. The water vapor was passing over Saudi Arabia, and when that moisture does not produce rain, that water vapor produces the highest Heat Indexes on the planet. Then, that very same water vapor would move to the west and reform into rain clouds as it passed over the native vegetation and forests of equatorial Africa.

Looking more closely, he noticed there was one place in southern Arabia where rain clouds formed and had much cooler temperatures. It was over a tiny sliver of forest only 5 miles by 20 miles. The ancient frankincense groves are located there, in the Sultanate of Oman in the mountains above the town of Salalah.

He began to form a theory that led him to propose establishing Ecological Restoration Preserves on a very large scale in Arabia. When the local native plants were replanted, the rains could potentially return, and posted this idea on his website at www.ecoseeds.com/cool.html.

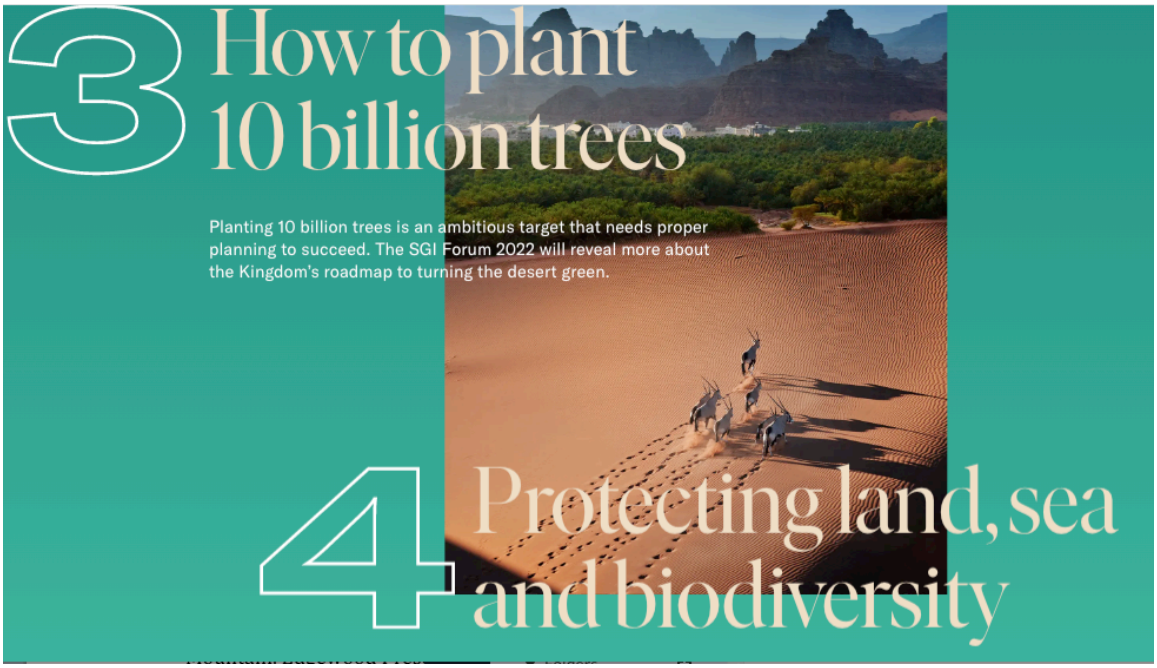
This potential of ecological restoration seemed possible, he posited, because satellite views of one of the most barren deserts in the world did have a cover of native vegetation about 5,500 years ago. The “Empty Quarter” was formerly a lush land with rivers, marshes, waterfalls and one of the largest lakes in the world. Using satellite images, he could see evidence of the now-dry rivers and 300-deep lake, which he marked on a map on his website.

In 2002, he proposed that the purpose of preserving large areas in Arabia would be to conduct a whole ecological restoration makeover and turn those deserts back into the original grassland-savannah: to get the rivers to flow and wildflowers to grow and to produce an insulating cover on the barren soil, which would cool the air so rainclouds could form.

