BLUE FLUENT ZERO CARBON FOOT PRINT OF WATER USE IN BUILDINGS

Integrated Water Management Of Catchment , Reclamation And Re-Use Reduces Carbon Emissions Because Water Systems Use Power.
The Feb 19, 2021 Texas Power-Water-Sewage Systems Failure Demonstrated The Need For Grid Resilient Sustainable Utility Systems. Nearly 15 million people across Texas lost access to power, clean water and sewage processing. CLICK HERE (https://wgntv.com/news/winter-storm-knocks-out-texas-citys-water-supply/)

Reducing Carbon in Buildings-
In the March 3, 2021 Democracy Now article, CLICK HERE (https://www.democracynow.org/2021/3/3/headlines) , it was announced that global carbon dioxide emissions at end of 2020 surpassed pre-pandemic levels.
Today the global building floor area is about 2.4 trillion square feet. By 2060, this number is expected to double. If we hope to stop climate change, all global building floor area must be designed to meet zero-carbon standards. Overall, if we don't reduce our current global CO2 emissions by 65% by 2030—and then to 0% by 2040—climate change will become irreversible. CLICK HERE (https://blueprintforbetter.org/articles/architectures-carbon-problem/)

Buildings create about 40% of the world's carbon emissions- CLICK HERE (https://www.googleadservices.com/pagead/aclk?sa=L&ai=DChcSEwjQjsnC-ZnvAhVpHq0GHUCVBEsYABAAGgJwdg&ae=2&ohost=www.google.com&cid=CAESQOD2dvr1JFUSgSdq_cXBZKN4aZdubY5EiHurCkDcfFUoqU2_NMBgINrfc0E3_MROu_NpTWsYX4hSOuBSxsD6UXE&sig=AOD64_139y5aYqmT5-9ISv2iGb4zH0rH-g&q&adurl&ved=2ahUKEwihn7_C-ZnvAhWOjp4KHeIbAA4Q0Qx6BAgIEAE&dct=1)

Many Ways To Reduce The Carbon Emissions Of Your Building Project-

1. Start Early. Evaluate And Measure A building Design's Carbon Footprint as Early In The Process As Possible
2. Plant Carbon Capturing (sequestration) Trees
3. Either Have A Zero-Scape Garden, Or Grow Food With Reclaimed Water
4. Local Recycled Content , Renewable, Materials
5. Extra And Continuous Insulation
6. LED , Natural Daylighting & And Efficient Lighting
7. Smart Building Controls To Conserve & Shut Off Utilities When Occupants Are Vacant
8. Renewable Energy With Solar And Wind Power, Hydro-Voltaic, Solar Hot Water
9. Water Energy Nexus, Reduce Water Usage
10. Solar Shading Devices (let The Winter Sun Angel In & The Summer Sun Angle Out),and Natural Ventilation for passive cooling systems
11. Location And Passive Solar Orientation To Thermal Mass
12. Radiant Hydronic Heating
13. Calculate Your Current Footprint Click Here (https://www.terrapass.com/carbon-footprint-calculator?gclid=Cj0KCQiAyoeCBhCTARIsAOfpKxiRn9x9X_Gx4Eu9o2hc-XmBC92QiMnRMEzHQJxKFh8dKifVc8ZGhQ8aAuEfEALw_wcB)
14. Purchase Offsets Click Here (https://www.terrapass.com/product-category/individuals?gclid=Cj0KCQiAyoeCBhCTARIsAOfpKxgQmK0OPQ13RTPuE6I8UqQh4mwVMt-knPPEIPjapGLuVntxmR1UXRcaAtYWEALw_wcB)

To calculate the carbon footprint of your building- Review your utility bills and conduct some basic calculations to

reveal a large portion of these impacts. For example, if a building consumes 500 Therms of natural gas, multiply by a factor of 11.7 to get the pounds of carbon dioxide emissions: 500 x 11.7 = 5,580 pounds of CO2 from natural gas use.

A net zero carbon building is a highly energy efficient building that is fully powered from on-site and/or off-site renewable energy sources and offsets. CLICK HERE (https://www.worldgbc.org/thecommitment). Net zero carbon is when the amount of carbon dioxide emissions released on an annual basis is zero or negative.

Water Footprint Of Food- CLICK HERE(https://www.waterfootprint.org/media/downloads/Hoekstra-2008-WaterfootprintFood.pdf) , (https://pacinst.org/wp-content/uploads/2013/02/ca_ftprint_full_report3.pdf). We eat 3496 liters of water daily, CLICK HERE (https://thewaterweeat.com ,
If you catch & reclaim water to irrigate food, you'll save 923 gal per person per day. That water has an embodied energy. Present day water and energy systems are tightly intertwined. Water is used in all phases of energy production and electricity generation. Energy is required to extract, convey, and deliver water of appropriate quality for diverse human uses, and then again to treat waste waters prior to their return to the environment.
CLICK HERE- (
https://www.energy.gov/sites/prod/files/2014/07/f17/Water%20Energy%20Nexus%20Full%20Report%20July%202014.pdf)

Additional Risk Reducing Benefits-

1. Trees typically hold 1500 gal of water in their roots, hold slope together, mitigates erosion, trees are habitat to 90% of world's species (UNEP), see billion tree campaign CLICK HERE (https://www.nature.org/en-us/get-involved/how-to-help/plant-a-billion/), deciduous trees & vines can be your solar shading technique, to mitigate power used on air conditioning. Water has embedded or embodied energy. Wikipedia says there is no formal definition of water energy nexus. When the term went viral approx. 10 years ago it referred to the amount of energy that is required to pump water. All water is pumped whether from a utility company, your well, or the pump pressurizer in your off grid system. The way to get gravity flow water is to pump it to location higher than your building. According to CLICK HERE (https://www.triplepundit.com/story/2012/what-water-energy-nexus/59796) Water and energy are deeply intertwined.
2. In 2001, 19% of the state's total electricity use (~48 TWh/year) was used in processing water including end uses, CLICK HERE (https://en.wikipedia.org/wiki/Water-energy_nexus)
3. See international emissions trading association CLICK HERE (https://www.ieta.org), (https://www.cslforum.org/cslf/), there are various global trading forums CLICK HERE (https://carbonleadershipforum.org),
4. 2030 https://architecture2030.org
5. Water cisterns for fire prevention
6. Credits for water image: CLICK HERE (https://www.dropbox.com/s/yuokhhj1qbt3net/Screen%20Shot%202021-03-05%20at%201.33.09%20PM.png?dl=0)
7. Water use in commercial and institutional facilities, such as office buildings and hospitals, account for 17% of publicly-supplied water use in the U.S. CLICK HERE: (https://www.epa.gov/watersense). Residential buildings use 8%, collective water use by USA buildings is 25% of USA water.

Contact Marilyn Crenshaw Architect Today To Design Your Zero Carbon Buildings And Water Systems
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