The new concept of establishing Ecological Restoration Preserves differed from developing National Parks as a means of land preservation. In most land preservation projects around the world, the land is set aside and preserved as-is. National parks usually do not include annual funding to do a complete ecological restoration makeover of those lands, to restore the lands to their original native ecosystems prior to the disturbances made after the invention of agriculture and domestication of grazing animals.

Dremann also proposed that reintroducing native plant cover would help stop the creation of atmospheric dust. The dust created by blown barren soils thrown into the air traps heat even better than CO2, he noted, by studying satellite imagery that measure the amount of airborne dust.

Dust changes the dew point so that the strongest rain clouds fall apart when faced with as little as 40 micrograms per cubic meter, he found. Stunningly, the dust was able to divert or destroy Category-5 cyclones such as GONU, his studies found, which can be observed at www.ecoseeds.com/GONU.html.



Regreening Saudi Arabia

About the same time that Dremann posted his website in 2002, he was contacted by one of the officials from the Saudi government about another matter, and they started a discussion about the website's proposals. The official took the idea back to the government, and on Aug. 19, 2010, Dremann received an email that the government had decided to set aside all of the lands of the Ad Dahna desert (650,000 km2/ 160 million acres) and An Nafud (103,600 km2/ 25.6 million acres) desert.

The Saudis' major interest in establishing these preserves was to replant the desert to reduce sources of wind-blown dust, called "haboobs," which periodically overwhelm the capital of Riyadh. Another stated purpose is to help sequester carbon.

In May 2022, the Kingdom started the restoration with the "Saudi Green Initiative" (see www.saudigreeninitiative.org) with 22 projects, which include planting native trees in cities and along highways and planting agricultural trees and watering them with recycled waste water.

By 2030, the government plans to plant a total of 385 million native trees. These 22 projects will make the Kingdom of Saudi Arabia the current leader in ecological restoration of arid lands on the planet.

The Kingdom's Green Initiative should encourage other countries to design their own projects to restore their barren desert lands, with potential to green vast areas in Algeria, Bahrain, Iran, Iraq, Libya, Qatar, Tunisia, UAE, and the USA.

On November 7, 2022 at the COP27 conference, 24 countries did join, to plant a total of 50 billion trees as the "Middle East Green Initiative".

Saudi Green Initiative projects:
The completion dates for these projects are 2030 unless otherwise noted.

Project 1 - Plant 100 million trees to offset ~45 million tons of CO2, combat desertification and provide habitat for bird species.

Project 2 - Mangrove planting in Jeddah port

Project 3 - Restore Shaaran Nature Reserve and use 100 hectares as test plots to test ecological restoration in arid lands.

Project 4 - Plant 30,000 trees around 100 mosques, watered with recycled water.

Project 5, 6 - Plant 45 agricultural trees in terrace with rainwater harvesting and plant 4 million lemon trees watered with recycled wastewater.

Project 7 - Establish the world's largest urban park, King Salman Park, 16.6 square km and planting one million trees.

Project 8 - Plant 150,000 trees in along the Sports Boulevard in Riyadh to increase parks and green space.

Project 9 - Plant 5 million trees in three National Parks.

Project 10 - Plant 7.5 million trees in Riyadh to increase the green space from 1.5 to 9%.

Project 11 - Plant 100 million mangroves along coastlines to offset 96 million tons of CO2.

Project 12 - Ecological restoration of 26 rangeland sites, with a total of 8 million hectares.

Project 13 - Plant 2 million trees along highways, to enhance vegetation cover and stop sand encroachment.

Project 14 - Plant 6 million trees on 110,000 square km. and irrigate with recycled water.

Project 15 - Plant 10 million trees for 50 National Parks, for wildlife and cover.

Project 16 - Plant 60 million trees to restore 348.000 square km. of forest areas, and sequester CO2.

Project 17 - Plant 300 million trees along 15,000 km. of highways to offset the CO2 produced by vehicles.

Project 18 - Plant 5 million trees around the Saudi desalination plants, offsetting CO2.

Project 19 - Plant 7 million trees in the Royal Sanctuaries, sequestering CO2.

Project 20 - Public sector participate in planting 18 million trees, sequestering CO2 while preserving Endangered species' habitats.

Project 21 - (2031) Plant one million trees in Saudi Arabia's highest mountain, the Soudah area covered with junipers, sequester CO2.

Project 22 - (2036) Plant 15 million trees in Mecca, with pilgrims participating and "enriching their spiritual journey."

NOVEMBER 2022 – COP27 - "Middle East Green Initiative" with 24 countries.

On November 7, 2022, at the COP27 conference, the "Saudi Green Initiative" was expanded to include 24 countries and renamed the "Middle East Green Initiative" that will plant 50 billion trees together.

EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

This first meeting was hosted by His Excellency the Crown Price of Saudi Arabia Mohammed bin Salman Al Saud, and is on YouTube, with representatives from China, Djibouti, Egypt, India, Jordan, Kuwait, Mauritania, Morocco, Pakistan, Sudan, Tunisia, the UK and Yemen speaking.

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

His Excellency the Crown Price of Saudi Arabia Mohammed bin Salman Al Saud.

SPEAKERS at the "Middle East Green Initiative" meeting at COP27 on November 7, 2022

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

CHINA

EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

DIJBOUTI

EGYPT

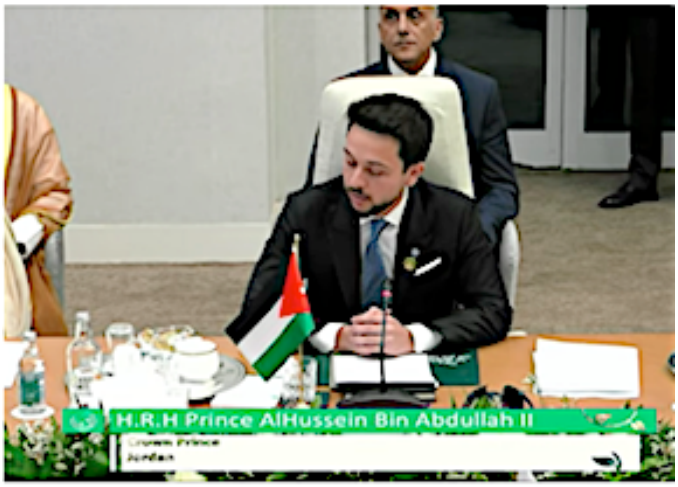
Middle East Green Initiative Summit 2022: Live Stream (English)

EGYPT

EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

INDIA



EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

Saudi Green Initiative

2.08K subscribers

Subscribe

JORDAN

EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

KUWAIT

EGYPT

Middle East Green Initiative Summit 2022: Live Stream (English)

MAURITANIA

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

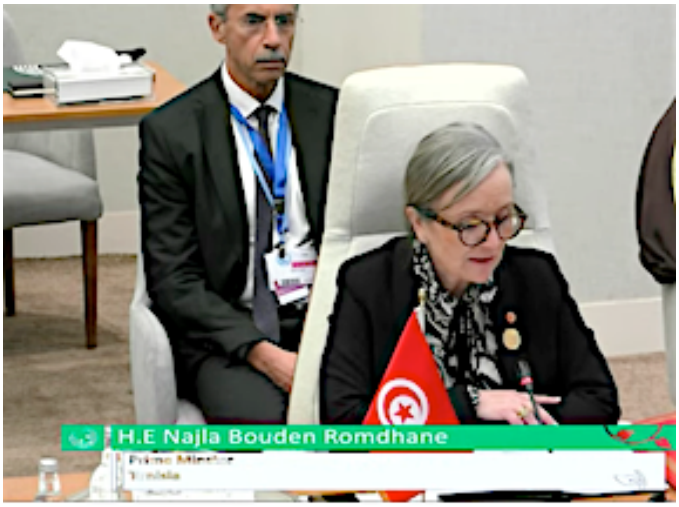
MOROCCO

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)
Saudi Green Initiative
Subscribe

PAKISTAN

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

SUDAN



EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

TUNISIA

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

UK

EGYPT
Middle East Green Initiative Summit 2022: Live Stream (English)

YEMEN

Other proposals for Ecological Restoration in the Northern Hemisphere -- Considerations for financing.

As previously noted, a makeover and replanting a solid cover of local native plants in barren and marginal desert lands could be a major contribution to reversing global warming, but requires committing and annual funding.

This work could be financed by the oil, gas and coal companies, and could create carbon offsets that could be used to sell their fossil-fuel products as already carbon-neutral products. Occidental Petroleum in January 2021 delivered two million barrels of the world's first carbon neutral oil to India, using the same method of buying carbon credits to offset every ton of carbon contained in those barrels.

However, Dremann thinks the real frosting on the cake, in terms of completing the ecological restoration makeover of the desert lands in the Northern Hemisphere, will be the discovery of the local *Pseudomonas* native host plants. Only discovered about a decade ago, *Pseudomonas* bacteria live on the leaves of native plants and are important nuclei for the formation of rain clouds around the planet.

The *Pseudomonas* host plants in Arabia are probably a species of tree, shrub, and/or herbaceous perennial, Dremann has posited, and perhaps some riparian plants along the banks of rivers and streams might be hosts.

These clouds do not have an official name yet, according to the World Meteorological Organization. The area where these bacteria-clouds are born is called a "cloud forest," the name making the connection that the forest is producing the clouds. A proposed name could be *Cumulus botanicus*, since these clouds are formed by plants and the bacteria that live on them.

Global warming with increased moisture in the air is causing more and more frequent torrential rainfall events on the Arabian Peninsula. Replanting the native trees, native grasses and wildflowers, will help the desert soils to absorb during these new rainfall events, instead of causing flash floods in the future.

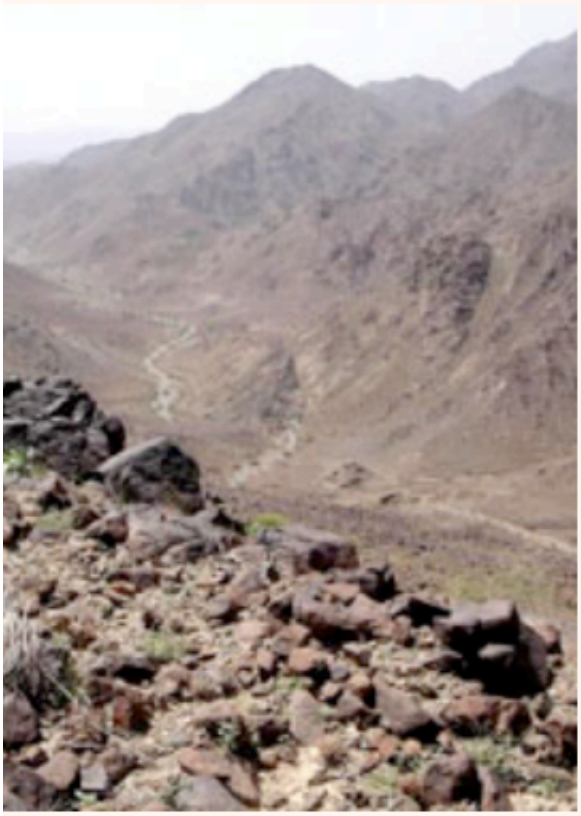
From an ecological perspective, the problem of global warming has three basic components, like a Rube Goldberg contraption: 1.) The heat of the sun, 2.) Hits and warms the ground, 3.) The CO2 and methane in the atmosphere traps that heat. By insulating the ground with a layer of native plants, there would be much less heat for the CO2 and methane to trap in the air, thereby turning off a major source of heat that is creating Global Warming, he proposes.

The oil, gas and coal companies, could add an extra "Ecological Restoration" fee to every barrel of oil, every cubic meter of gas and every ton of coal, to fund the planting of local native trees, native grasses and wildflowers.

The carbon credits created by those native plants sequestering carbon, could be utilized to sell Carbon Neutral products to their customers.

IMAGE from the 2002 proposal at www.ecoseeds.com/cool.html shows the difference in rainfall in Oman, when there is very little vegetation and very little rainfall.

Oman with native plant cover, has rainfall, flowing rivers and is much cooler.



###